

**Language and Emotion**  
An International Handbook  
HSK 46.1

# **Handbooks of Linguistics and Communication Science**

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Handbücher zur Sprach- und Kommunikationswissenschaft

Founded by Gerold Ungeheuer

Co-edited by Hugo Steger 1985–2001

Founded and edited by Herbert Ernst Wiegand 1982–2018

Edited by Jeroen Darquennes and Patience Epps

## **Volume 46.1**

# **Language and Emotion**

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An International Handbook

Edited by  
Gesine Lenore Schiewer, Jeanette Altarriba,  
and Bee Chin Ng

**DE GRUYTER**  
MOUTON

ISBN 978-3-11-034748-7  
e-ISBN (PDF) 978-3-11-034752-4  
e-ISBN (EPUB) 978-3-11-039460-3  
ISSN 1861-5090

**Library of Congress Control Number: 2022935907**

**Bibliographic information published by the Deutsche Nationalbibliothek**

The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie;  
detailed bibliographic data are available on the Internet at <http://dnb.d-nb.de>.

© 2023 Walter de Gruyter GmbH, Berlin/Boston

Cover design: Martin Zech

Typesetting: Meta Systems Publishing & Printservices GmbH, Wustermark

Printing: CPI books GmbH, Leck

[www.degruyter.com](http://www.degruyter.com)

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# Introduction

The study of language and emotion is a highly topical interdisciplinary field of research that at the same time has a lengthy history, beginning at least with Greek philosophy and Aristotle's Rhetorics from the 4th century B.C. In the decades since the 70s and 80s of last century, it has enjoyed a steadily increasing boost with a successful, even outstanding history of research and innovation across a range of disciplines. The staggering amount of published research related to language and emotion to be found on the internet alone is an indication of the extensive interest in this topic.

Our initial reflections on language and emotion arose from some rather simple and at the same time highly urgent questions:

- What do we know as language researchers of different provenance, especially as linguists, communication scholars, and literary scholars, about how languages and language use are related to emotion?
- Why is it important and relevant to study how languages and language use are linked to emotions?
- What approaches already exist in the core disciplines of language research?

These questions led to intensive research and finally resulted in the current three volume handbook as it became abundantly clear that language and emotion is not a 'minor topic' and instead, a comprehensive approach is required. This notion leads to an approach that can be formulated in a manner best summed up by Roman Jakobson: "Linguista sum; linguisticae nihil a me alienum puto" (Jakobson 1960: 377). This insight demanded that all linguistic levels of description and subdisciplines, from phonetics and phonology to morphology, syntax, and semantics, to text, conversation, and discourse analysis be examined to highlight their specific intersections with emotion and to isolate which research approaches are available or need to be deepened or developed.

Beyond that, however, the research by no means referred solely to linguistics and linguistically focused communication science. From the very beginning it was clear that literary studies in its manifold manifestations of English, American, German, Romance, Slavic, Asian, comparative studies, etc. should also be considered as comprehensively as possible. Here, too, it emerged that already existing successful and important works should be supplemented by further research. It is therefore the aim of the present handbook to bring a systematic conception into the discussion based on linguistic, communication and literary language research.

Furthermore, in the course of the research, with the ever-growing bibliographies and proliferation of books and articles on the topic, something else became clear – the simple but urgent questions posted above about language and emotion is also highly relevant to the wider communicative processes in most societies such as politics, religion, art, economy, law and other fields. We realized that the study of language and emotion represents an interdisciplinary theme complex with a wide range of practically-oriented applications of scientific findings. Therefore, it was important to bear in mind what the philosopher of science Jürgen Mittelstrass emphasizes: "Borders of the subjects and boundaries of the

disciplines threaten more and more not only to become institutional boundaries, but also to become cognitive boundaries.” (Mittelstrass 1989: 68 [translated by the editors]).

Hence, this Handbook is designed for researchers with an interdisciplinary interest, and it is also aimed at a broader academically interested audience including students. It offers a comprehensive approach to this highly topical field of knowledge and presents current emotion research within its interdisciplinary theoretical foundations, including the practice-related fields of application. A spectrum of focal points in this field of research is considered, which is appropriate to illustrate deep insights into most relevant issues of research and to demonstrate the overarching significance of both the subject fields of language and emotion at the same time. This is covered fairly extensively in international research communities all over the world especially in English, but it is also very well represented in continental Europe, for example, in German and French, among others, and also in Asia. In addition to a theoretical overview that is as broad as possible, this Handbook expands its coverage on emotion research to other fields such as communication, literature, culture, art and design, media studies, sociology, psychology, philosophy, anthropology, and history. Further emphasis is placed on disciplines that have long ignored the topic of emotions, including information technology, computer science and artificial intelligence, economics, law, and political science. – Please note that some articles use UK spelling conventions and others use US spelling conventions.

Consequently, this Handbook on Language and Emotion offers a comprehensive, interdisciplinary perspective and is open to various theoretical approaches and application-related perspectives at the interfaces of language and emotion research. It takes stock of the current state of research and presents projections for subsequent discussion.

## Aims of the Handbook

The diversity of approaches makes it practically impossible for students and scholars today to survey the field as a whole. Actually, there is no international outline of the wide-ranging dimensions and perspectives of the complex field of language and emotion. The astounding breath and reach of this topic makes it very difficult for anyone to have a bird's eye view of the field.

The Handbook is meant to give a historical and systematic profile of the problem area of language and emotion and to facilitate this research task by offering surveys of the relevant aspects and referring the reader to more in-depth coverage or to other relevant articles in the Handbook. Correlating the *actual* as well as the *most prominent* emotion theories in history and diverse approaches, it aims for a conception of all the relevant aspects of language and emotion and hence for an important contribution to the semiotics and linguistics of emotion.

It is meant to provide an impetus to international and cross-disciplinary discourses in linguistic and emotion research including eastern and western perspectives on language, communication, and emotion. Overall, the Handbook aims at demonstrating that language research has to be considered as core discipline of emotion research, a scientific field that seems to be dominated mainly by psychology and increasingly by cognitive sciences.

## Outline of the Handbook

The Handbook consists of four major sections, each of which is introduced by a survey chapter. It briefly presents a framework in which the individual articles of that section will be situated, and at the same time, provides an overview of each section and its relation to the volume as a whole.

The individual articles are cross-referenced as far as possible in order to facilitate reader-guidance. There is also an index readers can refer to, if they need to review specific items.

There are four major sections:

- A Emotion Research – General Aspects
- B Perspectives in Semiotics, Linguistics, and Communication Theory
- C Perspectives of Cultural Studies, Literary Studies, Art Theory, and Theory of Media
- D Interdisciplinary and Application-Related Perspectives

1. The first section emphasizes interdisciplinary emotion theories with respect to language and communication, including the history of emotion research. This presents a broad overview of the relevant disciplines with the corresponding theoretical concepts and methodologies. Such an overview is recommended not only with regards to openness to different theoretical approaches, but also with regards to the diversity of methods (triangulation) that have become established in most or even all scientific disciplines.
2. The second section is focused on the full range of emotion-related aspects of linguistic, semiotic, and communication theories. The chapters in this section address the various dimensions of language research, including the broad areas of grammar and language use, as well as multilingualism, language history, and language change.

The impetus for this section arises from the notion that perhaps the most important area of emotion research from antiquity to the present is in the area of language and communication. An appropriate understanding of the dimensions and interactions of emotions, emotion expression, and interpretation in face-to-face interaction as well as in written and oral communication mediated by media represents an important key for access to the comprehensive range of topics of emotion research. The different semiotic forms used in the expression and communication of emotions are considered here. For example, the conveyance of subjectively perceived feelings is an essential task of language and takes place in a highly differentiated manner. The spectrum ranges from prosodic changes that may be barely perceptible, to the explicit naming of joy, anger or sadness, to uncontrolled emotional outbursts. The topic of ‘emotion and communication’ is linked to phenomena such as multilingualism and intercultural communication. This section presents both universal and relativistic approaches to the study of emotion concepts – a difference that appears to be a defining feature in the language and emotion research landscape. These different perspectives led to different practical implications which shape the field in significantly distinct ways.

3. The next section presents topics of cultural studies, literary studies, art theory, and theory of media with respect to emotion. The study of creativity is one of the numerous areas in the field of emotion research that has attracted great interest in cultural, linguistic, and literary studies in recent years. Further fields of research relate to the as-

pect of mood, to the reception processes with reading, hearing, and seeing and last but not least, to emotions in the context of art and design.

Emotion research in the area of old and new media is also dynamic. Here, classic questions such as those about the emotionalizing effect (e.g. from feature films, but also from documentaries) are still relevant. This is of even greater importance in the age of the internet, especially in connection with the spread of social media, since questions concerning “media communication” and “emotion and media use” also need to be examined. For example, there are interfaces to the study of influence (e.g., in politics) and also to the analysis and possibly exploitation (e.g., in advertising and public relations) of public and private opinion, which may involve the use of (multilingual) semantic networks.

4. The last section includes an array of interdisciplinary discursive domains, social practices and application-related perspectives of language and emotion in our society. It looks at the how emotion and language are intertwined in shaping policy, diplomacy, and war rhetoric, economics, business communication, religion and applied perspectives of emotion in psychology. One chapter represents the domain of affective computing in human-machine interaction, a field which is extremely topical. This field is relevant to the huge community of information technologists and researchers interested in affective computing systems. The last chapter of this section tackles a final important domain of language and emotion, namely methodological and practical consequences for native language education, foreign language education, and second language education, and for language use in selected fields of application and text analysis.

A special focus of emotion research – Artificial intelligence (AI) and robotics is one that has both fascinated and divided the public. In the past few decades, the burgeoning field of AI research in language and emotion has brought us human robots, androids or interfaces such as Alexa or Siri whose primary aim is to communicate with computer level intelligence and human like dexterity for understanding emotional shifts. In AI research, emotions are now believed to be central to planning, organizational, and decision-making processes of all kinds. The possible applications are considered to be broad-reaching – the objectives range, for example, from the realization of computers that can “understand” and “express” emotions to computers that “possess” emotions or are “controlled” by emotions.

Emotions are also taken into account in economics and business studies. Among other things, it is emphasized that all economic behavior can be influenced by emotions. This can refer to competitiveness as well as to the ability to cooperate; in other words, to aspects such as aggressiveness in the achievement of entrepreneurial profit as well as to aspects such as a strategically required cooperative attitude of economic actors. Emotions such as hatred, egoism, power drive, and greed, which tend to favor competition, are distinguished from others such as altruism, submission, modesty, compassion and empathy, which can have the opposite effect on competition. Further questions concern the social position of emotions in economic systems, of emotions in the perspective of management and corporate communication as well as the connections between emotions, motivation, and consumer culture.

Emotion research in the context of jurisprudence deserves consideration, precisely because of its wider social significance. This area of focus encompasses historical dimensions (e.g. natural law, selected aspects of ethics, morality, justice in the context of human rights etc.). Jurisprudence also extends into the highly relevant field of interview techniques and credibility in the context of police and legal witness interviews, for example in the context of interviewing children, victims of abuse and rape. In such highly charged situations, it is not surprising that emotion research has surfaced as a key element that impacts on the judicial processes.

A wide field comprises emotion research in the area of politics, diplomacy, and questions of power. Not only the whole complex of agonistic rhetoric is to be mentioned, but also forms of communication in diplomacy and face-saving, mediation, and conflicts on national and international levels. Furthermore, strategies of cunning and (supposed) disinterestedness can play a role. The major topic of violence research, including the study of linguistic-communicative violence and, above all, concepts of ‘hate speech’, is discussed in this section.

Several topics in the context of the current Handbook relate to emotions in learning and teaching contexts and to questions of conversation in medical-psychological and therapeutic environments. It is common knowledge that teaching and learning are very closely linked to motivation and emotions. This topic traverses the lifespan – from birth to old age in both formal and informal contexts. It also takes place in both public and private spheres and has ramifications for the development of individuals and evolution of the society as a whole. Precisely when one considers that the whole field of education must be seen as highly political and of paramount importance for the chances of the individual and the development of society as a whole, it should be clear that academic knowledge of language and emotion is indispensable in this field.

## Challenges in Preparing the Handbook

We must also mention the challenges of such a work. First, without exaggeration, it took a few years just to finalize the list of contributors. Of course, there are more than one or two reasons for this long process. To name one difficulty, it must be acknowledged that there are wide ranging cultural differences in what constitutes good academic discourse – it has been a long and arduous process to marry respect for diversity with consistency and uniformity in style and presentation. Nonetheless, challenging as it may be, the process of engaging with an international team from more than twenty-five countries from all over the world with a wide array of academic traditions has been extremely enriching and rewarding.

Second, many articles in the Handbook require a high level of triple interdisciplinary competence. In general, it can be said that it is not easy, but not impossible, to find experts who can evaluate studies that straddle multiple disciplines. For example, emotion research and psychology or in emotion research and economics are areas that require scholars in very select areas with an interesting set of interests and experiences. Still, as we peel away the layers, it was constantly a surprise to discover researchers who straddle not one but several disciplines. This journey itself has been extremely fruitful and rewarding.

However, this is also the reason why there are some missing topics in the series of articles presented here. There is no doubt that any critically thinking reader of the Handbook will very quickly discern gaps in areas such as emotion in music or song or emotion in opera lyrics, emotion and animal communication, emotion communication and social norms, specific speech acts such as declarations of love and others, on text genres such as those used by lawyers, on comparisons of specific language pairs and the respective emotional vocabularies, etc. While we tried our best to be as comprehensive as possible in our coverage, sometimes, the inevitable happens. People drop out due to pressing needs from other sectors, or some were simply too busy. However, we remain open to feedback and suggestions on areas that need to be covered in future volumes.

At this juncture, we should add that the goal of the Handbook was not only to cover a broad range of disciplinary and interdisciplinary approaches, but also to engage as international a group of contributors as possible, representing different scientific standards in terms of issues, theories, methods, and results in the field of language and emotion studies. Judging from the range and the scope of the contributors, we think that we succeeded in this endeavor. At this point, it is time to thank all contributors for their patience during the long process of compiling this Handbook.

Please note further that there is one concrete and obvious consequence of this internationality of contributions. This is the fact that some of them follow the British conventions of English, while others use American writing standards. Honouring our commitment to inclusivity, we have allowed authors to choose their own preferred writing conventions.

## Thanks and Acknowledgements

Putting together a Handbook of about 110 chapters involving two rounds of reviews spanning seven years is a gargantuan effort. The main tasks involve managing the overall organization, creating the concept of an adequate database, dealing with the correspondence with many thousands of emails, never losing track of first, second, third and other versions of more than a hundred manuscripts and multiple careful checking of proofs and final proofs. On top of work that is directly related to the manuscripts, there is also the intangible coordination of meetings of the editors in three continents and three time zones. None of this would have been possible without Dr. Veronika Elisabeth Künkel (University of Bayreuth, Germany), who has been with us since 2015, and Jan Niklas Wilken (University of Bayreuth, Germany), who joined in 2019. Also, Rae Fahrlander and Katja Rabold (both University of Bayreuth, Germany) were extremely helpful, and we have to thank them, too.

Additionally, Jennifer Martin (University at Albany, State University of New York) worked steadily to oversee correspondence from a good number of authors and a set of chapters that took quite some time to review. She worked with a team of editorial assistants in the US that included the following: Dailyn Clark, Kevin Kilroy, Chris Lownie, Julian Mostachetti, and Deana Vitrano. We are also grateful to Izabella Chia, Jerry Koh Jia Jun Muhammad Wiranto Bin Kasmuri, Tan Yinlin, and Xie WenHan from Nanyang Technological University in Singapore who helped with the careful editing and processing of the manuscripts.

Without the painstaking work of this team of editorial assistants, this work would not have been possible.

I would like to thank my wonderful colleagues Bee Chin Ng and Jeanette Altarriba for the many years of perfect and trusting cooperation. We spent countless hours in video conferences together, mostly early in the morning for Jeanette in New York, late in the evening for Bee in Singapore and in the afternoon for me, Veronika and Jan Niklas in Germany. In turn, we, Jeanette and Bee are thankful for the guidance, support, and camaraderie afforded by Gesine and the kind invitation to work together as a group to accomplish a project of this magnitude. Your leadership Gesine, helped to bring us all together and to keep us always moving forward in the most productive and rewarding manner possible.

The three editors would like to thank Nanyang Technological University in Singapore, who very generously made it possible for us to meet in Singapore in 2016. We also associated with the Fondation des Treilles in France and have to owe a huge debt of gratitude to the Board of Directors and Scientific Council of the Fondation. We were allowed to meet twice in the Fondation for an intensive exchange and spent unforgettable days there in 2018 and 2019 with focused discussions in beautiful southern France.

Last but not least, we have to thank very much the publisher and the team at de Gruyter in Berlin, namely Birgit Sievert, Barbara Karlson, and Uri Tadmor for their great support.

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## **A Emotion Research – General Aspects**



Jos J. A. van Berkum

# 1 A survey of emotion theories and their relevance to language research

- 1 Introduction
- 2 Why care about emotion in language research?
- 3 How do emotion researchers define emotion?
- 4 A research agenda for affective language science
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**Abstract:** The topics of language and emotion are studied by very different scientific disciplines, of which their respective members rarely interact. At the same time, the everyday use of language, whether colloquial or professional, is richly intertwined with, and dependent on, emotion. This suggests that it will be useful for language researchers to at least have a feel for what is going on in emotion research. This chapter provides an overview of current trends in emotion science for language researchers, so that they will be in a better position to consider, design, interpret, or discuss research at the intersection of these two fields. After explaining why emotion science is relevant to language research, I discuss four currently influential views on emotion: the basic emotions perspective, the motivational perspective, the component process model, and the psychological construction perspective. Next, I define a metamodel of emotion to highlight what these views have in common, as well as where they differ. I end by proposing a research agenda for affective language science. Although having an interface with emotion is not what makes language “special”, understanding emotion may well help language research advance.

## 1 Introduction

Language is a beautiful system. It serves as an infinitely extendable discrete combinatorial coding system that allows members of the species *Homo Sapiens* to refer to real or imaginary states of affairs with incredible precision. The underlying capabilities for ostensive-inferential communication and interaction (Levinson 2006; Sperber and Wilson 1995; Tomasello 2008) are equally impressive. There are many interesting questions to be asked about this specific machinery, e.g., about the nature of the code and how it can change over time, about what people do with it and how their brains support that, and about how these wonderful capabilities evolved in our species and/or develop during acquisition.

Researchers working in subfields such as language change, syntax, or neurolinguistics usually know about some of the work in other subfields as well, in part because of the typical composition of training programs in linguistics. Every now and then, however,

guage researchers encounter questions for which their training has not prepared them. For example, when working on prediction during language comprehension, I got involved in research on how a person's emotional mood might influence such prediction. The bigger question was about the extent to which language processing is context-dependent rather than "modularly encapsulated", a question that emerged from the internal dynamics of language science. However, I suddenly also needed to work with mood.

That seemed easy. After all, we all know what mood is: it's that good or bad background feeling that you have as soon as you get out of bed in the morning and that can change as the day progresses, by such things as breakfast, music, your inbox, people, the weather, or a movie. So, in the study that we designed, we used movie clips to induce a good or bad mood in our participants, checked our manipulation via a self-report questionnaire, and had our participants read some unrelated bits of language to see whether mood would influence prediction during reading. It did (van Berkum et al. 2013). However, looking back, I didn't really know what I was doing, emotion-wise. For instance, at the time we designed the study, I had not fully realized that our movie clips might also trigger short-lived emotions, rather than longer-lasting moods, and that these emotions could be more articulate than just positive or negative. Also, I was unaware of the fact that many components of emotion can be unconscious, and as such beyond the reach of verbal self-report. I think none of this was detrimental to the study. At the same time, I would have liked to have known about these things, as it could have improved our research.

The aim of this chapter is to provide an overview of current ideas in emotion science for language researchers, to ensure that they are in a better position to design or interpret research at the intersection of language and emotion. The focus will be on theory. Emotion science is a huge field, and the best way to compress it for current purposes is to make use of the data compression devices that emotion researchers have themselves come up with (i.e., their theories). I will not give a *comprehensive* overview of the theoretical landscape, and refer the reader to other works for this, in particular Scarantino and de Sousa (2021) and Fox, Lapate, Shackman and Davidson (2018). Instead, what I will do here is to highlight those aspects of that landscape that I think might be of relevance to language researchers. I begin by exploring why emotion research is relevant to language science. Next, I describe four influential perspectives on emotion, highlight shared ideas as well as some of the theoretical issues that are still debated, and discuss what I take to be plausible developments in that field. I conclude by proposing a research agenda for affective language science.

## 2 Why care about emotion in language research?

Why would it be useful for language researchers to know about theories of emotion developed in emotion science? At least four reasons come to mind.

**1. Argument from current practice in language research.** One reason has just been illustrated, which is that some language researchers already ask about the relation between language and emotion. In the same way that answering questions about language and

social identity, about language and spatial thinking, or about language and the cerebellum will benefit from some knowledge of social identity, spatial thinking, or the cerebellum, respectively, answering questions about language and emotion will benefit from knowledge of emotion. Unfortunately, though, and in contrast to, say, the cerebellum, emotion is a topic that everybody knows a lot about already – after all, emotion is a concept that people use every day to explain why they and others do what they do. As discussed in Section 3, though, the intuitions about emotion that work well in everyday life are not always a good basis to ground scientific research in. For example, the implicit intuition I had when designing the mood experiment, that emotional phenomena are by definition always conscious phenomena, is simply incorrect.

**2. Argument from current practice in emotion research.** A second reason why ideas in emotion science might be of interest to language researchers is that a number of recent theories of emotion and its expression suggest deep ties with language. According to one influential theory (the *Theory of Constructed Emotion*, Barrett 2017b), for example, words critically shape how we experience emotion and perceive it in others. Another recent theory (the *Theory of Affective Pragmatics*, Scarantino 2017a) proposes that emotional expressions are comparable to Speech Acts, to such an extent that they might be evolutionary precursors to some of our linguistic-pragmatic abilities. These theories might be wrong, of course. But right now, it seems useful that at least some language researchers know this is going on.

**3. Argument from the power of emotion.** Research on the relationship between emotion and cognition has shown that emotion, in its conscious and unconscious forms, controls or modulates much of our perception, attention, memory, reasoning, and decision-making (see, e.g., Barrett, Lewis, and Haviland-Jones 2016; Damasio 1994; Fox et al. 2018; Gigerenzer 2007; Greene 2014; Haidt 2012; Kahneman 2011; Panksepp and Biven 2012; Pessoa 2015), and, as a consequence, much of our behavior. As will be seen in Section 3, this is exactly what emotion is supposed to do. However, cognitive processes such as perception, attention, memory, reasoning, and choice are also at the heart of language production, language comprehension, and language acquisition. This logically implies that the latter processes will be controlled or modulated by emotion as well (van Berkum 2018, 2019).

**4. Argument from the nature of human sociality.** Language is one of the pillars of human sociality, a sociality that is itself deeply emotional. Just like other mammals, we care a lot about such things as dominance, family, and sex. Furthermore, our species is equipped with a vast suite of moral and other social emotions designed to steer us towards within-group cooperation and intergroup distancing (Fischer and Manstead 2016; Greene 2014). Language is a primary channel for expressing and implementing these various ingredients of our social life, both in informal settings and in institutional ones (e.g., in court, the hospital, 911-calls, and psychotherapy). We use language to persuade others to do what's good for them (or us), and to tell others how much we care about things (e.g., how much we align with them and dislike others, or vice versa). We also use it to help or console others, to establish and enforce rules and norms, to manage impressions, and to share perspectives on the human condition. The fact that much of our talk reflects our emotion-rich sociality implies that there will be many occasions where linguistic signs and emotions

co-occur – this provides ample opportunity for emotions to influence the various processes and representations involved in language production, comprehension and acquisition (cf. argument 3). Furthermore, to the extent that biological and cultural evolution shaped the language code to not only refer but to also *express* emotional stances, one might expect additional relations between human emotion and the nature of the code. All this suggests that emotion should be richly intertwined with real-time language processing as studied in psycho- and neurolinguistics, with patterns of both informal and institutional language use as studied in, for example, sociolinguistics and discourse studies, and with the nature of the language code as studied in semantics and pragmatics. I return to this in Section 4.

### 3 How do emotion researchers define emotion?

Systematic inquiries about the nature of emotion go all the way back to classic Greek philosophy (Scarantino 2016), and most likely even further. Emotion, however, has turned out to be a tough nut to crack. Many different definitions and theories of emotion have been presented over the years, and although the field has converged on *some* ideas, theorists differ on many of the most fundamental issues. They sometimes even debate whether *emotion* is a useful scientific concept at all. Also, each of the many different theories take position on a multitude of issues (e.g., is emotion a natural kind, are there basic, culturally independent emotions, does every emotion have its own dedicated neural circuitry, is emotion equivalent to feeling, do emotions cause or merely explain behavior, do emotions have fully automatic consequences).

Emotion scientists aiming for a comprehensive review sometimes “flatten” this high-dimensional theoretical space along a particularly salient dimension, and systematically organize their discussion by means of that dimension (see, e.g., Gross and Barrett 2011: figure 1; or Scarantino 2016: figure 1.1). Given the aims and intended audience of this chapter, however, I take a different approach. First, I will outline the perspective on emotion adopted in each of four different influential positions in that theoretical space: the basic emotion perspective, the motivational perspective, the component process perspective, and the psychological construction perspective. Next, I will discuss what these various theoretical positions have in common (the unproblematic core of emotion science), as well as which issues are currently debated. This discussion will be organized around a simple, graphically expressed working model of an emotion episode (adapted from van Berkum 2018: figure 28.1), a model that I will use to convey both what is generally agreed upon and what is still contested. The reason for this unusual approach is that I suspect most language researchers will probably want to come away not only with an understanding of the theoretical positions, but also with a few relatively unproblematic working assumptions that they can use in their own research, coupled with some insight into the more unstable part of emotion science.

Everyday usage of the term *emotion* restricts it to short-lived, intense, consciously experienced responses to particular stimuli. Prototypical examples are fear in response to finding a huge snake on our path, anger in response to being insulted, and happiness when being offered the job we really wanted. However, the range of emotion-related phenomena

is much wider than such brief intense emotion episodes. It also includes the less intense, possibly even unconscious emotion episodes that affect much of our behavior (stimulus-induced evaluations and preferences), the more slowly fluctuating background mood we are in, our stable attitudes, sentiments and preferences, our emotional styles and traits, and the unfortunate emotional disorders that may strike us (e.g., Scherer 2005). Theorists differ with respect to how they see the relations between these different types of phenomena (see Fox et al. 2018: question 2), and with respect to whether they focus on one or more of them. Also, depending on context, terms such as *emotion* or *affect* can be used to refer to specific types of phenomena (e.g., only a particular class of short-lived responses), but also to the much wider superset of *all* emotional phenomena (as in *emotion research*, or *affective neuroscience*).

### 3.1 Dominant theoretical perspectives on emotion

#### 3.1.1 The basic emotion perspective

The basic emotion perspective is organized around two central ideas. First, that the short-term intense emotion episodes that characterize human life reflect discrete emotion types. Second, that at least some of these emotion types are biological adaptations. The discreteness idea is close to how we approach emotions in everyday life: we take fear, anger, joy, shame and pride to be qualitatively different beasts, fundamentally different coherent states of being that are systematically brought about by different things and have systematically different effects. What makes basic emotions theory unique is that it proposes that the discreteness of basic emotions reflects the fact that biological evolution endowed us with a set of discretely different underlying systems (*affect programs*, *survival circuits*, *emotion action systems*).

Inspired by Darwin's observations on the expression of emotion across species (Darwin 1872), and by his own cross-cultural research on the nonverbal expression of emotions in Papua New Guinea (Ekman 1972), Paul Ekman formulated one of the most influential versions of this perspective (e.g., Ekman 1972, 2003, 2018; Ekman and Cordaro 2011). On Ekman's account, basic emotions are species-general unique responses that evolved to deal with "fundamental life tasks – human predicaments such as losses, frustrations, successes and joys" (Ekman and Cordaro 2011: 365). Anger, for example, evolved to deal with "interference with our pursuit of a goal we care about", fear evolved to deal with "the threat of harm, physical or psychological", and surprise evolved to deal with "a sudden unexpected event" (Ekman and Cordaro 2011: 365).

For something to qualify as a basic emotion in this account, it should have the following 13 characteristics (Ekman and Cordaro 2011: 365): (1) a distinctive universal signal, such as the unique facial expression of fear; (2) a distinctive physiological response pattern, such as the typical combination of changes in heart rate, blood flow distribution, breathing, sweating, and gastro-intestinal activation associated with fear; (3) generated via automatic appraisal, i.e. the trigger for fear is automatically recognized as such; (4) distinctive universals in antecedent events, with for example "threat of harm" being the unique ca-

nonical trigger of fear; (5) presence in other primates, for example, chimps should also have fear; (6) potentially rapid onset, for example, fear can very quickly emerge; (7) brief duration, for example, fear can dissipate quickly as well; (8) an “unbidden occurrence”, for example, fear can present itself against one’s wishes; (9) distinctive thoughts, memories and images, such as, for fear, thinking about escape; (10) a distinctive subjective experience, such as the “feel” of fear; (11) once initiated, a refractory period during which information from outside or from memory is filtered to what supports the emotion, such as, with fear, a focus on the threat; (12) an unconstrained target, meaning that, for example, *anything* can elicit fear as long as it can be classified as posing a “threat of harm”; and (13) usable in either a constructive or destructive fashion, so that, for example, particular instances of fear can be very helpful in your life and that of others, but other instances might be very detrimental to it. According to Ekman and Cordaro (2011), the list of what counts as a basic emotion in this sense is still under construction, but contains at least happiness, sadness, surprise, anger, fear, disgust, and contempt. Promising candidates for basic emotion status are, among others, amusement, relief, excitement, wonder, ecstasy, and pride.

While Ekman’s proposal was grounded in psychological and ethnographic research, affective neuroscience research has also led to influential versions of the basic emotion perspective. Based on animal research, for example, Jaak Panksepp (1998, 2008, 2018; Panksepp and Biven 2012) has argued that *Homo Sapiens* shares several biologically evolved “affect systems” with related species: a SEEKING system (responsible for, e.g., “wanting”, interest, and simple approach behavior), a RAGE system (responsible, e.g., for anger, irritation, and aggressive behavior), a FEAR system (responsible for, e.g., fear, anxiety, and the associated avoidance behavior), a LUST system (responsible for sexual feelings and the associated behavior), a CARE system (responsible for, e.g., feelings of love and the associated nurturing behavior), a PANIC/GRIEF system (responsible for, e.g., sadness and attachment behavior), and a PLAY system (responsible for joy and playful behavior). Although not all of these affect systems straightforwardly map onto familiar folk categories of emotions, the core idea is again that humans come equipped with a set of biologically evolved affect systems, each responsible for a discrete affective state (or family of states) and an associated behavioral repertoire.

The idea that emotions are rapid and (at least initially) involuntary, “pre-packaged” responses to central problems of life, generated by dedicated systems that evolved for that purpose, is widespread in emotion science, and can also be found in, among others, Adolphs (2017, 2018), Damasio (2010; Damasio and Damasio 2018), Izard (1993), Lang and Bradley (2018), LeDoux (1996), Levenson (1994), Tomkins (1962), and Tooby and Cosmides (2008). In the basic emotion perspective, emotions are mandatory, as well as relatively inflexible in the cascade of responses they entail. In the words of Ekman and Cordaro:

When we are in the grip of an emotion, a cascade of changes (without our choice or immediate awareness) occurs in split seconds in: the emotional signals in the face and voice; preset actions; learned actions; the autonomic nervous system activity that regulates our body; the regulatory patterns that continuously modify our behavior; the retrieval of relevant memories and expectations; and how we interpret what is happening within us and in the world. These changes are involuntary; we don’t choose them. (Ekman and Cordaro 2001: 366)

This sounds much like a reflex. However, basic emotion theorists usually see emotions as a bit more intelligent and somewhat more flexible than simple reflexes. Ekman (Ekman

and Cordaro 2011), for example, allows for a limited degree of learning on the output side (usually not so much to overrule built-in behavioral patterns, but to extend the repertoire with new reflex-like habits), as well as a limited degree of inhibitory control over the actual output (e.g., inhibiting one's expression to honor cultural display rules). Also, basic emotions are fundamentally open-ended on their input side, in that, unlike, say, the knee-jerk reflex, associative learning can extend their triggers beyond the evolutionarily intended range. The basic emotion perspective should therefore be seen to explicitly position emotion between rigid reflexes and highly flexible deliberate cognition: "emotion states evolved in order to allow us to cope with environmental challenges in a way that is more flexible, predictive and context-sensitive than are reflexes, but that doesn't yet require the full flexibility of volitional, planned behavior" (Adolphs 2017: 25).

The basic emotion perspective is an intuitively attractive position, but it has been challenged on several grounds (see Scarantino [2015] for discussion). Three of the most influential challenges will be discussed next.

### **3.1.2 The motivational perspective**

Basic emotion theories are strongly rooted in evolutionary thinking, and therefore usually have a strong focus on the behavioral repertoires associated with particular emotions, such as particular facial expressions and other "preset actions" (e.g., approaching something interesting, crying out in surprise, raising one's voice, or recoiling at an unexpected and rapidly approaching large object). Because emotion can be considered to motivate such behavior, basic emotion theories such as Ekman's, as well as their precursors in behaviorist theorizing (Watson, Skinner) are sometimes seen as part of a wider *motivational tradition* (Scarantino 2016). For current purposes, however, it is useful to separately discuss two theories that, while endorsing the idea that emotions are adaptive functional states that evolved to solve fundamental life tasks, much more strongly foreground *motivational states* as the heart of emotion.

Many versions of the basic emotion perspective, including Ekman's, assume that particular emotions *automatically* generate emotion-specific "reflex-like" actions. But there is a problem with such accounts: most of the actions that we consider to be emotional are much more flexible than that. This problem, which has been dubbed the problem of variability (Scarantino 2015), already becomes apparent when we say that fear is associated with flight *or* freezing (so which one is it, then?). Also, anger can cause us to yell out impulsively, say something in a menacing tone, or do nothing and decide to write a vicious e-mail later. How do we explain this variability in emotional behavior?

The key idea, first foregrounded by psychologist Nico Frijda (1986, 2007, 2008), is that we equate specific emotions not so much with specific behavior patterns, but with specific motivations. Frijda characterizes these motivations as follows:

Emotions can [...] be regarded as passions – as defined as event-instigated or object-instigated states of action readiness with control precedence. "States of action readiness" are states of readiness for actions to maintain or modify one's relationship with the world or oneself, including loss or decay of motivations to relate. [...] "Readiness" implies being set for action if and when appropriate conditions

arise, and if relevant actions are available in one's action repertoire. Some states of action readiness are diffuse and have no aim other than to relate or not to relate in general, they are called "activation states". Besides apathy, diffuse excitement and unfocused receptivity, as in some states of meditation, are examples. Other states of action readiness have the aim of achieving, maintaining, or modifying one's relationship to a particular object or event in a particular way – by seeking proximity, by moving away or protecting oneself, or by moving against and blocking interference. These are called "action tendencies" and command actions that can fulfil their aim. (Frijda 2008: 72)

On Frijda's account, action tendencies come in very specific types, such as the desire to take in and experience something, to shut off stimulation or interaction, to approach, to withdraw (avoid, be out of reach, or protect oneself), to reject, to oppose, to disappear from view, to be with, to fuse with, to dominate, to submit, to possess, to care for, to make up for what has happened, to undo what has happened, to hurt, to undertake action to overcome an obstacle, and to depend (Frijda 2007: table 2.2). Actions can be overt, i.e., involve motor behavior, but they can also be cognitive, such as changes in attention, or changes in beliefs.

Frijda's theory foregrounds two other important concepts. One is *control precedence*. The states of action readiness that we associate with emotion take priority, they seize control and dominate other states in determining what happens next. It is this prioritizing that distinguishes the passionate urge to flee (a state of fear) from, say, the dispassionate belief that something (e.g., smoking) is dangerous. A second central concept foregrounded by Frijda is *concerns*, the stable psychological needs or "core values" of human beings (e.g., to succeed, obtain possessions, make friends, create, be unique, have power, educate, avoid pain, have fun, and gain approval; see Frijda 2007: table 5.1, based on Murray 1938, and table 5.2, based on Schwartz 1992). Emotions arise when some event is appraised as relevant to the individual's concerns, and the function of those emotions is to safeguard those concerns.

Frijda's ideas have recently been refined in the Motivational Theory of Emotion (MTE) proposed by philosopher Andrea Scarantino (2014, 2015). Scarantino defines emotion as "a prioritizing action control system, expressed by either (in)action tendencies with control precedence or by action reflexes, with the function of achieving a certain relational goal while correlating with a certain core relational theme" (Scarantino 2015: 178). The relational goal of an emotion is the intended abstract end result, such as an obstruction being removed in the case of anger, one's own safety in the case of fear, or an object being expelled in the case of disgust. The core relational theme of an emotion, a notion proposed by Lazarus (1982, 1991), is the canonical pattern or *formal object* that the emotion is intended to be triggered by (or "represent"), such as an offence in the case of anger, a danger in the case of fear, and a potentially noxious object or agent in the case of disgust (see Scarantino [2016] for discussion of the formal object idea).

Scarantino's MTE provides an interesting classification of overt or mental "emotional actions", allowing for true *emotional reflexes* (e.g., recoiling from a suddenly approaching large object), for *impulsive emotional actions* (e.g., slapping somebody), and for *planned emotional actions* (e.g., delivering a carefully designed insult). Relatedly, the MTE proposes that with the exception of emotional reflexes, the consequences of having an emotion are determined by how the prioritized action tendency interacts with *rational control*. Emotion theorists have a strong interest in how emotions can be regulated (see, e.g., Gross and

Barrett [2011], or the chapters in Hermans, Rimé, and Mesquita [2013]), but in basic emotion accounts, there is a tendency to view such emotion regulation as optional and “external” to an unfolding emotion episode. In the MTE, however, regulation becomes an integral part of how emotional actions arise. Regulation is needed to check on the compatibility of the current relational goal (e.g., an obstruction removed) with other goals and values (e.g., having friends, being accepted), as well as to translate that relational goal into a set of sub-goals that is instrumentally adequate for reaching it.

In an architecture such as this, the same emotion (i.e., the same state of action readiness with control precedence) can easily lead to very different, contextually customized actions. And this makes sense. In a thoughtful discussion of the “preset actions” idea postulated by basic emotion theorists such as Ekman, Scarantino observes that:

the fundamental life tasks that basic emotions allegedly evolved to solve are highly abstract and require different adaptive responses in different circumstances. Consider the task of reaching safety from dangers. Dangers differ in terms of how serious they are, in terms of how distant they are, and in terms of what is required to avoid them. Some dangers are relatively negligible and quite distant (e.g., entering an area in which a predator attack has occurred in the past), and they demand nothing more than orienting and getting ready for unspecified actions if the danger increases. Some dangers are significant and imminent (e.g., being hit on the head by a large falling object), and they demand specific and reflex-like actions (e.g., instantaneously jumping away from the object’s trajectory). Some dangers are also significant and fairly imminent (e.g., being attacked by a wolf running towards us from a short distance), and they can be dealt with successfully by a nonspecific range of actions that require some degree of planning and bodily control (e.g., finding a tree and climbing it, getting a long stick hidden behind a bush and keeping the wolf at bay with it, reaching for an arrow and shooting the wolf with it). In other words, in order to successfully tackle the problem it evolved to solve, the affect program of fear must operate in a reflex-like fashion in limiting cases (e.g., the large falling object case), but most of the time it needs to allow for a great deal of flexibility in responding. If it did not, its evolutionary selection would be utterly implausible in the presence of widely diverse embodiments of the same life task. (Scarantino 2017b: 330)

Related to the same behavioral flexibility issue, Scarantino (2017b) has also compellingly argued that emotion scientists should move away from thinking about causation as constant conjunction (e.g., fear *always* leads to physiological, cognitive and behavioral consequences X, Y and Z), and towards more realistic ideas of causation as probabilistic (e.g., fear *increases the probability* of physiological, cognitive and behavioral consequences X, Y and Z).

Compared to Basic Emotion Theories such as Ekman’s, motivational accounts such as Frijda’s, and Scarantino’s MTE are much more articulate in acknowledging and accounting for the “output flexibility” of emotions. Building on earlier insights about how particular events trigger particular emotional states (e.g., Arnold 1960), both theorists have also carefully considered the “input side” of things, i.e., the nature of appraisal. However, the most articulate analysis of appraisal to date can be found in a third influential perspective on emotion: the component process perspective.

### **3.1.3 The component process perspective**

Just like the preceding two perspectives, The Component Process Model (CPM) proposed by psychologist Klaus Scherer and colleagues (e.g., Scherer 1984, 2005, 2009a; Sander,

Grandjean, and Scherer 2005; Scherer and Moors 2019) defines emotions as unique functional states whose triggering conditions and effects are not coincidental, but the result of biological adaptation. However, it abandons the idea that the functional state of each particular emotion is controlled by a dedicated affective system (*affect program, survival circuit, action control system*) specific to that emotion. Related to this, the CPM is much more precise in specifying the nature of those triggering conditions, and the information processing involved in appraising something as worthy of emotion. It is for this reason that the CPM is also classified as a core example of so-called *appraisal theories* (together with, e.g., theories by Arnold [1960] and Lazarus [1992]), and, more generally, as being part of the *evaluative tradition* in emotion science (Scarantino 2016).

Scherer has defined emotion as “an episode of interrelated, synchronized changes in the states of all or most of the five organismic subsystems in response to the evaluation of an external or internal stimulus event as relevant to major concerns of the organism” (Scherer 2005: 697). Those organismic subsystems, which include cognitive appraisal processes, autonomic physiology (e.g., changes in the degree or patterning of sympathetic arousal), action tendencies (e.g., a strong urge to fight or flight), motor expression (e.g., facial), and subjective feelings, are part of why the theory classifies as a componential one (Scherer 2009b). However, the Component Process Model is componential in a much more interesting and innovative sense: particular changes in one’s autonomic physiology, one’s current action tendencies, one’s motor expression, and one’s subjective feelings are directly driven by particular ingredients of the appraisal process (Stimulus Evaluation Checks, SECs), in a way that make “local” sense and is not coordinated via some master plan.

An overview of major SECs proposed by the CPM is provided by Scherer (2009a). Stimulus events are appraised on relevance (How novel, i.e., sudden, unfamiliar and unpredictable is the event? Does it have consequences for my needs or goals? Is it intrinsically pleasant or unpleasant, independent of my current motivational states?), on their implications (Is it motivationally congruent or incongruent, i.e., conducive or obstructive to my needs or goals? How likely is it that the consequences will occur? How urgently do I need to react?), on the relevant coping potential (Is it caused by a human agent, and if so, why? Can it be controlled? Do I have sufficient power to do so? If not, how well can I adjust to the consequences?), and on normative significance (Does the event or my initial response to it correspond to internal standards? Does it correspond to more general social norms?). Although such appraisal is complex, it does not necessarily require deliberate processing. All SECs can also be processed at a level at which the checking mechanisms “are mostly genetically determined and the criteria consist of appropriate templates for pattern matching” (Scherer 2009a: 1314) (e.g., the evolved preparedness for responding to snakes or babies), as well as at a level that makes use of automatic, unconscious processes afforded by learning (as in a conditioned fear response; see Scherer 2009a: 1314).

According to the CPM, different emotions emerge as a consequence of different appraisal patterns. So, for example, whereas stimulus events that are appraised as relevant, unpleasant and obstructive might elicit anger or fear, those that are appraised as far beyond one’s coping ability are more likely to elicit fear, whereas those that are appraised as within the range of one’s coping ability, caused by a human agent, and unfair will more likely elicit anger (see, e.g., Scherer [1997] for cross-cultural evidence). Furthermore, and impor-

tantly, there is no general *affect program* (Ekman), *action tendency* (Frijda) or *action control system* (Scarantino) that orchestrates the response patterns for fear or anger. For example, the facial expression of anger is assumed to be a composite, with, e.g., the novelty of a stimulus causing a widening of the eyes, its unpleasantness causing the corners of the mouth to turn down, and the sense of control causing a tightening of the lips. Compatible with this idea, EMG studies of facial muscle activity have revealed that, e.g., appraisals of novelty correlate with activation of the *frontalis*, the “eyebrow raiser”, and that appraisals of unpleasantness correlate with activation of the *corrugator supercilii* or “frowning muscle” (see Mortillaro, Meuleman, and Scherer [2012] and Scherer and Moors [2019] for a review). The same component idea is postulated for patterns of physiological effects (with different ingredients of the appraisal controlling different physiological parameters). In all, the synchronization mentioned in Scherer’s (2005) emotion definition is not orchestrated but emerges *dynamically*, as multiple SECs generate their “own” bundles of motivational, physiological, motor, and experiential consequences in response to a single stimulus event.

A final interesting aspect of the Component Process Model is that it explicitly allows for language to impact emotion (see Scherer 2015; Scherer and Moors 2019). That is, as we become conscious of an unfolding emotion episode, we can use words or expressions to characterize and as such also classify the experience. In the CPM, such an act of categorization is optional, because emotion episodes need not enter into consciousness (i.e., may not generate “feeling”), and because even if they do, people may not choose to (or for that matter, be able to) verbalize them (Scherer 2009a). As will be seen in Section 3.1.4, however, some emotion theorists argue that this conceptual categorization is not just optional, but actually *defines* emotion.

### 3.1.4 The psychological construction perspective

All of the theories discussed so far assume that specific emotions like fear, anger and joy (or, in the CPM, the components thereof), are “out there” as specific natural kinds, unique classes of items that exist in nature independent of our acknowledgement of them, such as “water”, or “tigers” (Scarantino 2012). The core of the psychological construction perspective, however, is that fear, anger and joy are not natural kinds shaped by biological evolution. Instead, they are *psychological constructions*, the result of acts of categorization created by people to make sense of their current states, under the guidance of culturally shaped folk concepts. These folk concepts are useful in everyday life, but they are, on this perspective, not suitable as starting points for scientific investigation. James Russell, one of the leading psychological constructionists, has argued that folk concepts such as “fear”, “joy” or “emotion”, are “best elevated to chapter titles with no serious scientific job to do and replaced by narrower, better defined concepts” (Russell 2017: 112). Consider the folk concept of “memory”, which scientists have also replaced by more precise concepts that are more likely to delineate natural kinds, such as sensory memory, short-term memory, and episodic memory (Russell 2009).

As for emotions, what more precise concepts might those be? Russell (2017) suggests that specific emotions reflect particular constellations of (1) Core Affect (CA), “the neuro-

physiological state that gives rise to the most primitive affective feelings: feeling good, feeling bad, feeling energized, feeling enervated” (Russell 2017: 112); (2) a Perception of Affective Quality (PAQ), “a cold judgment as to how an event or object can influence core affect [which is] part of evaluations, attitudes, liking, and disliking” (Russell 2017: 112); and (3) an Emotional Meta-Experience (EME), “one’s perception of one’s own emotional state achieved by categorizing that state” (Russell 2017: 112).

Available categories are those labeled, in English, happiness, sadness, fear, anger, and so on. To have an EME of fear is to perceive one’s current state as resembling the script for fear. Resemblance is a matter of degree, and the components of the script are neither necessary nor sufficient. Indeed, actual danger is not a necessary component for fear, as in the feeling during a horror film. (Russell 2017: 112)

In her Theory of Constructed Emotion (or, formerly, Conceptual Act Theory), psychologist Lisa Feldman Barrett (2006, 2014, 2017a, 2017b, 2018) has taken a comparable perspective:

The brain continually constructs concepts and creates categories to identify what the sensory inputs are, infers a causal explanation for what caused them, and drives action plans for what to do about them. When the internal model creates an emotion concept, the eventual categorization results in an instance of emotion. [...] I’m not saying that emotions are illusions. I am saying that emotion categories don’t have distinct, neural essences. Emotion categories are as real as any other conceptual categories that require a human perceiver for existence, such as “money” (i.e. the various objects that have served as currency throughout human history share no physical similarities). (Barrett 2017b: 13)

As to what emotions are psychological constructions *of*, both Russell and Barrett assign center stage to so-called *core affect*. They define core affect as “a neurophysiological state consciously accessible as a simple primitive nonreflective feeling most evident in mood and emotion, but always available to consciousness”, which, “although one feeling [...], can be characterized by two pan-cultural bipolar dimensions: pleasure-displeasure (valence, feeling good versus bad) and activation (arousal, feeling energetic versus enervated)” (Russell and Barrett 2009: 104). The roots of core affect can be found in interoception, “the sense of the physiological condition of the entire body” critically mediated by the anterior insula (Craig 2009, 2016). It is this state that the act of categorization is intended to make sense of.

Because of their focus on emotions as acts of conceptualization, researchers who explore emotions from this perspective are extremely interested in language. In particular, they have been looking for evidence that variations in language processing or the culturally afforded emotional lexicon critically shape emotion experience and emotion perception (see Lindquist, Gendron, and Sadputre [2016] for a review). The idea here is not just that feelings can be put into words, but that “words are actually put into feelings”:

The word “anger” is thought to be in part constitutive of an angry feeling because it supports the category knowledge that is brought online to make meaning of a rapidly beating heart, high blood pressure, and unpleasantness when a person’s trust is violated, or to make meaning of a calmly beating heart, decreased blood pressure, and pleasantness when a person enacts revenge. This does not mean that a person needs to speak the word “anger”, or even think it when making meaning of an affective state. Instead, the idea is that anger groups a population of instances in a person’s conceptual knowledge (involving representations of sensations from the body, behaviors, and the context) that are all

conceived of as members of the same category despite what otherwise might be large differences among them. (Lindquist et al. 2016: 581)

Psychological construction theories share an important idea with *social* constructionist views on emotion (see, e.g., Mesquita, De Leersnyder, and Boiger [2016] for an overview, and Scarantino [2016] for a brief historically oriented discussion), which is that emotions are inherently culturally dependent. However, while research in the psychological construction tradition uses experimental-psychological and neuroscientific methods to study emotion as it is constructed by the brain and mind of an individual, the social construction tradition uses sociological, ethnographic and philosophical methods to explore the construction and function of particular emotions in interpersonal exchanges and society at large (see Hepburn and Potter [2012] for a conversation-analytic example). Although such work is clearly relevant to sociolinguistic and conversation-analytic explorations of language use, it is beyond the current (processing-oriented) scope of this review.

## 3.2 Shared ideas and debated ones

In Section 3.1, I have outlined four currently influential major “attractors” in the high-dimensional theoretical space of emotion science. Their current influence testifies to the fact that the field has not converged on a single stable conceptualization of emotion. Each of these perspectives has been around for some time, generated fruitful research, and received its own share of empirical support as well as criticism. Language researchers who consider involving emotion in their work are therefore left with three options: (1) wait until the field has converged; (2) pick out a particular perspective or theory on rational or intuitive grounds (e.g., because the theory’s focus and core assumptions about emotion, mind and brain fit one’s particular research questions or one’s own general assumptions about mind and brain); or (3) work with a simplified “metamodel” that captures generally shared ideas in emotion science.

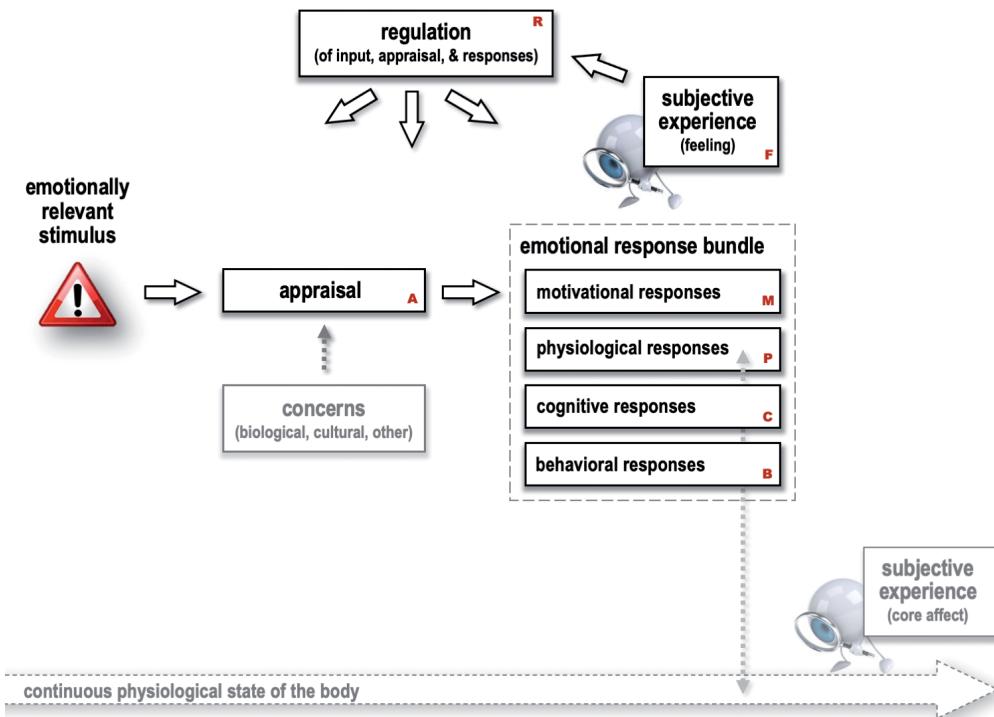
Option 1 is simple, but not very attractive – it could be a long wait. The viability of option 2 depends on one’s particular questions about the language-emotion interface, but as a research strategy this selective approach can be very fruitful. Option 3, although inevitably less precise (and probably never theoretically unbiased), is more generic and “portable”. In the remainder of this section, I will facilitate the use of option 3 by capturing the important shared ideas about affective phenomena in emotion science in a metamodel, and by also using the result to highlight various issues that are currently debated in that field.

### 3.2.1 Shared ideas

The starting point is a working model of an emotion episode (i.e., a short-lived, “phasic” affective response, such as a brief state of fear, joy, shame, or pride) constructed for language researchers some time ago (van Berkum 2018). Figure 1.1 displays a slightly generalized version of that model, complemented with a minimal model of ongoing, continuous core affect.

Figure 1.1 depicts a set of relatively uncontentious ideas about the nature of a short-lived emotion episode, which can be summarized in nine points.

- 1. Elicited by a stimulus.** An emotion episode starts with an eliciting stimulus, such as an event, situation, agent, object, intention, or action. The stimulus can be perceived, inferred, remembered, imagined, or even enacted (e.g., one's own behavior), and is somehow emotionally relevant for the person at hand.
- 2. Concern-driven appraisal.** What makes that stimulus an emotionally relevant stimulus, i.e., a trigger for short-lived emotion, is that it is in some way appraised as relevant to one's concerns, the set of dispositional core values coded in our human biology (e.g., the desire to stay healthy, have autonomy, and be connected to others), or acquired through culturally shared and other, more unique, experiences.
- 3. Dealing with the stimulus.** The appraisal triggers a particular “bundle” of responses, a way of dealing with this type of stimulus that has on average proved to be adaptive in one's evolutionary past, or that has been shaped by learning. If the same stimulus relates to more than one concern, it can elicit more than one response bundle (i.e., mixed emotions).
- 4. Prioritized, synchronized, and rapidly emerging responses.** The typical response bundle consists of fast synchronized responses along four dimensions: (a) a strong motivation or “urge” to do something and do it *now*; (b) supportive, preparative changes in the physiological state of the body, such as the release of adrenaline, changes in heart rate, and a redistribution of blood flow; and (c) cognitive responses, such as changes in attentional focus, in how things are encoded in memory, or in thinking style and/or contents; and (d) behavioral responses, such as frowning, caressing, saying something, or walking away.
- 5. Not necessarily conscious.** Appraisals and emotional responses do not necessarily emerge in awareness. But to the extent that they do, they give rise to feeling, i.e., a characteristic type of subjective experience. The idea of unconscious emotion is somewhat counterintuitive because “emotion” is in everyday life usually equated with “conscious feeling”. However, as in other domains of mental life, the brain does most of the work without us being aware of the computations involved and of what they deliver (Adolphs 2017).
- 6. Regulation.** The awareness denoted by feeling in turn allows one to exert conscious control over the unfolding process in various ways. Control can be exerted over the “input side” of the emotion episode, such as by trying to ignore the stimulus or by reappraising it. Control can also be exerted over the “output side”, such as by trying to suppress the motivational impulse, by exercising deliberate control over physiological parameters (e.g., via deliberate breathing), by suppressing or otherwise adapting a particular expression or other aspect of one's behavior, or by verbally labeling the subjective experience. In the context of emotion, regulation is often seen in terms of inhibiting or otherwise channeling something impulsive (e.g., suppressing the emotion). However, regulation also involves the constructive shaping of one's particular behavioral and mental responses, such that they realize the intended goal of the elicited motivational state in a flexible, context-dependent way.



**Fig. 1.1:** Metamodel of an emotion episode (adapted from van Berkum 2018). In addition to delineating the canonical stimulus → appraisal → response bundle cascade and the subjective experience that goes with it, the model also expresses the relevance of concerns, as well as the possibility to exert control. The bottom part of the figure illustrates the relationship of short-lived emotion to continuous core affect (the subjective experience of the physiological state of the body). Boldface letters that accompany the various ingredients will be used to clarify specific debates in emotion science. The interfaces with language will be discussed in Section 4.

**7. Learning.** Just like other processes realized in neural machinery, the processes that make up an emotion episode will inevitably leave memory traces in the brain (e.g., as a result of repetition, associative emotional conditioning, or episodic memory formation). As such, they also shape the type of appraisal of and emotional response to similar stimuli encountered later. Just like the original processes, this memory-mediated later impact can occur with or without awareness (via implicit memory, or via explicitly remembering how something felt). Although emotions often lead to immediate behavioral changes, the implicit or explicit memory traces associated with an emotion episode allow much of their influence on behavior to extend well beyond the here and now (“prospective power of emotion”; Clore 2018).

**8. Complex dynamic interactions.** The processes that together shape an emotion episode dynamically interact with each other in many different ways. For example, apart from the various interactions afforded by feeling-induced regulation, emotion-induced physiological and behavioral responses will typically affect each other. Also, emotion-induced cognitive biases, such as increased attention, will often influence ongoing appraisal. And the subjec-

tive feeling elicited by an emotionally relevant stimulus can itself become a stimulus for emotion, setting off an additional emotion cascade of its own (Scherer and Moors 2019).

**9. Occurs against the background of longer-lasting core affect.** Short-lived emotion also interacts with the ongoing process of representing and regulating the physiological state of all tissues and organs of the body, including viscera, muscle, bone and skin (Craig 2016). Much of this interoceptive representation and homeostatic regulation operates outside of our awareness, but part of it emerges into consciousness and is experienced as a slow-changing state of core affect with a particular “feel” (e.g., good or bad, energized or depleted), and is at the heart of what people usually call *mood*. The cascade of events associated with short-lived emotion occurs against the background of such slower-changing core affect, and can interact with it via the physiological changes that are part of the emotion’s response bundle.

### 3.2.2 Debated ideas

The metamodel depicted in Figure 1.1 captures shared ideas in emotion science, but it can also be used to highlight various important debates in the field, as well as important differences in focus between different theoretical perspectives. I briefly discuss some of this below, making use of the boldface letter indices in Figure 1.1 whenever appropriate (and of angular brackets to combine components of the emotional response bundle).

One of the fundamental current debates is what the extension of the term “emotion” should be. In defining emotion as psychological construction, both Russell and Barrett (as well as Ledoux 2017) seem to equate “emotion” with a particular type of *subjective experience*, i.e., the feeling part **F** of an emotion episode. Theorists in the other three approaches discussed in Section 3.1 often allow “emotion” to have a wider scope, covering the appraisal **A**, the response bundle **[MPCB]**, and the subjective experience **F**. For Scherer, for example, emotion refers to the dynamic recurrent process of how components of appraisal **A** lead to components of the response bundle **[MPCB]**, to subjective experience **F**, and to regulation **R** (with these various subprocesses dynamically synchronizing and feeding back into each other as an emotion episode unfolds). However, basic emotion, motivation, and component process theorists do differ on what they see as the most interesting part of emotion. With their strong roots in evolutionary theory and the associated focus on adaptive behavior (and animal research), basic emotion theorists tend to focus on the response bundle **[MPCB]**, at the expense of subjective experience **F**. Motivational theorists such as Frijda and Scarantino see the prioritized *motivational response M* as the heart of emotion. The focus in Scherer’s theory is clearly on *appraisal A*, and on how particular ingredients of that appraisal explain subsequent events. Finally, it has also been proposed that “emotion” refers to *none* of the components depicted in Figure 1.1 and is just the functional state that mediates between antecedent **A** and consequents **[MPCB]** (Adolphs 2017, 2018). Thus, although everybody agrees that the components depicted in Figure 1.1 are relevant to understanding emotion, opinions vary as to what the term “emotion” should refer to.

A related fundamental debate is whether emotion scientists should continue to use specific emotion concepts, such as “fear”, “joy”, “disgust”, or “pride” in their research,

and if so, in what way. Intuitively, it seems hard to escape doing so, in part because these terms somehow delineate the phenomena to be explained. Many emotion scientists therefore happily speak about, say, the fear system. For psychological constructionists, however, “fear”, “joy”, “disgust”, or “pride” are just culturally shaped folk concepts that tell us something about the structure of subjective experience  $F$ , and as such unsuitable starting points for a scientific investigation of the neural and bodily systems giving rise to that experience (those responsible for  $A$ , [MPCB], and core affect). Joseph LeDoux (2017) has recently also argued that emotion scientists should reserve these folk concepts for describing subjective psychological states (so  $F_1$ ,  $F_2$ , ...  $F_N$ ) only. Some theorists (e.g., Scarantino 2012) take a more moderate perspective, arguing that it is useful to start from folk concepts (e.g., “disgust”), as long as one is prepared to split the emotion up into more specific categories, should the mechanisms uncovered dictate it (e.g., “physical disgust” vs. “moral disgust”).

This is of course intimately related to the debate over whether people come equipped with evolutionarily predetermined discrete emotion systems  $E_1$ ,  $E_2$ , ...  $E_N$  (basic emotions) or not, and, if so, what the nature of those systems is. In the basic emotion view, our biology predisposes us to make certain categorical appraisals  $A_1$ ,  $A_2$ , ...  $A_N$  (e.g., “the threat of harm”, “interference with pursuing a goal we care about”, “a sudden unexpected event”), and to pair those appraisals with specific preset response bundles [MPCB]<sub>1</sub>, [MPCB]<sub>2</sub>, ... [MPCB]<sub>N</sub> (e.g., fear, anger, and surprise, respectively). Motivational theories such as Frijda’s and Scarantino’s agree with this one-mapping-per-emotion idea but propose that it holds for relations between appraisals  $A_1$ ,  $A_2$ , ...  $A_N$  and *motivations* (states of action readiness)  $M_1$ ,  $M_2$ , ...  $M_N$ , not entire [MPCB] response bundles. In Scherer’s model, however, the mapping between appraisal and response, although largely biologically predetermined, sits at the level of *components* of emotions (e.g., novelty → widening of eyes, as an independent component of the expression of fear, or of surprise). This naturally allows for a much more continuous multidimensional emotion landscape, with clusters corresponding to familiar emotions as well as less clearly categorizable cases, but no discrete categories. As such, the component process approach is actually in line with the idea that emotion scientists should be prepared to abandon the folk categories that people use in everyday life. Psychological constructionists, finally, propose that the only aspect of emotion that is biologically predetermined is core affect, a continuous low-dimensional affect space that can be characterized in terms of valence and arousal.

There are at least three further debates in emotion science that can be considered as spin-off from the previous one. One is whether emotions such as “fear”, “joy”, “disgust”, or “pride” have their own specific and culturally invariant neural and physiological signature (i.e.,  $E_1$ ,  $E_2$ , ...  $E_N$  invariantly map onto  $P_1$ ,  $P_2$ , ...  $P_N$ ). The second is whether these emotions have their own specific and culturally invariant facial, vocal and postural expressions (i.e.,  $E_1$ ,  $E_2$ , ...  $E_N$  invariantly map onto  $B_1$ ,  $B_2$ , ...  $B_N$ ). The third one is whether the various components of a response bundle [MPCB] cohere enough internally, within each particular response bundle, to define those bundles as the products of coordinating affect programs (so [MPCB]<sub>1</sub>, [MPCB]<sub>2</sub>, ... [MPCB]<sub>N</sub>), instead of as ad hoc clusters that “accidentally” emerge because of the structure of the world.

Another debate concerns the status of subjective experience, i.e., feeling. Many theorists have argued that as an emotion unfolds, the  $A \rightarrow$  [MPCB] cascade is initially uncon-

scious and can in principle remain entirely so – subjective experience **F** only emerges when appraisals and/or responses are intense or salient enough to lead to a conscious state. Because according to this view, **F** is basically a “readout” of states and events in the **A** → **[MPCB]** cascade, this is sometimes referred to as the readout view of feeling. For other theorists, however, feeling is a necessary ingredient of emotion. This idea follows naturally from the psychological construction perspective, where subjective experience **F** is the heart of emotion. But the idea is also subscribed to by basic emotion theorists that foreground a primitive form of pleasant or unpleasant feeling at the heart of emotion (e.g., Panksepp and Biven 2012), not as a readout, but as part of the response bundle itself (so, **A** → **[FMPCB]**).

A final relevant debate involves the extent to which regulation **R** is opposed to, part of, or even identical to emotion. Basic emotions theorists tend to view the response bundles **[MPCB]** for individual emotions as relatively reflex-like, automatic consequences, which leads to a perspective on control that is usually opposing, i.e., “inhibitory”, or at least “channeling”. In psychological construction theories, on the other hand, some of the cognitive processes involved in regulation **R**, such as reappraisal, are not fundamentally different from those involved in conceptualizing the subjective experience **F**, i.e., “the emotion”, in the first place (see Gross and Barrett 2011). The motivational theory of Scarantino, finally, offers a richer view on regulation **R** than either of these other perspectives: here, regulation **R** is not just about “inhibition” or “reconceptualization”, but also about allowing deliberate control to combine with the motivational impulse **M** such that the other components of the response bundle – **[PCB]** – can become much more flexible and context-dependent.

There are many more debates in the emotion field, for which I refer the reader to Barrett, Lewis, and Haviland-Jones (2016), Fox et al. (2018), and Sander and Scherer (2009). For present purposes, it is more useful to say a few things about where the field might be heading, and then return to language research.

### 3.2.3 How will the emotion field develop?

Although predicting developments in such a large and complicated field is difficult, I believe the following developments to be most likely:

1. First, the lack of evidence for unique and invariant neural, physiological, and expressive signatures of specific emotions (such as a single characteristic brain state, physiological state, and expression for anger, across cultures and situations; see, e.g., Barrett 2017a, 2017b; Barrett et al. 2019; Scarantino 2015, 2017b) will be an increasing embarrassment for classic versions of the basic emotion perspective. This will create a push towards the motivational reincarnations of such theories. Motivational theories do not require such reliable signatures to the same extent, but do retain the core idea that nature has endowed us and many other animal species with various specific emotions to handle recurrent problems in life.
2. Second, it seems reasonable to expect attempts at merging the central tenet from motivational theory with the componential approach of CPM. After all, what nature endowed us

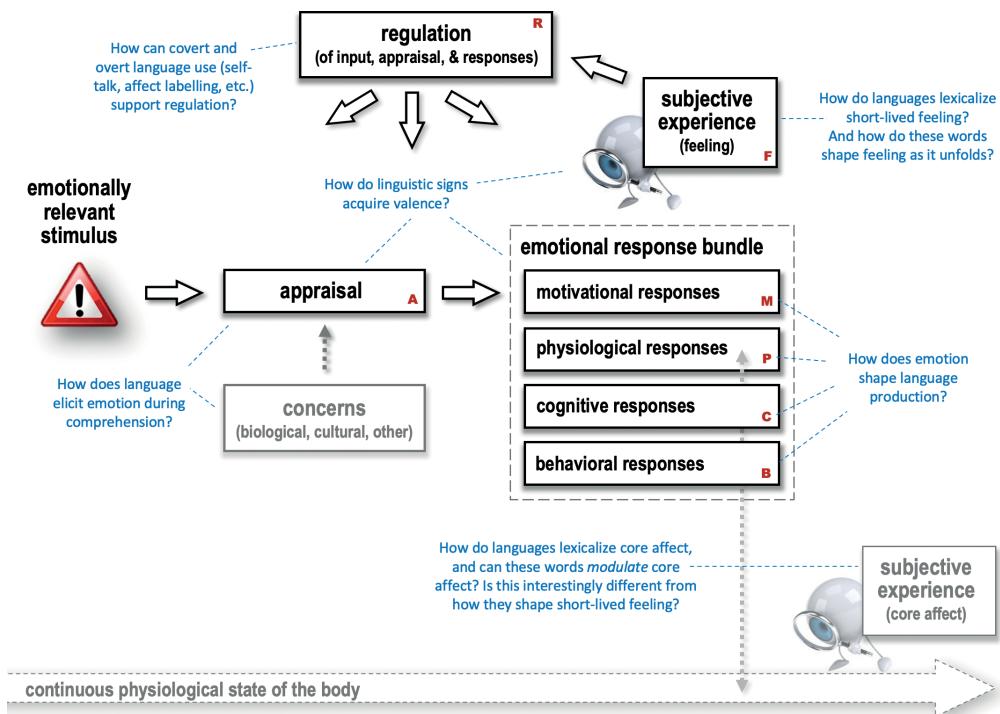
with may have evolved both at the level of specific emotions (e.g., all mammals evolved anger as a motivational solution to a recurrent problem in social life) *and* at the level of various components (e.g., all mammals evolved specific responses to goal obstruction, to having a sense of control, etc.).

3. Third, it seems likely that emotion research will increasingly embrace a valuable insight afforded by the psychological (and social) constructionist program: like other forms of experience and perception, the *experience* of emotion in ourselves and the *perception* of emotion in others is partly constructed. As such, feelings and perceptions of emotion can be strongly influenced by cultural conventions, including the stories we tell about emotions and the words that our language has to tell them with.
4. Fourth, and related, I think there will be increasing acceptance of the idea that the categories of emotion that are distinguished in ordinary life to explain our own and other people's behavior (e.g., "fear", "love") are not necessarily the best categories to ground emotion science in. For sure, they are inescapable starting points for a science of *feeling*. However, for other aspects of emotion, progress may well call for finer distinctions (LeDoux 2017; Scarantino 2012), and perhaps even the abandonment of some folk categories altogether. This is compatible with a motivational as well as a component process perspective, but the componential approach does have a head start in such reconceptualization (e.g., Scherer and Moors 2019).
5. Finally, I expect increasing leverage for the idea that emotions need not all have the same fundamental architecture (Scarantino 2012): whereas some human emotions might be best described from a motivational perspective, others might be better described from a basic emotion, component process, or psychological construction perspective. Although the principle of parsimony supports the quest for a single unifying perspective, the multi-perspective idea is a liberating one, and one that may turn out to have more explanatory power in the end.

## 4 A research agenda for affective language science

The metamodel of an emotion episode that I developed in Section 3 does not only help us think about various debates in emotion science, but can also provide a framework for thinking about the interfaces with language. By way of illustration, Figure 1.2 lists several interesting questions about those interfaces.

As evidenced by the other chapters in this handbook, many of these questions are already being pursued, and Figure 1.2 merely uses the metamodel to systematically organize them relative to each other. However, the metamodel can also alert us to important understudied questions. For example, a question that addresses a primary interface between emotion processing and language processing – how emotions shape verbal utterances during language production – has not yet received the amount of attention it should have, neither in emotion science, nor in language science (van Berkum 2020).



**Fig. 1.2:** Some questions about language-emotion interfacing, next to the metamodel component that they are most closely aligned with.

Although useful in providing a context for old or new questions, the metamodel in Figure 1.2 is inevitably somewhat biased to the timescale of real-time language processing, at the expense of questions that involve a slower timescale. Also, while the metamodel zooms in on emotion processes within a single individual, verbal communication always involves two or more individuals, and communicators usually design their utterances while taking into account the *addressee's* (or overhearer's) emotion as well (Crivelli and Fridlund 2018; Hess and Hareli 2019). The agenda for research on the language-emotion interface therefore extends well beyond the few examples provided in Figure 1.2.

Outstanding questions about the language-emotion interface can be grouped by time scale (real-time processing, acquisition, language change/evolution) and by whether they tend to primarily focus on language (1–3) or on emotion (4):

**1. Questions about the role of emotion in real-time language processing.** At the language comprehension side, we need to explore how linguistic and paralinguistic stimuli trigger emotion during comprehension (see, e.g., van Berkum [2018, 2019] for an explicit model), and how the addressee's earlier emotional state enters the equation. As emotions are embodied, we also need to sort out which aspects of language-driven emotion can be profitably seen as “embodied language processing” (i.e., simulation), and which aspects are better viewed in other terms (see, e.g., ‘t Hart et al. 2018, 2019, 2021). Furthermore, language can affect the comprehender's emotion in several ways, and it is important to

understand which of these “perlocutionary effects” are actually intended by the speaker, and which are side effects. And we can ask how the concepts developed in rhetoric and framing research, both central to understanding perlocutionary effects, relate to the processing architecture of emotion. At the language production side, it will be important to explore such things as how speaker (author, signer) emotion ends up being expressed in what is being said and how, and which of that is an intended “ostensive sign” as opposed to an unintended sign (cf. non-natural vs. natural meaning; Grice 1967). We also need to understand when and how speakers deliberately exploit the addressees’ emotional nature *independently* of their own emotional state (see, e.g., Scarantino 2017a). And in those cases where it seems more fruitful to see emotion as overtly enacted and/or jointly constructed, it is important to ask how interactants “perform” emotion and align or oppose their stances (see, e.g., Goodwin, Cekaite, and Goodwin 2012; Hepburn and Potter 2012; Peräkylä et al. 2015), and how those overt performances interact with private emotional states.

**2. Questions about the role of emotion in language acquisition.** These include important questions about the role of emotion in facilitating early language acquisition (e.g., via the effect of emotion on memory encoding; see Kensinger and Schacter 2016). Also in this category, for example, are questions about the acquisition of emotion concepts, and, more generally, about how emotional conditioning and other forms of emotional learning can contribute valence to any word or constructions (see also Figure 1.2). One particularly relevant well-known phenomenon in emotion science is that Pavlovian emotional conditioning leads to a transfer of desiring the unconditional stimulus or primary reward (e.g., a food reward) to also really desiring the cue that reliably signals it (e.g., the sign that predicts food; Berridge 2012). Such displacement of emotion from a referent to its cue can help us understand how word valence comes about (see, e.g., van Berkum [2018] for discussion).

**3. Questions about the role of emotion in shaping the language code and the wider pragmatics machinery.** A central question here is the extent to which language, as a code, has been evolutionarily and/or culturally shaped to accommodate the role of emotion in human social exchanges, at the level of the lexicon (emotion words, intensifiers, etc.), as well as other aspects of the grammar (see, e.g., Besnier 1990; Foolen 2015; Majid 2012; Potts 2012). Another issue of interest to explore is how signs of emotion that come for free with our biology (e.g., frowning) relate to the “non-natural” linguistic or other signs that we can use to express emotion, as well as whether natural emotional expressions may have paved the way for the types of speech acts we can perform through language (see, e.g., Scarantino 2017a).

**4. Questions about the role of language in the experience and control of emotion.** This final category includes many important questions about the role of self-directed language in actively shaping and regulating one’s emotional responses and experiences (cf. affect labelling, self-talk, expressive writing, or simply counting to ten). It also includes questions about how our emotion lexicon affects the perception of emotion *in others* (see Lindquist et al. [2016] for a review). Furthermore, there are questions about how people use language to achieve interpersonal rather than just intrapersonal regulation, as when regulating emotions by displaying them to others (see Fischer and Manstead 2016). Questions in this category interestingly mesh with those in category 1.

The research agenda for affective language science reveals not only how diverse that investigation actually is, but also how interesting and important the various questions are, for emotion researchers and language researchers alike. Of course, this does not mean that every language researcher should now also involve emotion in their research – after all, there are many, many interesting questions about language that do not relate to emotion at all. In fact, what makes language “special” are such things as its combinatorial nature, and its capacity to refer to real or counterfactual worlds with arbitrary signs as well as arbitrary precision, not the fact that it interfaces with emotion. Yet, it seems safe to say that every actual linguistic exchange between humans is affecting and/or is being affected by *some* conscious or unconscious emotion, and, in addition, that the perlocutionary effects of language use to a large extent depend on such emotion. Hence, just like it is important for those who study, say, semantics to be aware of some of the basics of pragmatics, syntax, and phonology, it is important for those who study language to be aware of some of the basics of human emotion.

## Acknowledgments

Partly supported by NWO Vici grant #277–89–001 to JvB. I’d like to thank the members of the Language and Communication research group at Utrecht University, particularly Tessa van Charlidorp, Jacqueline Evers-Vermeul, Henk Pander Maat and Marijn Struiksma, as well as Ad Foolen, an anonymous second reviewer, and the volume editors for their helpful comments.

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## I Affective sciences: Theories of emotion and their linguistic relevance



Ad Foolen

## 2 Language and emotion in the history of linguistics

- 1 Introduction
- 2 Antiquity and the early Western tradition
- 3 18th- and 19th-century speculation on the origin of language
- 4 The 19th-century study of language change
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**Abstract:** This chapter offers a global overview of how the relation between language and emotion has been a subject of study in the history of Western linguistics, from Greek antiquity to date. In traditional grammar, interjections have been considered as the prototypical way emotions are present in the language system, whereas in rhetoric *pathos* was seen as an important factor in successful speech. In 18th- and 19th-century speculations on the origin of language, interjections were often considered as the “missing link” between animal cries and human language. In the 19th-century scientific study of language change, emotion was seen as one of the psychological factors that drives language variation and change. In the 20th century, linguists tried to give emotive meaning a place in a synchronic semiotic view on language and communication. In the 21st century, the humanities increasingly recognize emotion as the third factor, besides cognition and behavior, which is relevant for a full understanding of human (and animal) life. Linguistics is reconsidering the language-emotion relation in this new perspective.

### 1 Introduction

In the history of linguistics, the expression of emotion via language has not been a central concern, cf. Stankiewicz (1964) who noted “that this [emotive] function and its peculiarities are still the least studied in linguistic works, despite repeated attempts on the part of some linguists to lift them from the limbo of grammatical appendices, footnotes, or lists of exceptions” (Stankiewicz 1964: 240). A skeptical attitude regarding the emotive function of language can be illustrated with a passage from Sapir’s *Language* (1921): “On the whole, it must be admitted that ideation reigns supreme in language, that volition and emotion come in as distinctly secondary factors” (Sapir 1921: 38).

The main question in this chapter is whether a closer inspection of the history of Western linguistics indeed confirms Stankiewicz’s observation of limited interest in the rele-

vance of emotion to language or whether the emotive function has stayed somewhat under the radar of historiography. In order to answer this question, we will explore how this relation has been dealt with in different periods, by different authors, and within different theoretical frameworks. The overview is structured chronologically from antiquity to the present. We will see that over time the attention paid to the relation between language and emotion varies from neglect to serious consideration, and from a primarily descriptive to a more theoretical interest.

Before we start the historical overview in Section 2, we have to pay attention to some terminological issues. Already the notion of “emotion” itself provides definitional problems. According to Fehr und Russell, “[e]veryone knows what an emotion is, until asked to give a definition. Then, it seems, no one knows” (Fehr und Russell 1984: 464). Is it something inside a person? Should it be defined in terms of behavior? Is emotion always directed at a target? Modern emotion research has not yet agreed on such fundamental questions, let alone on a unified definition, cf., for example, van Berkum (2018: Section 3) and Barrett and Satpute (2019). The many scientific terms that refer to emotion-like experiences (emotion, affect, mood, feeling, passion, pathos) and attitudes (stance, evaluation, appraisal, subjectivity) already show that the phenomenon of emotion comes in different types and shades. This variation also has a cultural and historical component, cf. Konstan (2006), Plamper (2012), Beatty (2013), and Broomhall et al. (2019). Konstan (2006) compared ancient Greek and modern-day Western emotions, assuming that they differ:

The premise of this book is that the emotions of the ancient Greeks were in some significant respects different from our own, and that recognizing these differences is important to our understanding of Greek literature and Greek culture generally. What is more, I argue that the Greeks’ conception of the emotions has something to tell us about our own views, whether about the nature of particular emotions or the category of emotion itself. (Konstan 2006: ix)

Turning to the words used for emotion in natural languages does not offer a way out of terminological problems, cf. Essary (2017) and Wassman (2017). When it comes to labeling *specific* emotions, different languages make different distinctions, and these distinctions can change over time, cf. for example Frevert et al. (2014) and Tissari (2017) on words for various emotions throughout the history of English.

The other component in the emotion-language relation is “language”. Again, one could paraphrase the statement of Fehr and Russell quoted above in relation to emotion: “Everyone knows what language is, until asked to give a definition. Then, it seems, no one knows”. Language involves a range of aspects and dimensions. Which of them should we consider as relevant for the relation to emotion? Is it the language system or rather the use of words and constructions in communication? The grammar or the lexicon? How about the origin of language or its development and change over time? The process of acquisition of a language as a first or second language or the loss of it in language attrition and aphasia? Should we focus on the relation between the speaker’s emotion and his/her utterance, or on the impact of the utterance on the hearer, or is an overall “discourse” perspective the right approach to do justice to the relation between language and emotion?

Relating emotion and language suggests the assumption that they are independent from each other to begin with. However, having a label for a specific emotion can profile

or strengthen the experience of that specific emotion in the culture, by way of a Whorfian effect (cf. Barrett 2017; Lindquist et al. 2016; Satpute and Lindquist 2021), and this, in its turn, can lead to more words, expressions and talk related to that emotion. Historiographic study should try to keep in mind such complexities of the language-emotion relation when examining studies on this topic that were produced over the centuries.

In studying the language-emotion relation, an important distinction must be kept in mind from the beginning, namely the distinction between *expression of emotion* and *conceptualization of emotion*, cf. Foolen (2012). It is uncontroversial that people have the ability to conceptualize emotions and talk about them in the same way they can talk about other experiences and things in the world. In this respect, emotion is “normal” for language. In contrast, the expression of emotion is and was seen as a primarily non-verbal phenomenon, cf. Darwin (1872), Wundt ([1900] 1912), van Ginneken (1919), and Bühler (1933). Against the background of that non-verbal prejudice, the possibility that emotions can also be expressed verbally, via emotionally charged words and constructions, was not always acknowledged to the full.

Secondly, one has to keep in mind that the distinction between conceptualization and expression of emotions is on the one hand relevant at the level of the language system and on the other hand at the level of language use. Regarding the system, Ameka (2006) distinguishes descriptive forms from expressive ones, and regarding the level of language use Bednarek (2009) discriminates between emotion talk and emotional talk: “[E]motion talk makes use of expressions that directly and explicitly name a particular emotional response (e.g. *fear*), whereas emotional talk uses expressions that can be more indirectly related to some kind of emotional experience, which need not be clearly identifiable” (Bednarek 2009: 396).

To complicate things even further, conceptual and expressive language do not exclude each other, they can occur simultaneously. In the language system, a word can have referential meaning and connotation at the same time. In language use, figurative language (metaphor, metonymy, personification, etc.) is typically used to conceptualize abstract phenomena, among them emotions (*I feel down, blue*; *I am burning with love*, cf. Kövecses 2000; Lakoff 2016), but at the same time such figurative language contributes to expressiveness. It is typically more expressive to say *I exploded* than *I was angry*.

The present overview will focus on the emotive (expressive, affective, etc.) ways in which emotion is relevant to language, leaving out research on the conceptualization of emotions in different languages and times (for the latter topic see, for example, Foolen [2017], Kövecses [2014]).

As is the case for scientific emotion terminology in general, there is a variety of terms used in relation to emotional expressive meaning in language: emotive, affective, expressive, evaluative, subjective, attitudinal, axiological, exclamative or connotational. And to complicate matters further, several of these terms have other uses as well. For example, it is normal to say that we *express* a thought in language, and the term *expressives* is sometimes used to refer to ideophones (cf. Dingemanse 2017). The terms “emotive meaning” and “axiological meaning” are also used in 20th-century philosophical studies on the meaning of evaluative words like *good*, *bad*, and *wrong*, cf. Ogden and Richards (1923), Stevenson (1937, 1944), and Felices-Lago (2014). And the term “connotation” has different uses, too;

see Garza-Cuarón (1991). In the present chapter, “emotive meaning” will be used as the general term, but where necessary, the specific terminology as used by the various authors discussed will be followed.

The historiographic overview is structured as follows. In Section 2, we look at emotion in relation to grammar and rhetoric in Greek and Latin antiquity and the early Western tradition. What was developed there became the rather stable Western tradition in grammar and rhetoric. Section 3 focuses on the 18th- and 19th-century speculations on how language came into being in the history of mankind. According to some 18th- and 19th-century authors, emotional cries paved the way for rational speech, an assumption that gave emotion an important place in linguistic and philosophical theorizing of that period.

In contrast to the rather speculative theories just mentioned, a new, more scientific and systematic paradigm developed during the 19th century, known as historical-comparative grammar. This paradigm naturally led to the study of language change, initially focusing on phonology and morphology, but later in the century, semantic changes began to be considered as well. Section 4 will address to what extent emotion was regarded as a factor in such diachronic processes.

Section 5 is devoted to the 20th century, in which the perspective of linguistic research gradually turned to synchronic analysis of language systems. In versions of structuralism that stressed the autonomy of language systems, including early generative grammar, emotional aspects of language were neglected. In contrast, authors working in functionally oriented versions of structuralism considered the emotive function to be one of the regular functions of language use, with the corresponding linguistic means on the level of the language system.

In Section 6, a short look will be taken at present-day linguistics. The recent “emotional turn” in cognitive sciences (cf. Damasio 1994) has had an impact on the humanities, linguistics included, leading to a renewed and increased interest in the relation between language and emotion.

## 2 Antiquity and the early Western tradition

### 2.1 Grammar: interjections

In the Western grammatical tradition, interjections were considered the primary linguistic way to express emotions. In the oldest grammars, however, like the *Tékhnē Grammatikē*, written around 100 BC by Dionysius Thrax (about 170–90 BC), interjections did not yet constitute a separate part of speech. Thrax distinguished 26 semantic subclasses of adverbs, including adverbs of time and place, but also adverbs with more expressive meanings like adhortation (*age* ‘come on’), surprise (*babai* ‘well well’) and (empathic) suffering (*papai* ‘poor thing’).

In Thrax’s time and later, grammarians distinguished eight parts of speech, one of them being *arthron* (article). Since Latin did not possess articles (either definite or indefinite), grammarians could retain the respected number of eight parts of speech for Latin

when they decided to take subjective words like *age* out of the adverb category, giving them independent part-of-speech status as interjections, cf. Ashdowne (2008):

Quintilian [1st century AD] is arguably our first substantial source for both the term ‘interjection’ (*interiectio*) and the concept as we would recognize it today. However, there are good reasons for believing that these should not be attributed to him as his own original idea. Rather it seems likely that he was presenting a view that he had learned from his teacher, the freedman and grammarian Q. Remmius Palaemon, author of a now lost *Ars Grammatica* (probably 67–77 AD). (Ashdowne 2008: 12)

Sauciuc (2004) comments on the definition of interjections by early Latin grammarians as follows: “According to their definitions, the interjections are the expressions of emotions or affects that move and trouble the spirit [...]; this is in accordance with a long tradition for which all manifestations of affectivity would contrast with the cognitive capacities of humans” (Sauciuc 2004: 104). In the *Ars maior* by Donatus (4th century AD), the interjection is defined as *pars orationis interiecta aliis partibus orationis ad exprimendos animi adfectus* [‘a part of speech which is placed between other parts of speech to express moods of the soul’]. Such a definition, with small variations, is repeated again and again in school grammars in the Middle Ages and later. To illustrate this, let’s take a short look at two examples from around 1000 and 1660, respectively.

Sauer (2009) refers to Ælfric’s *Grammar*, written around 1000: “In accordance with the Latin grammatical tradition Ælfric has a chapter on interjections. [...] He defines interjections quite traditionally as the word-class that expresses emotions: *Interiectio est pars orationis significans mentis affectum voce incondita*; the interjection is a part of speech which signifies the mind’s commotion with an unformed voice” (Sauer 2009: 169). (The definition that Ælfric uses here is taken from Donatus’ *Ars minor*.) According to Sauer, the emotions that Ælfric lists as being expressed by Latin interjections are the following: joy, grief and distress, wonder and astonishment, fear, anger, repentance, contempt, scorn.

A second example of the traditional treatment of interjections is the *Grammaire générale et raisonnée* (1660), written by Arnauld and Lancelot, who state that “Interjections are words which mean nothing outside ourselves; but they are only sounds which are more natural than artificial, which mark the movements of our spirit, like *ah! oh! hm! alas!* etc.” (Arnauld and Lancelot [1660] 1966: ch. 23, 384; my translation). The “movements of our spirit” are a direct reflection of Donatus’ “*animi adfectus*”, thus providing a clear illustration of the continuity in Western traditional grammar.

Although copying and continuing the tradition is dominant, we can register at least one period in which critical discussion took place. In the 13th and 14th centuries, a school of philosophy called “modism” tried to match categories from Aristotle’s ontology with distinctions found in the grammatical tradition. With regard to the parts of speech, the hypothesis was that each of these parts correlated with a specific type of mental concept. The interjections caused a problem here, as they express a movement of the mind rather than a mental concept. Miner (1990: 177) summarizes ways in which some of the modist philosophers tried to solve this problem. One author argued that an interjection does not refer to a mental concept in the speaker, but rather in the hearer. If the speaker exclaims *alas*, the hearer infers the corresponding concept of the emotion of suffering. An argument against this position, brought forward in this discussion at the time, was that verbs and

nouns which refer to emotions evoke similar concepts in the hearer. But if interjections, nouns and verbs have the same effect on the hearer, how can they then be distinguished as different parts of speech? In hindsight, it seems that the modists would have benefited from a clear distinction between conceptualization and expression of emotion (cf. Section 1).

## 2.2 Rhetoric

In ancient Greek democratic society, particularly in the political and forensic domains, rhetoric played an important role. According to Aristotle, three qualities were important for a good rhetor, cf. Waugh et al. (2013): “[*E*]thos, developing a morally sound character and thus credibility; *pathos*, stirring an audience’s emotions; and *logos*, the use of reasoning (logic), either inductive or deductive, to construct an argument” (Waugh et al. 2013: 620). These qualities became central in rhetorical education in ancient Greece and, later, in the Roman republic.

In the context of the present chapter, the rhetorical role of *pathos* is relevant. Note that *pathos* is not defined in terms of the speaker’s feelings, but from the perspective of the hearer. It is the rhetor’s job to influence a politician or judge towards making a specific decision. As Aristotle states, “persuasion may come through the hearers, when the speech stirs their emotions. Our judgments when we are pleased and friendly are not the same as when we are pained and hostile” (Aristotle, *Rhetoric*, Book I, Part 2). In order to be successful, a rhetor “must understand the emotions – that is, to name them and describe them, to know their causes and the way in which they are excited” (Aristotle, *Rhetoric*, Book I, Part 2).

In Book II of his *Rhetoric*, Aristotle reflects on emotions that he considers as relevant to rhetoric, like anger, shame, confidence, pity, indignation, envy, etc. For example, with regard to fear, we read: “[W]hen it is advisable that the audience should be frightened, the orator must make them feel that they really are in danger of something, pointing out that it has happened to others who were stronger than they are, and is happening, or has happened, to people like themselves, at the hands of unexpected people, in an unexpected form, and at an unexpected time” (Aristotle, *Rhetoric*, Book II, Part 5).

Like grammar, rhetoric became part of the Western tradition, both theoretically and as part of practical teaching (“how to persuade”). Even in modern instructive texts on effective persuasion, references to Aristotle (particularly his “triangle” of logos, ethos and pathos) can be found, cf. Halmari and Virtanen (2005).

## 3 18th- and 19th-century speculation on the origin of language

Theories about the origin of language go back to antiquity, but in the 18th century, the question of how language could have evolved out of earlier, more primitive, communica-

tion systems became a more systematic topic of debate, although the arguments remained speculative. Typically, scholars tried to imagine how language could have developed from previous means of communication, like emotional cries and iconic gestures, and what functions these early communicative means served.

Étienne Bonnot de Condillac (1714–1780) played an important role in the discussion with his *Essay sur l'origine des connaissances humaines* (1746). In Condillac's view, holistic natural cries and gestures preceded language. The crucial change into language occurred when people managed to bring their natural expressions under voluntary control. This enabled them to expand the number of signs and combine them in an analytic way (cf. Taylor 1989). Other 18th-century thoughts on language origin came from Jean-Jacques Rousseau (1712–1778) with his *Essai sur l'origine des langues* (written 1754, published posthumously in 1781), and Johann Gottfried von Herder (1772). As Mufwene (2013) points out, Rousseau considered emotional expression in early human communication to be of primary importance: "Cries and gestures are the language most expressive of humans' passions, which dominated in the earliest phylogenetic stages of mankind" (Mufwene 2013: 17). Herder (1772) voiced an ambivalent reaction to Rousseau's view (which Rousseau had expressed already earlier in his published *Discours sur l'origine et les fondements de l'inégalité parmi les hommes*, 1754). Herder agreed that language may have started as animal-like cries expressing emotions, but also stressed that human speech utterances were volitional (cf. Condillac) and driven by reason.

In the 19th century the debate continued. In Chapter 9 of his two-volume *Lectures on the science of language*, published in 1861 and 1864, Max Müller (1823–1900) discussed several existing theories on the origin of language. He used the term "bow-wow theory" for the idea that human language originated through imitation of sounds from nature, and the "pooh-pooh theory" for the proposal that man's own innate expressive sounds were the basis of language. According to Müller, defenders of the latter view argue as follows:

Does he [man] not utter cries, and sobs, and shouts himself, according as he is affected by fear, pain, or joy? These cries or interjections were represented as the natural and real beginnings of human speech. Everything else was supposed to have been elaborated after their model. This is what I call the Interjectional, or Pooh-pooh, Theory. (Müller 1861–1864: ch. 9, 420)

Müller does not support this theory, cf. the following quote, from the same page, where he takes a position comparable to that of Condillac and Herder, in the sense that volitional control is seen as the essential difference between non-language and language:

Our answer to this theory is the same as to the former [the bow-wow theory]. There are no doubt in every language interjections, and some of them may become traditional, and enter into the composition of words. But these interjections are only the outskirts of real language. Language begins where interjections end. There is as much difference between a real word, such as "to laugh," and the interjection ha, ha! between "I suffer," and oh! as there is between the involuntary act and noise of sneezing, and the verb "to sneeze". (Müller 1861–1864: ch. 9, 420)

In 1866, the recently founded Linguistic Society of Paris decided against accepting lectures or publications on the origin of language, as the topic was too speculative. This ban certainly had an impact in the field of linguistics, but it did not prevent researchers in other disciplines from writing on the topic. Darwin discussed language and its origin in his *De-*

*scent of Man* ([1871] 1882), which included a polite reference to “the celebrated lectures of Prof. Max Müller” (Darwin 1882: 81). While for Müller the controlled use of arbitrary signs was crucial for the definition of language, Darwin emphasized the continuity with early forms used for communication: “I cannot doubt that language owes its origin to the imitation and modification of various natural sounds, the voices of other animals, and man’s own instinctive cries, aided by signs and gestures” (Darwin 1882: 81).

Likewise, the psychologist Wilhelm Wundt felt no hesitation to address the origin of language in the context of his larger framework. The first two volumes of his ten-volume *Völkerpsychologie* focused on language (Wundt [1900] 1912). On the one hand, Wundt defended the idea that emotional expressiveness played a crucial role in the origin of language. He started the first of his two volumes on language with a long chapter on *Gefühle* and *Affekte*, ‘feelings’ and ‘affects’, and how they are expressed by the face and body. Wundt recognized the role of interjection-like sounds in the origin of language but, in addition, he considered gestures an equally important source of meaning. According to Wundt, meaningful language was created based on the combination of interjection-like expressive sounds and gestures, the latter providing the referential content.

Wundt (1900: 319–322) considers primary interjections as the “linguistic remains” of *Naturlaute* ‘natural sounds’ of animals and children below the age of language acquisition. These cries mainly function as expressions of emotions. According to Wundt, such interjections are less present in the languages of modern cultures than in Classical Greek and Latin and in the languages of primitive cultures (Wundt 1900: 320). He accounts for this decrease in the use of interjections over time by the *von der Sitte gebotene Mäßigung der Affektäußerungen* (Wundt 1900: 320–321), ‘the tempered expression of emotion as required by civilization’. In the next section (Wundt 1900: 322–325), Wundt argues that the grammatical forms of vocative and imperative have an affinity with interjections in that they are typically called out in an affective way.

In 20th-century linguistics the origin of language was no longer a central topic of interest, cf. the dismissive stance of Sapir (1921) who, in a discussion of interjections and sound-imitative words, stated that “all attempts so to explain the origin of speech [i.e. on the basis of interjections and sound-imitative words] have been fruitless” (Sapir 1921: 7). Sapir regards language as “a system of voluntarily produced symbols” (Sapir 1921: 8), thus stressing the difference between language and other means of communication in the animal kingdom in a similar way as Müller did. In contrast, Jespersen, in his book *Language* (1922), took a more Darwinian view, stressing the continuity between pre-linguistic communication and language. In the final chapter, “The origin of speech” (Jespersen 1922: 412–442), Jespersen states that music and the expression of emotion played important roles in the origin of language. It is interesting to note that according to Jespersen, emotional expression remained part of the system of language, its relevance decreasing however in the course of history: “The development of our ordinary speech has been largely an intellectualization, and the emotional quality which played the largest part in primitive utterances has to some extent been repressed” (Jespersen 1922: 441). This “intellectualization” echoes Wundt’s view on increased emotion control through the ages, reflected in language.

In recent years, there has been a renewed, interdisciplinary interest in the origin of language, and in this context, the role of emotion in the process is being discussed again, see Section 6.1 for a short overview.

## 4 The 19th-century study of language change

When we think of 19th-century linguistics, the historical-comparative approach as developed in Germany from the beginning of the century comes to mind first. The main focus was on changes in sounds and morphemes. But some researchers had already started to look at meaning, cf. the overviews in Knobloch (1988) and Fritz (2012). Nerlich (1992) presents an extensive overview of authors and publications on semantics and semantic change in Germany, France, and England between 1830 and 1930. She shows that metaphor, metonymy and synecdoche were initially considered the main agents in processes of semantic change; emotion was only sporadically seen as a relevant driving factor. But Nerlich mentions Christian Karl Reisig (1792–1829) who “adds to Kant’s purely philosophical principles of intuition and reason a third source for the development and change of human language: feelings” (Nerlich 1992: 40).

The picture changed in the final quarter of the 19th century, when the new discipline of psychology gained ground and started to have an impact on linguistics. Influential psychologists with an interest in language were Heymann Steinthal (1823–1899), Moritz Lazarus (1824–1903), and Wilhelm Wundt (1832–1920). They generally saw the mind as consisting of three domains: reason, volition, and emotion, each of which had its own impact on and reflection in language. This way, psychology put emotion on the map as a relevant determinant of language structure and (semantic) change.

We can illustrate Wundt’s view on the role of emotion in language change by looking at his analysis of the development of intensifiers. In Volume 2 of *Völkerpsychologie*, Wundt devotes a section to *Gefühlswirkungen beim Bedeutungswandel* (Wundt [1900] 1912: 570–578), ‘the effect of feelings on semantic change’. One of the phenomena Wundt discusses is how strongly negative words like *terrible* and *horrible* tend to develop into intensifiers: *terribly difficult*, *horribly nice*. This is based “on the property of our emotional life, that forms of aversion can reach higher degrees of intensity” (*auf der Eigenschaft unseres Gefühlslebens, daß die Unlustformen größere Intensitätsgrade erreichen können*, Wundt [1912: 576]; see for a similar view in modern cognitive linguistics Jing-Schmidt [2007]). The use of negative words as terms of endearment, like German *Schelm*, *Luder*, *Racker* ‘rogue, bitch, rascal’, is triggered by the same tendency to use negatively loaded words for expressing strong feelings, including positive ones (Wundt 1912: 575).

Despite the structural turn that 20th-century linguistics took (see Section 5 below), the psychological approach to language and language change including ideas about the impact of emotion remained attractive to some researchers. For example, the Dutch linguist Jac. van Ginneken (1877–1945) attributed a central role to emotion, *gevoel* ‘feeling’ as he called it, in language change, cf. his dissertation of 1907. It must be said that what van Ginneken called “feeling” is not exactly identical to what is generally meant by “emotion”; he uses the term for both physical (tactile) and emotional experiences. Sapir, of course (see the quote in Section 1, first paragraph), did not approve of this view at all. In *Language*, Sapir states: “I confess that I am utterly unable to follow them”, referring to “certain writers on the psychology of language who deny its prevailing cognitive character but attempt, on the contrary, to demonstrate the origin of most linguistic elements within the domain of feeling” (Sapir 1921: 39). In a footnote, Sapir indicates that he considers “the brilliant Dutch

writer Jac. van Ginneken” a good example of the “certain writers” he has in mind (Sapir 1921: 39).

Another 20th-century researcher strongly oriented towards emotional factors in language change is Hans Sperber (1885–1963). Instead of orienting himself on 19th-century psychology, he turned to the modern psychological theories formulated by Freud and Jung in order to explain changes in the emotional value of words, cf. Nerlich (1992: 104–107). According to Sperber (1914, 1923), deep psychological forces having to do with suppression and taboos play a role in the use of euphemisms. He wanted to shed more light on this aspect of meaning through what he called the study of “consociations”, the semantic field in which a word occurs in concrete texts.

One example of language change that Sperber analyzed is the substitution of *houbet*, *Haupt* ‘head’ by *Kopf* ‘head’ in German (Sperber 1923: 30–31). The German *Kopf*, meaning originally ‘cup’, seems to have been used for ‘head’ in military settings in the 12th century – one would strike the *Kopf* (of the enemy) with a sabre, but incline one’s *Haupt* in a prayer. The secondary associations and emotional value of the word *Kopf* were thus charged with more energy than the word *Haupt*. In the following centuries, *Haupt* was more and more replaced by *Kopf*. Sperber hypothesized that more generally, the different affective charge of words determines which of two alternatives will emerge as the historical winner.

## 5 20th century sign-oriented linguistics

### 5.1 Synchrony and anti-psychologism

It is a topos in linguistic historiography that the orientation of the discipline in the 20th century contrasts strongly with that of the 19th century. In fact, we are dealing with a twofold contrast. The first has to do with the 20th-century orientation on the language system and language use as it exists at a certain moment versus the 19th-century focus on studying (details of) language change. The importance of this contrast was highlighted by de Saussure (1916), who used the labels synchrony and diachrony, at the same time stressing the primacy of the former.

The second contrast pertains to the relation between linguistics and psychology. From the contemporary psychological perspective in the 19th century, language was considered a medium of expressing what is “inside”, in the human mind, i.e. thoughts, feelings, and volition. From roughly 1875 onwards, linguists tended to adhere to this view, which easily connected to the age-old idea that language expresses ideas (and, secondarily, emotions). In the 20th century, several scholars turned away from this strong orientation on psychology. In the new perspective, they took the linguistic form as a starting point and studied how forms relate to other signs and what role the different signs play in communicative processes. Bühler (1934) is a prominent representative of this “semiotic turn”. Theoretical frameworks for the new orientation were provided by Husserl’s phenomenology, structuralism (adopted by researchers like Hjelmslev, who focused on the language system in itself, excluding its function), and functional structuralism (taking the communicative function of the system into consideration as well, as Prague school structuralism did explicitly).

In this new perspective, semantic studies took their point of departure in language itself rather than in psychology. The meaning of words, morphemes, and syntactic constructions was primarily analyzed in terms of relations to other words, morphemes, and constructions in the system. Emotive components were acknowledged as being part of the complex conventional meaning of linguistic items. And emotive expression was regarded as one of the functions of language that deserves a place in functional models of linguistic communication. Although Bühler (1934) accepted the view that *Darstellung* ‘representation’ is the main function of language, his functional model featured two important additional functions: *Appell*, the hearer-oriented ‘conative meaning’ and *Ausdruck* ‘expression’, the emotive function.

Not all 20th-century researchers immediately switched to the new structural-semiotic orientation. Historiographic research by Knobloch (1988), Nerlich (1992, 2008) and Elffers (2008, 2014a) has shown that the “anti-psychologism” stance only slowly gained popularity. That was particularly the case with respect to emotive language, as this aspect of meaning is almost automatically considered to be related to the speaker’s inner state. Researchers often paid theoretical lip service to the modern sign-oriented view, without, however, giving up “psychologism” in their research practice. To illustrate this “struggle”, Elffers (2008) looked at the way interjections were treated by different 20th-century authors who subscribed to a functional view. One would expect that this new perspective would lead to an analysis of interjections that differed from the traditional expressive inner state view. Language provides “material” for such a new view, since many interjections have a primarily conative, hearer-directed function, cf. Elffers: “Think, for example, of ‘hush!’ as an admonition to silence, or ‘hello!’ which is meant to establish contact” (Elffers 2008: 18). Elffers analyzed the work of Bühler (1879–1963), Jakobson (1896–1982), Gardiner (1879–1963), Révész (1878–1955), and Duijker (1912–1983). She found that despite the modern view on language functions that had been adopted nominally, “interjections are still characterized as expressions of the speaker’s emotions. All scholars exclusively relate them to the speaker-oriented, self-expressive function” (Elffers 2008: 50). Therefore “We must [...] conclude that nothing has really changed in relation to the traditional view” (Elffers 2008: 26).

In order to balance this somewhat disappointing picture, in the next section we will take a closer look at some other 20th-century linguists, psychologists, and philosophers who were at least aware that they were orienting themselves on a new view on language, including its emotive function.

## 5.2 Emotive meaning in language system and language use

This section lists a selection of ten “modern” 20th-century authors who paid attention to the emotive component in their semantic (and pragmatic) research in various ways. For all of them, the primary focus is on the synchronic language system and/or its use in communication. Compared to the 19th-century approach, language change and the “inner” psychological dimension have now become secondary, at least in the eyes of the authors themselves.

The following authors have been selected because they take linguistic signs (morphemes, words, constructions) as their point of departure and then ask: What is their intrinsic meaning and/or what is their functional role in communication?

### **5.2.1 Anton Marty (1874–1914)**

Marty was an Austrian philosopher with a penchant for phenomenology – like Husserl, he studied under Brentano. Chapter 5 of the second part of his voluminous 1908 book discusses utterances whose primary point is an “interest of the speaker or hearer”. Marty’s general label for such utterances is *Emotive* ‘emotives’, which are contrasted to *Aussagen* ‘statements’. This distinction can be seen as an early version of speech act theory (cf. Nerlich and Clarke 1996). Marty points out that the speaker does not need to really experience the emotion or wish that is conventionally associated with certain utterance types (Marty 1908: 382). He thus takes an anti-psychologistic stance, although Knobloch (1988: 280) still notices traces of psychologism in his definitions of meaning.

### **5.2.2 Karl Otto Erdmann (1858–1931)**

In the preface of the second edition of Erdmann’s *Die Bedeutung des Wortes* ([1900] 1910), Erdmann explicitly distances himself from semantic studies which primarily looked at language change and psychology. He declares that his own primary interest is: “Was leistet die Sprache als Verständigungsmittel? Inwiefern sind Wörter Zeichen für Begriffe, – inwieweit sind sie weniger, inwieweit sind sie mehr?” [‘What does language provide as a means of generating understanding? To what extent are words signs for concepts, – to what extent are they less, to what extent more?’] (Erdmann 1910: iii). This “more” is elaborated on in Chapter 4 (Erdmann 1910: 103–153), where *Nebensinn* and *Gefühlswert* (‘secondary meaning’ and ‘emotive value’) of words are introduced. In total, Erdmann thus distinguishes three components of word meaning (Erdmann 1910: 107): firstly, the conceptual content or what others would call the referential meaning. *Krieger* ‘warrior’ and *Soldat* ‘soldier’ have the same referential meaning, but they evoke different associations, for example physical fighting in the case of “warrior” and the attributes of specific clothing and housing in barracks in the case of “soldier”. Associations like these constitute the *Nebensinn* of the word. *Gefühlswert* is the emotive meaning (or valence, as it is often called in modern studies, cf. Foolen 2015). Words like *table* or *pen* do not evoke specific feelings, but *kiss*, *torture*, or *revolution* do (Erdmann 1910: 109). Erdmann points out that *Nebensinn* and *Gefühlswert* are more variable than referential meaning: the former two vary across (groups of) speakers as well as over time.

### **5.2.3 Charles Bally (1865–1947)**

The Swiss linguist Bally, who, together with Albert Sechehaye, edited de Saussure’s *Cours de linguistique générale*, developed his own research program focusing on the emotive el-

ements in language and language use, see Bally (1905, 1909, and 1926: 97–181). He called his program *Stylistique* and defined it as follows: “Stylistics is a science which, combining the methods of the psychology of language and general linguistics, studies the *affective aspects* of natural language. I call affective aspects all the expressions of *emotions* in language” (Joseph 2012: 611, italics in original).

Graffi (2013) reflects on how Bally should be positioned theoretically:

It may seem somewhat paradoxical, but the first members of the Geneva school, Bally and Sechehaye, were possibly the European linguists least influenced by Saussure’s thought. This paradox is, however, only apparent: the views of Bally and Sechehaye were already formed when Saussure gave his classes on which the *Cours de linguistique générale* is based. [...] Bally’s and Sechehaye’s connection with pre-Saussurean linguistics is shown by their residual links to nineteenth century psychologism. (Graffi 2013: 474)

Bally’s residual psychologism is evidenced in the way he treats the relation between thought, emotion and language, cf. the introductory chapter in his *Traité de stylistique française* (Bally 1909: 1–30). Bally presupposes that an utterance expresses a thought (here and in the following, the translations are mine): “Speech has the objective [...] to exteriorize the entire intellectual section of our thinking being” (Bally 1909: 5). But in his view it is unavoidable that speakers color their utterances with aspects of their personalities, for which he uses the cover term “affectivity”. Emotion is an important part of this: “The entire affective part of our being, our emotions, our sentiments, our impulses, our wishes, our inclinations” (Bally 1909: 6). The degree to which utterances are colored varies according to the speech situation, resulting in the same “content” being stated in different ways that can vary from intellectual to strongly emotional: “*I am surprised to meet you here; Hey! You are here?; What! You here?; You!* [...] until finally the emotion, no longer finding adequate expression in words, manifests itself in a pure exclamation, like *Oh!*” (Bally 1909: 7).

Bally’s theoretical orientation may not be free from old-style psychology, but his research practice was certainly modern. He based his analyses on actual language use and also made the point that patterns in language use can become a conventionalized part of the language system. Nerlich (1992) notes that Bally’s work can be placed in a line of research that developed slowly during the 20th century: “Bally’s psychologically tinted ‘stylistique’, in some sense an attempt to establish a ‘linguistique de parole’ as a counterpart to Saussure’s ‘linguistique de la langue’, would ultimately merge with Benveniste’s ‘théorie de l’énonciation’, which again was swallowed up by the Anglo-American trend of linguistic pragmatics” (Nerlich 1992: 174). More recently, in her interactional linguistic study on emotion in French conversation, Drescher (2003) explicitly placed her approach in this research tradition.

#### 5.2.4 Joseph Vendryes (1875–1960)

Vendryes’ (1923) textbook devotes a chapter to *Le langage affectif* (Vendryes 1923: part 2, ch. 4, 162–183). He starts the chapter by distinguishing “langage logique”, “langage actif” and “langage affectif”, comparable to Bühler’s three functions. In Vendryes’ opinion, the hearer-oriented active function has not been studied properly, but affective language has

been studied “en ces vingt dernières années” [‘for the past 20 years’] (Vendryes 1923: 163), and he refers, among others, to the publications of Bally and Sechehaye. Vendryes does not restrict his overview to word meanings, he also presents examples of affective morphology such as diminutives and e.g. the pejorative suffix *-aille* as in *canaille* ‘the common people’, and *marmaille* ‘large group of children/brood’, additionally pointing out that marked word order can have an affective impact as well.

Affectivity also plays a role in language variation and change, cf.: “C'est par l'action de l'affectivité que s'explique en grande partie l'instabilité des grammaires” [‘It is by the effect of affectivity that the instability of grammatical systems can be accounted for in large part’] (Vendryes 1923: 182).

### **5.2.5 Charles K. Ogden (1889–1957) and Ivor Armstrong Richards (1893–1979)**

In their monograph *The Meaning of Meaning* (1923), Ogden and Richards distinguish “between the *symbolic* use of words and the *emotive* use. The symbolic use of words is *statement*; the recording, the support, the organization and the communication of references. The emotive use of words is a simpler matter, it is the use of words to express or excite feelings and attitudes” (Ogden and Richards 1923: 149, emphasis in original). Examples given by Ogden and Richards are *Hurrah!* but also *Poetry is a spirit* and *Man is a worm*, subjective statements which are not verifiable. As Nerlich points out, “[t]he aim of *The meaning of meaning* is essentially to increase our (but especially the philosophers’) language awareness, and thus to fight against the diseases of thought and communication” (Nerlich 1992: 248). In rational discourse, emotive language use should be avoided, according to Ogden and Richards. This concern for the danger inherent in unreflected emotive language use was shared by members of the so-called Significs movement founded by Victoria Lady Welby (1837–1912), who initiated the translation of Bréal’s *Essai* into English in 1900, only three years after its original publication in French.

### **5.2.6 Roman Jakobson (1896–1982)**

Jakobson elaborated his well-known functional model of language in 1960 by distinguishing no less than six functions of language: referential, emotive, poetic, conative, metalingual, and phatic. The conative function reminds us of Bühler’s *Appell* function and the phatic function was already pointed out by Malinowski, who studied the communication among natives of the Trobriand Islands. Malinowski (1923) observed “phatic communion”, “a type of speech in which ties of union are created by a mere exchange of words” (Malinowski 1923: 315). Neither the referential nor the emotive or conative function of language play an important role in this type of language use.

From early on, Jakobson was attracted to poetic language, and his interest in the emotive function of language seems fueled by that interest. The contrast between intellectual and emotive language shows up time and again in Jakobson’s work. For example, in Jakobson ([1942] 1990b), he refers to the work of Bally, who, according to Jakobson, tended to consider phenomena of expressive language as belonging to individual *parole*:

This point of view is disproved by the linguistic facts. An overwhelming proportion of the mechanisms of affective language are no less collective and no less conventional than the mechanisms of intellectual language. Every community of speakers has two closely linked language systems: on the one hand the intellectual system [...], and on the other the affective system, the body of essential conventions that allow the members of a given community to express their feelings to each other (see Marty 1908). (Jakobson 1990b: 100)

### 5.2.7 Hendrik J. Pos (1898–1955)

The Dutch philosopher of language Pos reflected on the role of affect in language in his (1934a) article. In Pos (1934b), he focused on the affective use of French function words such as *non*, *enfin*, *mais*, *alors*, *donc*, cf. Pos (1934b): “The negation *non* ‘no’ allows for another use, the expression of surprise or incredulity. [...] *enfin* ‘finally’ can indicate resolved impatience. [...] Here the use of *mais* in an emotive sense can be listed as well: *mais non* ‘but no’, *mais oui* ‘but yes’” (Pos 1934b: 138). According to Pos, the primary function of these words is in the rational domain, but they are used in the expressive domain as well. More generally, in his view the rational function of language is primary, while the expressive function can make secondary use of the forms that are already available for their primary function, cf. Pos: “I believe that, in order to understand the emotive dimension in a linguistic perspective, one has to base oneself on language conceived as an instrument for reasoning. On this basis, affective meaning would appear to be a complication of rational language” (Pos 1934b: 138).

This “complication” often takes the form of a deviation from the unmarked rational use. In the case of *mais non*, for example, the conjunction *mais* ‘but’ is not an ordinary conjunction between two sentences, but rather an expressive intensifier of the negation (the same holds for *mais oui*, which is a strongly expressive confirmation). In this marked combination with another word (*non* and *oui* in this case), the emotive use can arise. The connection between deviating, marked structures and expressive value has a certain tradition. It can be found in Havers (1931) and more recently in Corver (2016), who analyzes emotive forms in Dutch and shows that they are typically marked variants of forms and structures that function primarily in the rational-descriptive domain.

Expressive constructions derived from descriptive ones are reminiscent of the notion of secondary interjections, which are also based on words which were already in use as descriptive terms (*Jesus*, *shit*, etc.) well before being put to use as emotive elements. Secondary interjections differ from primary interjections which exist independently of, and probably before, descriptive language. In this perspective, there is linguistic expressivity “before” and “after” descriptive language.

### 5.2.8 Stephen Ullmann (1914–1976)

The semantic research of the first half of the 20th century is summarized in a clear and well-referenced way in Ullmann’s textbooks (1951, 1952, 1962, 1964), which pay due attention to emotive meaning. For example, Ullmann (1962) contains a chapter on “Logical and

emotive factors in meaning". Ullmann uses the term "emotive overtones" for emotive meaning. Such overtones can be found at every linguistic level: phonology, morphology, syntax and lexicon. In Chapter 4 on semantic change, emotion is mentioned as one of the relevant forces. Special attention is paid to taboo words, which give rise to euphemisms.

Comparing Ullman's textbooks with subsequent overviews of semantics, it turns out that the emotive aspect of meaning received less attention in the later works. For example, if we compare the two volumes of *Semantics* by John Lyons (1977) with Ullmann's textbooks, we see that Lyons does not discuss emotive meaning at all. In his shorter *Linguistic semantics: An introduction* (1995), the final chapter deals with "subjectivity", but the topics here are indexicality and modality, reminiscent of Bréal's (1897) chapter on *l'élément subjectif* of nearly a century earlier. Subjectivity here refers to the presence of the speaker in the utterance, the first person perspective, etc., not the emotional involvement of the speaker.

### **5.2.9 Edward Stankiewicz (1920–2013)**

Stankiewicz is an outspoken representative of a purely semiotic perspective on emotive language. According to Stankiewicz (1964: 240), the study of emotive language can only move forward if a strictly semiotic perspective is adopted, disregarding symptomatic vocalizations of emotions and instead focusing on the language system:

The symbolic aspect of emotive language can be identified only if we acknowledge, [...] a distinction between an "emotional" plane, which reveals itself in a variety of articulated and non-articulated "forms" of a symptomatic nature, that is, through signals which are inextricably bound to the situation which evokes them and which they evoke, and the "emotive" plane, which is rendered through situationally independent, arbitrary symbols. (Stankiewicz 1964: 240)

Stankiewicz criticizes Bühler for linking the emotive function of language (*Ausdruck*) with "bestimmte Affekt- und Wunschzustände" ['certain states of affects and wishes'] of the speaker (Stankiewicz 1964: 240). According to Stankiewicz, this rest of psychologism (see Bühler 1933) kept Bühler from having a proper linguistic understanding of the emotive function of language. Of course, the use of emotive language often involves the true presence of emotions in the speaker (so-called "hot emotions", cf. Schiewer 2007), but emotive words and constructions can also be used without emotions being present ("cold emotions"). For linguistics, what counts is the "coded aspect of expressiveness" (Stankiewicz 1964: 240).

### **5.2.10 Bronislava Volek**

Volek (also using Volkova as her last name) was born in Czechoslovakia (1946) and worked in Slavic linguistics and literature at the University of Indiana in Bloomington. In her 1987 book, she applied Prague School functional structuralism to the analysis of Russian diminutives. This study in "emotive semantics", as she called it, is chosen here as an example

because it provides a clear demonstration of how a sign-based, semiotic approach can be implemented in linguistic description without falling back on assumptions about the psychological state of the speaker when using emotive signs.

The ten authors listed above are intended as a representative, but certainly not exhaustive, selection to demonstrate the way emotive meaning was dealt with in the first part of the 20th century. The common factor is the (intended) orientation on a semiotic view on language, in which emotive meaning has to be given its proper place.

No doubt, the selection of these ten authors is incomplete. For example, the work of Vološinov (1930, English translation 1973) and the studies on “appraisal” in the framework of systemic functional grammar (cf. White 2011) would deserve a place in a more extensive overview of 20th-century work on emotive meaning.

## 6 The present and the future

### 6.1 Modern research on language and emotion

Modern cognitive science came into being in the 1960s. In the first 30 years, the focus was on cognition, disregarding the relevance of emotion for human cognition and behavior. This changed in the 1990s, cf. Damasio (1994), when the “emotional turn”, also indicated as “the rise of affectivism” (Dukes et al. 2021) gradually spread across the humanities. At the same time, the study of behavior, i.e. enactive engagement with the world, made a come-back in humanities. Together, these changes led to a more integrated study of human cognition, emotion, and behavior, which provides a new challenge for linguistics, if it wants to consider itself as an integrated part of humanities studies. In this perspective, it is natural to widen the attention from the linguistic system to the use of it in (emotional) communication, cf. De Stefani and De Marco (2019).

The renewed interest in the relation between emotion and language has led to edited volumes like Lüdtke (2015), Finkbeiner et al. (2016), and Storch (2017) and a series of overview books and articles, cf. Schwarz-Friesel (2007), Potts (2012), Majid (2012), Bazzanella (2015), and Foolen (2012, 2016). There is a whole line of research on emotive prosody (cf. Abelin 2013) and the paralinguistic expression of emotion through the voice (cf. Bachorowski et al. 2008). Alba-Juez and Mackenzie (2016, in particular sections 6.3 and 6.4) plead in favor of incorporating stance, evaluation, and emotion into pragmatic studies, and D’Onofrio and Eckert (2020) stress the relevance of emotion for sociolinguistic studies: “Until quite recently, affect has been ignored in sociolinguistics, relegated to ‘individual’ rather than ‘social’ dynamics. But affect is eminently social, based in human relations and interaction, and built into distinctions of class, race, gender, and age” (D’Onofrio and Eckert 2020: 47).

With regard to the classic topic of interjections, it can be observed that they have attracted renewed interest, cf. Kockelman (2010: chapter 6, on interjections in Q’eqchi’-Maya), the study of Stange (2016) on emotive interjections in English, and the detailed study on English *gosh* by Downing and Martínez Caro (2019). Nordgren (2015), in his analy-

sis of classical Greek interjections, makes use of Ameka's (2006) differentiated classification of interjections, distinguishing expressive interjections from hearer-oriented conative interjections (*sh!*, *eh?*) and so-called phatic interjections, which are used “in the establishment and maintenance of communicative contact” (for example *mhm*, *uh-uh*, *yeah*) (Nordgren 2015: 745).

The recent language evolution debate is less speculative than it was in the 18th and 19th centuries (see Section 3 above), thanks to new findings from biology, archaeology and neuroscience. Here, too, non-verbal communication, emotion, and the body are given more attention than was the case in 20th-century language-system oriented linguistics. This more holistic approach is found, for example, in the work of Corballis. In his view (cf. Corballis 2017: part 3), gestures and sign language played a central role in early human communication about “things in the world”. Great apes already used gestures for communication, cf. Byrne et al. (2017). At the same time the voice, together with the face, was the primary channel for expressing emotions, both for great apes and for early humans. In the course of time, however, propositional information was increasingly transferred from the gesturing hands to the voice, with the advantage that the hands thus became free to perform other tasks. This required the development of a full-fledged phonological system to expand the capacity of this mode of communication. In this view, propositional content, which is currently the main information in *vocal* communication, was imported from “outside”, i.e. from the hands. The emotional meanings, which had been primary in the vocal medium, kept their place in paralinguistic aspects of speech, and in prosody and emotional interjections. And propositional meaning, in its turn, did not totally disappear from the manual medium; hand gestures kept playing a role in conjunction with verbal communication. Modern research thus stresses the integrated character of human communication. It is mainly conceptual, but with an emotional-expressive “overlay”, and it is mainly vocal, though supported by gestures. This double hybrid character can be understood against the background of the postulated binary origin of language: gestural-referential and vocal-emotional.

## 6.2 Future historiographical research on language and emotion

I am aware that the present overview suffers from gaps and superficialities. Here are a few suggestions for future historiographical research to fill the gaps.

Not much has been said here about language studies between the Middle Ages and the 18th century. The implicit assumption has been that traditional grammar was passed down from one century to the next and that rhetoric continued along Aristotelian lines. But a closer historiographic look will show for certain that more can be said about how scholars viewed the relation between language and emotion in the early modern period.

In this overview, and in history, interjections have been regarded as the prototypical expressive elements, but in future historiographical research, other expressive means deserve more attention, cf. Elffers (2014b), who explored the way exclamative sentence types were classified by linguists in the past. It would be interesting to find out how other emotive phenomena, like taboo words (cf. Bednarek 2019; Havers 1946; Mackenzie 2019), swearing, slurs, and terms of endearment have been dealt with in earlier linguistic work.

Another desideratum for future, more comprehensive overviews is a comparison between the European tradition and theoretical views and descriptive practices in other traditions, cf. Carter (2015), who lists all kinds of “affective” syntactic and morphological phenomena as they were described in the *Kitāb*, a grammar of Arabic from the 8th century written by the Persian grammarian Sibawayhi (760–796).

In the 20th century, the relation between language and emotion probably received more attention in disciplines outside linguistics than in linguistics itself. The present overview should thus be connected to historiographical overviews regarding language and emotion in neighboring disciplines; see for example Besnier (1990) and Beatty (2013) for overviews of language and emotion studies in anthropology.

It is hoped that the present overview stimulates further historiographical work on the language-emotion relation. Philosophers and researchers from the past deserve our recognition. Besides that, the overview hopefully contributes to (re)connecting modern embodied research on language and emotion with work that has been done in the past. This may help to avoid re-inventing the wheel. And it contributes to modesty. In the words of Levelt: “It is often a sobering experience to become aware of the insights of our scientific predecessors” (Levelt 2018: 127).

## Acknowledgements

Many thanks to Laura Alba-Juez, Ellen Contini-Morava, Aino Kärnä, Els Elffers, Brigitte Nerlich, Nataliya Panasenko, Monika Wolf, and two anonymous referees for their support and feedback on earlier versions of this overview. Hansa Krijgsman amended my English.

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## 3 Emotion and language in philosophy

- 1 Expressives vs. descriptives: three benchmarks
- 2 Philosophical insights on emotions
- 3 How the particularities of emotions subtend those of expressives
- 4 Communicating through expressives
- 5 Conclusion
- 6 References

**Abstract:** In this chapter, we start by spelling out three important features that distinguish expressives – utterances that express emotions and other affects – from descriptives, including those that describe emotions (Section 1). Drawing on recent insights from the philosophy of emotion and value (Section 2), we show how these three features derive from the nature of affects, concentrating on emotions (Section 3). We then spell out how theories of non-natural meaning and communication in the philosophy of language allow the claim that expressives inherit their meaning from specificities of emotions – namely, from being felt, evaluative attitudes toward propositional or non-propositional contents (Section 4).

## 1 Expressives vs. descriptives: three benchmarks

Supposing that utterances (1)–(3) and (4)–(9) respectively refer to the same phenomena, compare groups A and B.

Group A:

- (1) *Outrageous!*
- (2) *Ouch!!!*
- (3) *The frogs won it again!*

Group B:

- (4) *What the government did was wrong.*
- (5) *I feel outraged by what the government did.*
- (6) *This boiling oil has burned my hand and this is bad for me.*
- (7) *I feel a great pain.*

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Constant Bonard, Paris, France

Julien Deonna, Geneva, Switzerland

- (8) *The French won the World Cup again and I believe that the French are contemptible.*
- (9) *The French won the World Cup again and I feel contempt toward the French.*

Even if we take into account the fact that the utterances in B are about the same states of affairs as the ones in A, there still is an intuitive sense that they do not mean the same thing. The meaning of (1) is not exactly that of (4) or (5), the meaning of (2) cannot be reduced to the meaning of (6) or (7), and the meaning of (3) is somehow different from that of (8) and (9). The kind of meaning found in group A is usually called “expressive meaning” (the corresponding utterances “expressives”) and that in group B “descriptive meaning” (the utterances “descriptives”) (see Wharton [2016] for a review). Following this use, “expressive” is restricted to being expressive of affects.

To start, observe that the distinction is not as sharp as we may initially think as there are clearly cases where the descriptive and the expressive seem to blend. Consider the beginning of Byron’s “Darkness”:

I had a dream, which was not all a dream.  
 The bright sun was extinguish'd, and the stars  
 Did wander darkling in the eternal space,  
 Rayless, and pathless, and the icy earth  
 Swung blind and blackening in the moonless air  
 (Byron, “Darkness”)

These five verses do not fall neatly on the descriptive side – because they are so poetically evocative and aesthetically charged, and we can well imagine that Byron used them to express an affective experience. Nor do they fall neatly on the expressive side – they are a description of Byron’s dream or wandering imagination and, although embellished, it is probably not far from being a literal description. Sometimes, then, utterances fall in between paradigmatic expressives and descriptives. Also noteworthy in relation to these five verses is that it is entirely possible to find expressives which have the linguistic form of descriptives: i.e., utterances that are devoid of exclamation marks, swear words, or any other linguistic markers of expressives. We can even suppose that any linguistic item might, given a certain context, become an expressive. A sentence as vapid as “The boat has departed”, provided a tragic background, could mean “Alas, how regretful I feel!”. The distinction we are interested in then is not about the linguistic form (not the syntax, the lexicon, or even the prosody), but about what is meant by these utterances. As a consequence, although we will take these sentences in group B to be descriptives and not expressives, the same string of words could very well be expressives provided certain background conditions or a particular way of pronouncing them (e.g., “What the government did was wrong” said in an overtly angry voice).

With these important caveats in mind, let us review three intuitive considerations – which we shall discuss in more detail below – that we may think support the distinction. These will then serve as important benchmarks for our effort to account for the nature of expressives.

- a) Hot vs. cold.** Expressives always appear to convey affects (emotions, desires, moods, sentiments, pleasures, pains, whims, etc.), and that is not true of descriptives. Affects re-

group a large class of psychological states whose main feature resides in the way they are felt – including positive or negative hedonic tones and various felt reverberations from changes in the body. In contrast, descriptives seem to simply convey beliefs or other doxastic attitudes that the speaker might have (supposition, conjecture, etc.) about how the world is. As such, and to use the usual metaphors in the area, descriptives seem to communicate mental states whose phenomenology – i.e., the way they feel like – is “cold” as opposed to the alleged “hotness” of affective states. So, while the meaning of (4)–(9) is tightly linked with affects, the type of meaning to which they belong – descriptive meaning – need not be. By contrast, there are no examples of expressive meaning which are completely detached from affects: expressives always involve affects which the utterer wishes to, or unintendedly does, communicate.

**b) Fit vs. true.** Truth and falsity are the normative standards by which descriptives are evaluated. This, however, does not seem to be the case for expressives. Compare, for instance, (2) and (7) while imagining that the person doesn’t feel pain. We would say of (7) that it is literally false, but not of (2). Similarly, whether we think it appropriate or not to use the word “frog” to express contempt toward the French as in (3), it seems independent of whether we take the sentence to be true or false. Of expressives, as well as of the affects they convey, it is more natural to say that they are (un)fitting, (in)appropriate, or (un)deserved than to say that they are true or false. This is in sharp contrast with descriptives and the doxastic attitudes they communicate, of which we readily say that they are true or false.

**c) Direct vs. indirect.** While descriptives can and do sometimes convey affects, expressives’ distinctiveness is to do so directly. If one describes one’s affects, as in (4)–(9), one in fact communicates a thought one has about an affect, a thought that is typically hidden from the audience. When expressing an affect, however, as in (1)–(3), it seems as though one directly shows the affect, or at least some of its components (e.g., facial, vocal, and gestural expressions, certain action tendencies, certain verbal behaviours) of which the audience might be directly aware. This arguably constitutes a communicative path that is more direct than the one going through a description referring to a doxastic attitude (i.e., a belief-like state) of the communicator (Foolen 2012). One way of putting this direct versus indirect distinction is to say that in descriptives (4)–(9), one is *told* about an affect, while in expressives such as (1)–(3), one is *shown* an affect.

These intuitive considerations and others have convinced many linguists and philosophers that expressives and descriptives form two distinct categories of utterances (but not the only two). The same scholars, however, disagree on how exactly to account for the relevant dissimilarities and on how and whether the meaning they convey is different. For instance, some have argued that a distinct trait of expressives is that their meaning is non-propositional and so cannot be analysed through ordinary truth-conditional semantics (Blakemore 2011; Kaplan 1999; Potts 2007; Wharton 2016), while others have offered an analysis of the meaning of (terms usually considered as) expressives that only appeals to propositions (Hom 2008; Schlenker 2007; Williamson 2009).

This chapter unfolds in the following way: In Section 2, we present relevant insights from the main current theories of emotion and value. In Section 3, we explain how these

features of affects are relevant in accounting for the properties that distinguish expressives from descriptives. In Section 4, we draw on familiar territory in the theory of language and pragmatics to explain why understanding the meaning of expressives requires understanding the affects that communicators express. In Section 5, we briefly suggest three ways of cashing out the requirement unveiled in the preceding sections.

## 2 Philosophical insights on emotions

Let us start by stressing something obvious about the three benchmarks we have just reviewed – (a) hot vs. cold, (b) fit vs. true, and (c) direct vs. indirect. The distinction between expressives and descriptives seem to revolve around the existence of a privileged relation between expressives and affects. It is even tempting to think that the three benchmarks all derive from the nature of the affects that expressives aim at communicating. In this section, drawing on the recent philosophy of emotions and value, we show how thinking about the nature of emotions and cognates not only make sense of the intuitions we have started with, but promises to put constraints on the relation between language and emotion, and especially on what mental state an audience must recover when understanding the meaning of an expressive. Note that we use “affect” to refer to a broad class of psychological phenomena which includes emotions as well as affective dispositions (fear of height, arachnophobia, francophilia), moods (grumpy, elated, depressed), kinds of desires (cravings, horniness, perhaps hunger and thirst), or affective character traits (being generous, courageous, greedy). Even though expressives may convey any affect (e.g., a slur may express, e.g., homophobia, which is an affective disposition), we focus on emotion. As the best studied affect, we hope that what we know of emotion will be central to understanding all other affects (see Prinz [2004: ch. 8] or Deonna and Teroni [2012: ch. 9] for how emotions relate to other affects and help understanding them). Understanding expressives by understanding emotions thus seems to be a perfect starting point.

According to the main current philosophical theories of emotions, the latter are psychological episodes, experiences in fact, that present aspects of the environment as having this or that significance or, as philosophers like to say, as having this or that evaluative property (see reviews by Deonna, Tappolet and Teroni [2018]; Scarantino and de Sousa [2018]). For example, in fear we experience something as relating to *dangerousness* (one evaluative property). In anger, we experience something as relating to *offensiveness* (another evaluative property). In amusement, we experience something as relating to *funniness* (yet another). This is why philosophers often claim that emotions are forms of evaluation and psychologists say that they are appraisals of a specific sort: they relate us to the various evaluative aspects of our environment given the various concerns we have while negotiating it. The fact that emotions are forms of evaluations is a recurring idea from Plato and Aristotle onwards (e.g., *Rhetoric* 1378a20–23). More recently, the conception of emotions as evaluations has received extended philosophical treatments – we shall discuss the most important theories within this tradition below. In psychology, the same idea is developed, especially within the appraisal theory of emotions (Arnold 1960). See in particular the concept of core relational themes (Lazarus 1991) or that of molar value of appraisals (Moors and Scherer 2013). The notion of evaluation or appraisal is also present in the other main

psychological theories of emotion (which may use different terms for a similar concept): basic emotion theory (Ekman 1992) and psychological constructivism (Russell and Barrett 2015: ch. 8 and 13).

Not every philosopher accepts that emotions are kinds of evaluations. In fact, predominant figures such as Descartes, Malebranche, Leibniz, Hume, Kant, James, and Ayer considered emotions as entirely *non-cognitive* attitudes: i.e., mental states (or mental events) that do not “say” anything about the world, that cannot supply any new knowledge, cannot be more or less fit to the environment, and are unable to preserve (or even *fail* to preserve) information about the world. For non-cognitivists, emotions are considered as essentially irrational (e.g., Kant 2006) or arrational (e.g., Ayer 1936; James 1884; Searle 1983). These philosophers thus support the cliché opposition between reason and passion – Kant went as far as calling affects “an illness of the mind” because they “shut out the sovereignty of reason” (Kant 2006: 149). Today, philosophers such as Whiting (2011) and Shargel (2015) still claim that emotions are mere subjective feelings with no cognitive content.

However, the arguments given by philosophers and cognitive psychologists since the 1950s have convinced a sizable majority of philosophers that emotions involve a component whose goal is to gather and manage information from the world and the organism’s relation to it that is relevant to the organism’s well-being. This component of emotions, usually called “appraisal” or “evaluation”, is a cognitive component of emotion in the sense that its function is to improve the knowledge of the organism, to acquire and treat information, just like perception or memory (cognition comes from Latin *cognoscere* ‘get to know’). Some have dubbed it “hot cognition” to contrast it to the “cold cognition” which excludes affects (memory, kinds of attention, problem solving, perception) (Brand, 1985; Lodge & Taber, 2005) Like other cognitive mechanisms, emotion’s evaluations can succeed or fail to perform their information-processing function, which may allow or prevent organisms to react in an adapted way to the world. This cognitive function of emotion thus enables the organism to react effectively, much better than if it was deprived of emotions. As some philosophers like to put it, emotions thus help *apprehend evaluative properties*: i.e., get to know and manage those features of the world that have positive or negative value for the organism navigating in it. The widespread recognition of this cognitive component in emotion has made the stark opposition between passion and reason obsolete. Emotions are now usually considered as (at least partially) rational phenomena.

Even though emotions relate us to evaluative properties through cognitive mechanisms, it seems to be a mistake to think of the emotions as *representing* evaluative properties in the way in which doxastic states (beliefs, judgments, conjectures, etc.) represent properties. In other words, emotions are not mere feelings (as non-cognitivists claimed), but neither are they mere judgments – see Robert Solomon (1993) or Martha Nussbaum (2001) who, taking their lead from Stoic philosophers such as Seneca, have claimed that emotions are judgments, judgments that some evaluative properties are present in the relevant environment. Contrary to what this theory predicts, it has seemed to many that being afraid of *x* relates us to *x*’s dangerousness in a way that is quite different from the way in which a cold judgment that *x* is dangerous relates us to *x*’s dangerousness. (We will elaborate on this point later.) For various defences of the difference between judgments and emotions, see Deigh (1994), Döring (2007), Goldie (2000), Greenspan (1988), or Tappolet (2000, 2016).

But then, if emotions are not evaluative judgments, how do emotions enable us to access information about evaluative properties? In particular, how can we articulate the difference in this respect between emotions, on the one hand, and doxastic states (beliefs, judgments, suppositions, conjectures, etc.) on the other? To answer these questions, we will now briefly present the most popular philosophical theories on emotions today. We won't rely on any of the following theories in particular, but we will leave out judgment theories (Nussbaum 2001; Solomon 1993) and the non-cognitive theories we have already mentioned (Shargel 2015; Whiting 2011; see also Hutto 2012) for reasons that will become clear. Anyway, these theories are not among the main contenders in philosophy of emotion today. For an in-depth review of philosophical theories on emotion, see Scarantino and de Sousa (2018).

One popular view today is the perceptual theory, which has it that emotions are perceptions of evaluative properties (see Deonna [2006], Döring [2007], Prinz [2004], and Tappolet [2000, 2016] for various versions). This theory was mainly developed in opposition to the idea that emotions are evaluative judgments: i.e., judgments that the object of the emotion possesses the relevant evaluative property. Perceptualists reject the judgment theory for three main reasons.

First, because emotions, by contrast with evaluative judgments, do not necessitate a mastery of evaluative concepts: e.g., even if sadness is always an evaluation that one suffers an irrevocable loss, one need not master the concept of “irrevocable loss” to be sad, but this is not true for the judgment that one suffers an irrevocable loss. That emotions can be nonconceptual allows accepting, on the one hand, that babies and cognitively unsophisticated animals can have emotions while, on the other hand, rejecting that they have the conceptual capacities required for evaluative judgments. And, we can observe in passing that a similar argument can be made against psychological constructivist theories such as that of Barrett (see Barrett and Russell: ch 4), which requires one to possess concepts of emotions in order to undergo the corresponding emotion.

Second, the capacity for emotions and judgments would be supported by different “parts” of the mind/brain, by different mental mechanisms. This would explain why we can, at the very same time, both judge that something is *not* dangerous (e.g., a horror movie or a rollercoaster ride) while still being afraid of it. If emotions were judgments, such a situation would require one to both judge that *p* (e.g., *x* is dangerous) and *not-p* (*x* is not dangerous) is the case at the same time, which would be highly irrational. However, it is not highly irrational to be afraid of a horror movie or of a roller-coaster ride while believing we are not in danger. The comparison with perception is made even stronger here when one thinks of phenomena such as the Müller-Lyer illusion where two lines of the exact same length are seen as having different lengths because of the chevrons that surround the lines (the figures resemble >—< and <—>). In such cases, we can be certain that the two lines have the same length, but we still perceive them as having different lengths and, again, this is not irrational. Because of such similarities, the horror movie and the roller-coaster ride cases have been called “emotional illusions”.

Third, emotions, like perceptions, have a salient phenomenal character – i.e., they give rise to an intense subjective impression, a character which determines what it is like to be in these states. The way it is like to perceive, or to undergo an emotion strongly determines

what these perceptions and emotions are. By contrast, it is not clear that judgments possess a phenomenal character at all, and if they do, it is very mild compared to that of perceptions and emotions and does not strongly determine what judgments are. What it is like to judge that the Swiss are wealthy, as a judgment, is not phenomenologically salient, contrary to hearing the distinctive sound of a bell or to being disgusted by rotten meat.

Close cousins to the perceptual theory are what Scarantino and de Sousa (2018) call the “evaluative feeling theory” (Goldie 2000; Helm 2009; Kriegel 2014; Ratcliff 2005) and the “patterns of salience theory” (Ben-Ze’ev 2000; De Sousa 1987; Elgin 2006; Evans 2001). Like the perceptual theory, these theories focus on the non-conceptual and phenomenologically salient nature of emotions as well as on how emotions can help us navigate the world by supplying precious information and/or a precious processing of information.

Even though perceptual theories were mainly developed as a reaction against judgment theory, they resemble the latter in several aspects; in particular if, like most perceptual theorists, perception is understood in a traditional way which excludes the perception of action properties. First, although unlike judgements, perceptions are not literally true or false, they are nevertheless evaluable as more or less *accurate*, and this correctness condition usually depends on faithfully representing a stable, action-independent, external reality. Second, perceptions, like judgment, are typically considered as part of “cold cognition”. Third, one striking resemblance that the perceptual theories as well as the evaluative feeling theory and the patterns of salience theory have with the judgment theory is that all of them focus on the *knowledge-acquisition* functions of emotions – on how emotions gather and process information – rather than on their *action-oriented* functions – the roles they play with respect to orienting us and making us react to the world by inclining us to approach, get away from, try to destroy, or act in other ways toward their objects.

The role that emotions play with respect to orienting us and making us react to the world comes out clearly if we think of the relevant evaluative experiences that emotions exemplify as *various forms of felt engagements with* the relevant aspects of the environment. This aspect of emotions is highlighted by action-oriented theories (Deonna and Teroni 2012, 2014, 2015; Scarantino 2014, 2015). According to them, emotions are felt, bodily, evaluative attitudes toward various contents (the latter may or may not be propositional). In other words, fear and anger are felt bodily attitudes subjects have toward the dangers and offenses that they encounter, attitudes that distinguish themselves notably through the specific bodily readiness they involve. At the phenomenological level – the way they feel like – these various states of bodily readiness are accompanied by pleasant or unpleasant hedonic tones and subtended by the feelings of various patterns of physiological changes (e.g., more sweat, changes in heartbeat, stopping of digestion) and motor reactions (e.g., the muscle contractions underlying facial, corporal, and vocal expression). This is how, in fear, we come to feel our body as mobilized to neutralize something; in anger, we come to feel a preparedness for a form of active hostility. According to this picture, feeling our bodies prepared or mobilized in these various ways constitutes experiencing the evaluative attitude that the emotions *are* – this is the sense in which emotions are conscious evaluations, and it is markedly different from the kind of representation in place in evaluative judgments. While emotions (e.g., feeling spiteful toward someone) and evaluative judgments or beliefs (judging that someone is contemptible) share many features – both relate us to evaluative properties – they do so in markedly different ways.

Note however that if appraisal theorists such as Moors and Scherer (2013) or Lazarus (1991) are correct, we do somehow unconsciously, non-conceptually, and quite primitively represent something as dangerous when we are afraid. This is the sense of representing in which we categorize stimuli as dangerous when we are afraid, but this categorization is very different from conceptual, logical, or linguistic categorizations that philosophers have in mind when they say, e.g., that beliefs represent states of affairs. For a detailed defence that emotions represent evaluative properties unconsciously, see Bonard (2021a: ch. 9, Under review).

Action-oriented theories, such as the motivational theory (Scarantino 2014, 2015) and the attitudinal theory (Deonna and Teroni 2012, 2014, 2015; see also Gert 2018), thus focus on how emotions relate to *action tendencies*, and can be considered as philosophical heirs to the psychological theory of Nico Frijda (1986), as well as McDougall's (1923), Bull's (1951) and Arnold's (1960) theories of emotion. Both the attitudinal and the motivational theories accept the three arguments given by perceptualists against judgmentalists mentioned above: that emotions can be nonconceptual, involve different mental mechanisms than judgments, and possess a salient phenomenology (although this is not necessary for Scarantino [2014]). Yet, they further insist that emotions are also very different from perceptions.

The most important difference is that emotions are chiefly characterized by their action tendencies and associated phenomenology, an ingredient perceptual theories are at great pains to capture (for further important differences between emotion and perception, see Deonna and Teroni [2012]). For example, in fear, we tend to avoid what we are afraid of; in anger, we tend to be aggressive; in joy, we feel like being proactive; in disgust, we tend to actively reject what is apprehended as disgusting; in surprise, we tend to enquire about what is surprising; in sadness, we feel prevented from interacting with a cared object. Emotions do not necessarily cause actions, as they allow responses that are relatively flexible, and so are different from automatic reflexes, like the gag or knee-jerk reflexes, as the latter make us react in ways which we cannot control. Nevertheless, emotions *tend* to make us act in certain ways, and the physiological changes that go with emotions prepare us to react in these ways. In fear, our blood circulates faster to better deploy our muscles so as to avoid what we are afraid of, and we have rushes of adrenaline which have many consequences that help an efficient response (e.g., digestion stops, which allows allocating more energy to avoiding what is feared). These action tendencies and the physiological changes which subtend them make emotions very different from regular perception.

Indeed, action tendencies are not necessary for seeing, hearing or touching, and the physiological changes subtending perception (e.g., firing of optical nerves, retraction of the pupil, activity in the visual cortex) are of a very different nature than those subtending the action tendencies of emotions (besides modifications in the central nervous system, emotions involve modifications in the sympathetic nervous system, in sweat, heartbeat, muscular activity, hormonal secretion, and more). Both the motivational and the attitudinal theory have insisted that emotions are essentially related to inclinations to act, and the latter theory has focused in particular on how the phenomenology characteristic of these felt inclinations contrasts with the presentational phenomenology advocated by perceptual theories. The difficulty for perceptual theories to capture the agential dimension of emotions and of the way they assimilate the link of emotions to value properties in presentational

terms constitutes a major challenge for these theories. As we will see in the next section, different emotion theories may be used to cash out the benchmarks with which we started (hotness, fitness, and directedness), but to anticipate a little, let us already note that, on the face of it, the action-oriented theories appear to be in the best position to do so.

Note however that if emotions are considered to be perceptions of calls for action (as in Deonna 2006), perceptions of affordances (Gibson 1977), or of action properties (Nanay 2013), then the similarity between perception and emotion seem stronger than when it is considered from the perspective of more traditional theories of perception. Nevertheless, some of the differences discussed in Deonna and Teroni (2014) remain. Furthermore, the concept of perception in such theories is stretched to its limits and this is not what some of the most prominent perceptual theorists defend (Döring 2007; Tappolet 2000, 2016). However, see Prinz (2004) for a perceptual theory that is embodied and therefore more amenable to an action-oriented account.

### **3 How the particularities of emotions subtend those of expressives**

In this section, we show how the insights from the philosophical theories of emotions just presented shed light on the benchmarks with which we started (Section 1). Grounding expressives in emotions is, we believe, the best strategy to make sense of the distinctive nature of expressives compared to descriptives, and thus of how language can express, and not only describe, emotions. Indeed, we can start by observing that the three benchmarks distinguishing expressives from descriptives – (a) hot vs. cold, (b) fit vs. true, and (c) direct vs. indirect – allow tracing back the relevant features of expressives to their emotional origins.

First, we can understand the “hotness” of emotions in light of their experiential dimension and contrast it to the experiential dimension of beliefs or other doxastic states. As we have just seen, emotions typically have a rich and diverse phenomenology, from valence to various dimensions of bodily arousal, via more or less urgent, empowering, and arousing tendencies to perform certain actions. The particular phenomenal character of emotions, the special way it is like to undergo them, certainly is an important part of what a speaker is communicating when using an expressive.

Second, the way we have described emotions promises to shed light on the specific normative standards or correctness conditions by which we assess emotions as opposed to beliefs, i.e., (in)appropriate, (un)fit, or (un)merited rather than true (false). This is especially salient if we conceive of emotions as forms of felt engagement or attitudes taken toward something or some state of affairs in the world, an engagement or attitude that is *appropriate* to have toward or *merited* by states of affairs instantiating the evaluative properties associated with each emotion. To someone who is afraid of a dog on a leash on the other side of the street, we shall say that her emotion is inappropriate to the circumstances or not merited by them because they are not dangerous. We will not say “your emotion is false” (D’arms and Jacobson 2000). Our understanding of expressives then should reflect

the fact that part of what is recovered is not simply a way of representing truly or falsely how the world is evaluatively speaking – as in doxastic attitudes and descriptives – but an engagement with the world that we conceive of as more or less appropriate. Beliefs fulfil their function (they are correct) when they are true; emotions fulfil their function (and, as philosophers of emotion say, they are “correct”) when appropriate, fitting or merited.

Note that the idea that emotions fit their object or that objects merit or deserve emotional response in the sense intended here has been the most prominent in the theory of value, particularly in the so-called fitting-attitude (FA) analysis of value. Various versions have been proposed in the last 130 years and they may differ quite importantly. Franz Brentano ([1889] 1969) is often seen as the father of this kind of approach and Ewing (1948, 1959) as one of its most notable advocates. See McDowell (1985) and Scanlon (1998) for recent and influential developments. Rabinowicz and Rønnow-Rasmussen (2004) provide historical background and present some variants of the FA analysis. Within this tradition and directly connecting to emotions, see D’arms and Jacobson (2000). See Bonard (2021b) for a review of the different ways in which contemporary philosophical theories have claimed that emotions are evaluations and how these ways relate to the way emotions are viewed in affective sciences.

Observe that in conceiving emotions as distinct forms of *attitudes* we have toward various *contents*, we make it clear how we can relate to evaluative properties without any need to consciously represent or judge that the world has these evaluative properties. Compare with the attitude of believing. While believing is that attitude that is correct to have toward contents (i.e., propositions) that are true, the subject need not consciously represent or judge the content as true in order to believe it. The relation to truth in belief is entirely accounted for in terms of the attitude that believing is. Now, the same can be said about the attitude of fearing. While fear is that attitude that is correct to have toward contents that are dangerous, the subject need not consciously represent or judge the content as dangerous in order to be afraid. The relation to danger in fear is entirely accounted for in terms of the psychological attitude that fearing is (Deonna and Teroni 2015). In particular, as remarked above, one need not possess the concept of danger to be afraid, just as one would not need to possess the concept of truth to have beliefs.

This connects emotions with expressives in two ways: first, we can now envisage what it means for the speaker to be affectively rather than doxastically attuned to how the world is evaluatively speaking. Second, ascribing an attitude that is correct if there is danger (i.e., fear) is not at all the same as ascribing an attitude that is correct when the proposition that there is danger is true (i.e., belief or judgment). The felt, bodily, action-ready engagement we have highlighted makes emotions quite different from evaluative judgments and beliefs, even though they both are kinds of evaluations.

We must keep this in mind when studying expressives because this difference in the kind of evaluation involved sharply sets expressives apart from descriptives, such as (4) and (5) or (8) and (9), which communicate one’s evaluative judgments or beliefs rather than one’s emotions. Next, we can begin to see how the attitudinal dimension of emotion can be exploited to capture the sense in which the meaning of expressives might be non-propositional, in the sense that it is not merely made of concepts syntactically structured like affirmative sentences. Let us highlight that by “proposition” we thus mean something

else than a mere set of possible worlds, as most philosophers writing on emotions do (see Crane [1992] or Camp [2018] for this notion of “non-propositional”). We can capture that by reflecting again on the correctness conditions of both types of attitudes. Belief is necessarily a *propositional* attitude, an attitude whose content has the form of a syntactically structured proposition and that is correct if and only if the proposition is true. Fear, however, as we have noticed, need not be a propositional attitude. Fear of *x* (a snake, an exam, etc.) appears to be an *objectual* attitude, an attitude whose content is an object and that is correct if and only if *x* is dangerous.

Third, recall our third benchmark regarding expressives: they seem to mean by directly showing rather than indirectly saying. Our description of the emotions is such as to make it clear why they – as opposed to beliefs, for example – could be shown. If emotions are felt bodily attitudes toward aspects of the environment, then what is felt by the subject – i.e., her bodily attitude or posture – may be something an observer can also become directly aware of (Green 2007: ch. 1). The posture of an angry person, the action tendencies typical of sadness, or the facial or vocal expression of happiness are directly observable or hearable, and these observable/hearable expressions can be considered as proper components of emotions, along with physiological changes or appraisal processes (Moors and Scherer 2013). In the context of the understanding of expressives, we may then become interested in the kind of *awareness* of emotion that is required to count as someone understanding the relevant expressive.

We can thus plainly see how the distinctive features of expressives we have highlighted – (a) hot vs. cold, (b) fit vs. true, and (c) direct vs. indirect – seem to derive quite directly from distinctive features of emotions – their phenomenology, their correctness condition, and their nature as felt bodily attitudes.

Although different emotion theories may be able to account for the way these three features of expressives are grounded in emotions, observe that at first sight action-oriented theories seem to be in the best position to do so. A quick comparison between action-like states and perception-like states – the two main contenders – in relation to our benchmarks will corroborate this verdict. *Hotness*: The feelings associated with action or action-readiness typically possess a bodily, dynamic, active, hot phenomenology that contrasts markedly with that of perception and its characteristic presentational, passive, or contemplative phenomenology, wherein the world appears to be made manifest to the subject. *Fittingness*: Being (un)fit, (un)merited, and (in)appropriate are typical standards with which we evaluate actions, but this is not so for perceptions, which are either accurate or not. *Directness*: Finally, actions, by contrast to perceptions, can be directly shown.

In addition to the three features which we have discussed, let us observe that the philosophical theories that highlight the intimate relation that emotions have with action tendencies also explain a further trait typical of expressives, one which we have not previously discussed, but that is worth mentioning: expressives seem not only to be about the states of the world and of the expresser, but also about how the addressee should react. As Dorit Bar-On puts it: “Expressive communication, in general, is in a sense Janus-faced. It points inward, to the psychological state it expresses, at the same time as it points outward, toward the object or event at which the state is directed, *as well as toward ensuing behaviors*” (Bar-On 2017: 304, our italics).

If emotions not only have a cognitive function (i.e., gathering and processing information) but also an action-oriented function, as Deonna and Teroni (2012), Scarantino (2014), or Gert (2018) argue, then the nature of emotion nicely elucidates how expressives, by communicating action-oriented states, also have the function of pointing “toward ensuing behaviors” (by warning, asking for help, for retribution, etc.).

We have tried to hone in on some crucial features of emotions so as to unearth some important aspects of what it takes to understand their occurrence in other people. In doing this, we have largely ignored the specific context of our question, namely that we are after an account of what it takes to understand the affect of *someone trying to communicate this affect through an expressive utterance*. The next section is dedicated to explaining the manner in which we conceive of the notion of expressive meaning in the light of (neo- or post-) Gricean pragmatics and speech act theory.

## 4 Communicating through expressives

In this section, we explain how the kind of meaning found in language (called “non-natural meaning” by Grice) is fixed by the psychological states the speaker is intent on communicating. This philosophy of language framework will then allow us to show why expressive meaning is fixed by the affective states the speaker is intent on communicating, concentrating on emotions.

### 4.1 Natural vs. non-natural meaning

To understand how philosophers have conceived of linguistic meaning since the 1950s, it is important to introduce the distinction between so-called natural and non-natural meaning (Grice [1957], a similar distinction can already be found in Marty [1875] and Welby [1903]). This distinction will then allow us to better explain the relation that expressive language has with emotions.

Here are typical cases of natural meanings (which we write  $meaning_N$  or  $means_N$ ):

- (10) *Smoke means<sub>N</sub> fire.*
- (11) *The number of rings on this trunk means<sub>N</sub> the tree was 123 years old.*
- (12) *His red cheeks means<sub>N</sub> he is embarrassed.*

Typical cases of non-natural meanings (which we write  $meaning_{NN}$  or  $means_{NN}$ ) are the following:

- (13) *Those three rings on the bell mean<sub>NN</sub> that the bus is full.*
- (14) *By saying “And the dishes...” Joe meant<sub>NN</sub> that Sam should do the dishes.*
- (15) *“La neige est blanche” means<sub>NN</sub> “Snow is white”.*

As Fred Dretske (1986, 2008) has argued, we can interpret Grice's natural meaning along the following lines: natural signs are indicators; what they mean<sub>N</sub> is what they indicate to be so. They can do this thanks to certain lawful (including biological) relations, objective constraints, or probable association between the sign and what constitutes their meaning<sub>N</sub>. For instance, the fact that there are 123 dark rings on a tree trunk can mean<sub>N</sub> the fact that the tree was 123 years old when it was cut thanks to the lawful constraint that, every year, winter is colder than summer, which affects the tree growth and creates these dark rings. Example (12) above possesses both expressive and natural meaning: in this case, the red chicks are a natural sign for embarrassment because of lawful psycho-physiological relations between embarrassment and blushing (an uncontrollable cue).

Since we focus on language, and since linguistic meaning always belongs to non-natural meaning, we shall essentially focus on non-natural expressive meaning. But let us observe three things. First, natural expressives inherit their meaning from affective states: a facial expression of a monkey means that he or she is unhappy because there are lawful relations (or, at least, statistically strong correlations) between facial expressions and emotions (Chevalier-Skolnikoff 1973).

Second, emotional non-natural meaning is typically based on, and makes use of, expressive natural meaning, as Wharton (2009) rightly emphasized. For instance, "Ouch!" in English or "Aïe!" in French mean<sub>NN</sub> that their utterer is in pain partially because they are conventionalized forms of the initial natural meanings of uncontrollable vocal expression of pain (we can imagine a cry of pain resembling that of other primates). Similarly, if you ask me "Should we go to this restaurant?" and I reply by sticking out my tongue, frowning my eyebrows, and wrinkling my nose, I can thereby mean<sub>NN</sub> something like "No, I really don't like the food there" because I have imitated a facial expression that means<sub>N</sub> disgust in the first place.

Third, even in cases where there are no obvious links between natural meaning of affects and non-natural expressive meanings – for instance, when someone utters "Outrageous!" – there still seems to be some ingredient of the non-linguistic natural meanings of affects that is preserved in the expressive signal. In this case, the fact that it is not a fully fledged sentence, but only a one-word exclamation points to the fact that, when we are highly aroused by anger, we tend to utter short exclamations as opposed to lengthy and sophisticated signals.

Let us now turn to what is distinct about non-natural meaning in expressives. Unlike its natural counterpart, non-natural meaning doesn't depend on lawful relations or statistical correlations between the signal and its meaning. It rather depends on the speaker's overt intentions to communicate and to inform their audience about something. In (13), the sound of the bell means that the bus is full not because of a lawful relation, but because people have started using the bell with this intention. Similarly, the meaning of (14) can go through because Sam understands what Joe intends to mean<sub>NN</sub>. The non-natural meaning of a linguistic signal – its message – comes from what the speaker overtly intends to communicate.

This is tightly linked to the thesis famously defended by Searle (1969, 1983) that François Recanati (1993) calls "the primacy of the psychological over the linguistic" and which will be important in the arguments that follow: it is primarily and primitively psychological

states – beliefs, desires, emotions, perceptions, etc. – that possess intentionality, the capacity of being about something, of having a content. The fact that utterances can be about things in the world, that they can have meaningful content, is inherited from the intentionality of speakers' psychological states.

## 4.2 Expressive non-natural meaning

Now to the crucial step: non-natural meaning is expressive (as opposed to descriptive) when the psychological state that is overtly communicated, and from which the utterance inherits its meaning, is an affect, and most often it is an emotion that is so overtly communicated. In other words, linguistic meaning is inherited from a mental state (the primacy of the psychological over the linguistic), and in the case of expressives, the meaning in question is fixed by the conveyed affective state (emotions, moods, whims, urges, phobias, etc.).

We can also spell this out within a Gricean framework of communication (understood broadly to include Grice [1989], “neo-Griceans” such as Horn [1984, 2004]; Levinson [2000]; or “post-Griceans” such as Sperber and Wilson [1986, 2015] or Wharton [2009]). A central idea within this framework is that what one means by an utterance (often called the *speaker meaning*) should be cashed out in terms of a communicative intention that can be split between (at least) two sub-intentions: the sub-intention to make something manifest to the audience, and the sub-intention that the first sub-intention be publicly recognizable. If all goes well, the audience infers what was intended to be made manifest (the content of the first sub-intention) and that this was intended to become part of the public sphere, or more precisely to update the context between speakers and audience, the context being all the information and commitments that are mutually assumed in the context of the discourse (García-Carpintero 2015). So, if we focus now on, say, (2) (i.e., “Outrageous!”), the kind of utterance we are interested in, the Gricean framework predicts that the speaker, by producing this utterance, intends to make something manifest to the audience – her outrage (attitude) about what the government did (content of the attitude) – and she intends that this be publicly recognized. Once the audience has inferred what was intended to be made manifest (the outrage about what the government did) and that this was intended to update the context between audience and speaker, then the audience has understood what the speaker meant by (2). Another illustration, using (3) above (i.e., “The frogs won it again!”): the speaker has the intention to make it publicly recognizable that, by producing the word “frogs”, she intends to make manifest that she is disposed to feel contempt (attitude) toward the French (content).

You might have noticed that we are cautious to disentangle the attitude and the content conveyed. This is because expressives and descriptives can inherit their meaning from psychological states that possess the same content: they differ only in the *attitude* they express. To illustrate the distinction, note that all of the following communicate different attitudes about the same content: “I judge that *p*”, “I’m happy that *p*”, “I desire that *p*”, “I intend to make it the case that *p*”.

Developing insights from Grice (1989) as well as Austin (1962), Strawson (1964), and Searle (1969, 1979), speech act theory offers the possibility of capturing further this distinc-

tion. An important hypothesis in speech act theory has it that we can distinguish types of *illocutionary acts* by types of psychological attitudes that speakers intend to communicate, even when these attitudes are about the same content. Illocutionary acts are the different things we do in using language: e.g., ask questions, describe an event, make a promise, insult someone, declare our love, etc. Illocutionary acts are achieved when the audience understands to what end we use language. I achieve the illocutionary act of asking a question when my audience understands that I have used language to this end.

The idea that we can individuate illocutionary acts on the basis of the psychological attitudes they express has been methodically pursued by Bach and Harnish: “Since illocutionary intents are fulfilled if the hearer recognizes the attitudes expressed by the speaker, types of illocutionary intents correspond to types of expressed attitudes” (Bach and Harnish 1979: 39). For instance, according to them (and many other speech act theorists), assertions express beliefs about the world, orders express desires that the audience does something, promises express intentions to do something, and thanks express gratitude toward the audience’s deed, etc. Expressive meaning then, according to a plausible version of this view, is the meaning of utterances whose illocutionary intent is to express affects (e.g., thanks are expressives since their illocutionary intent is to express gratitude). The illocutionary intent of expressives would then be fulfilled when the speaker gets the hearer to recognize his or her intention to express the affect in question. By contrast, descriptive meaning would be the meaning of utterances whose illocutionary intent is to express doxastic states.

Note that there exist multiple kinds of speech act theory besides that developed by Bach and Harnish and each of them may have something different to say about expressives. However, we lack the space to spell this out (furthermore, expressives are often left aside by speech act theorists as they often concentrate on affirmations, orders, and questions). For a detailed introduction to the different kinds of speech act theory as well as preeminent examples of its recent developments, see Fogal et al. (2018).

The Gricean framework, together with speech act theory, is one way of cashing out the ideas presented here. Another one is to draw from biology and appeal to a *signal model* as it is developed in, e.g., Skyrms (2010). In particular, Green (2007, 2019) develops an account of self-expression within a broader account of animal signals which is very fruitful for analysing expressives, and especially perhaps emotional natural meaning and nonverbal emotion expression. All the claims presented here can be advantageously pursued within the latter framework.

This short review of the relevant philosophical literature on emotions and standard frameworks in the philosophy of language leads us to conclude the following: because the non-natural meaning of an utterance (overall illocutionary act) is inherited from the overall psychological state (attitude + content) the speaker is intent on communicating, what makes the non-natural meaning of an utterance an *expressive* utterance is the specificity of the affective state (attitude + content) the speaker is intent on communicating with this utterance. This is why a proper analysis of how language expresses emotions, of what expressives are, requires an in-depth analysis of the nature of emotions and other affective states.

## 5 Conclusion

We have begun this chapter by presenting what we considered to be three of the most salient features of expressives as opposed to descriptives. (a) *Hot vs. cold*: Expressives inherit their meaning from mental states which are phenomenologically “hot” – the feelings of affects include positive or negative hedonic tones, various felt reverberations from changes in the body, and felt action tendencies. By contrast, descriptives inherit the coldness of the doxastic attitude they communicate. Think of the difference between someone stating “Someone has covered my car with graffiti” and the same person yelling “Shit!!!”. (b) *Fit vs. true*: Expressives can be assessed as more or less fit or appropriate, but we do not usually qualify them as literally true or false: a “Yuck!!!” would be deemed inappropriate if it were directed at a delicious dish, but it wouldn’t be qualified as literally false. (c) *Direct vs. indirect*: Expressives can directly show the affects they express because they constitute part of their manifestation, belonging to the motor expression and/or action tendency components of affects. By contrast, even when descriptives are about affects, they indirectly report them.

We then explained how these three features of expressives – hot, (in)appropriate, direct – derive naturally from a picture of affects depicting them as felt bodily reactions to stimuli evaluated as relevant to the concerns of the person undergoing the affect. We have spelled out how both (neo- or post-)Gricean theories of communication as well as speech act theory can easily explain this matter of fact by considering expressives as utterances which inherit their meaning from the properties of both attitudes and contents of affects, noting that a signalling theory may advantageously analyse this out as well.

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## 4 Anthropological theories of emotion

- 1 Introduction
- 2 Defining the anthropological theory of language and emotion
- 3 Language and emotion
- 4 Social capital and emotional labor
- 5 Conclusion
- 6 References

**Abstract:** Anthropological theory of emotion is a complex dimension of the study of human behavior and culture at large. Ethnographic methodologies work particularly well in trying to disencode emotive interactions and responses among participants. Such methods begin to shine a light on the significance of what may be missing during a social interaction and also highlight the complex communicative relationship between researcher and community under study, particularly in cross-cultural settings. Language plays a significant role while theorizing about emotion, and consequently, emotion creates discursive spaces. This argument is particularly salient for language learners exploring the syntax and phonology of a language other than their own. Emotion is often dictated by our social environment. Often, it is these unseen pressures that formulate individual emotion, such as the desire to access greater social capital. However, there are multiple case studies citing ethnographic evidence from around the world that refute this premise by arguing there are tangible pressures for individuals to behave, look, or speak a certain way. This emotive prescription is not unseen; rather, it is implemented to control consumer feeling. Emotional labor works to control both the ambient emotion of a space and the emotional response of the employee to elicit consumer loyalty.

## 1 Introduction

There are nearly as many definitions of culture as there are people who write about it. Most modern definitions of culture recognize that culture is not part of our DNA or any other biology unique to humans. Current anthropological thought argues that any definition of culture must focus on its fluidity and ever-changing capacity linked to process and not to national borders, ethnicity, or phenotype (Chambers 2020: 23). The processual reformation and unboundedness of culture allows it to be both learned and shared. Therefore, culture can be surmised as a fluid, ever-changing, and porous process that includes the things that people think, do, and own as members of a society.

Language and emotion play critical roles in the formation of culture. Learning languages other than your own, for example, provides a window to explore different cultural traditions,

points of view, and even identities for the language learner (Ros i Solé 2016: 3). Language learning unlocks the opportunity for the student to gain cross-cultural understanding, which may include novel ideas such as specific words that are used to convey the formality of a relationship or the usage of grammatical gender. This aligns anthropology's view that culture is unbridled by geography or ethnicity. Language learning that focuses on "the wholeness of experience rather than solely on its objects of parts" (Mustakas 1994: 21) allows people to "try on" different identities, to dream in new ways, and expands one's own worldview. Language educators and researchers gain a more holistic understanding of the culture under question by "repurposing language learning for personal development" (Ros i Solé 2016: 137). The language learner is free to explore different aspects of one or more cultures at a time through practice and exposure to languages other than their own.

How is culture and language related to emotion? The answer can be found in thinking about globalization. A multilingual world persists despite the homogeneity often yielded by globalization. Further, much like the processual nature of culture, anthropology and similar disciplines find that both multilingualism and globalization shape the emotions of everyday people. Globalization is the international integration of human experience that includes linguistic, economic, and political processes. Sociologist George Ritzer (2003) theorizes an intertwined vision of the world trying to understand the inherent cultural, and therefore emotional, messiness of these processes. He argues a duality exists when thinking about our globalized world, one that is becoming more "Americanized" and "restricted" (e.g. Hollywood films, hip hop and rap music, etc.), while at the same time, we are all becoming more diverse through near constant connection (e.g. trade and commerce, virtual online communities, etc.). Multiculturalism and multilingualism are often thought of as social benefits to globalization. However, if we critique the ways in which power is derived from these constructs, we can posit that with access to language learning and cross-cultural understanding also comes the view that these ideas are also somehow harmful to society. For example, nativist political agendas are spreading globally and global capitalism is being reconsidered in favor of national production of goods.

Overall, anthropological theories of emotion, one can argue, are rooted in culturally specific circumstances, behaviors, and contexts. Just like culture, emotion is *not* and *cannot* be universally understood across the globe as a singular construct. Culture and emotion are messy, processual, and constantly in flux.

## 2 Defining the anthropological theory of language and emotion

Anthropological theory of emotion is a complex dimension of the study of human behavior and our culture at large. Anthropology has historically grappled with trying to define this complex dimension of private and social life. A theoretical dichotomy exists when attempting to define emotion, between a "universally identical biology" and emotions that are inextricably linked to "locally specific social cultural tradition" (Leavitt 1996: 515). Cultural anthropologists ascribe to the idea that emotions are unique to a specific cultural context

and need to be defined by the culture under question. Cultural anthropologists also consider their own emotions in the field and the ways their positionality affects the behaviors and responses of informants and the physical environment of the culture in which they are studying. Reflexivity pushes away from defining emotions from only a Western viewpoint by demanding the researcher put their biases aside in favor of informant-driven decoding and analysis.

Conversely, if we consider biological anthropology's stance that emotions (like fear) are in fact the same everywhere, how do researchers begin to understand cross-cultural emotive moments in the field? Paul Ekman, American psychologist and professor emeritus at the University of California, has famously found the following to be "universal" emotions that "we *all* feel, transcending language, regional, cultural, and ethnic differences:" anger, contempt, disgust, enjoyment, fear, sadness, and surprise (Ekman 2021). Andrew Beatty (2010), anthropologist and author of multiple texts theorizing the connections between the discipline of anthropology, psychology, and emotion, similarly argues that emotions are "natural facts," which may be outwardly displayed differently across cultural contexts, but "underneath they are all the same" (Beatty 2010a: 326) (e.g. fear, loss, happiness, etc.).

In contrast, a cultural and/or cognitive anthropologist could argue the English language (or taking this argument even further, English as lingua franca across the globe) does *not* "adequately define" emotion because emotions are *not* "the same everywhere". Given this logic, one can argue that anger, fear, and grief are *not* universal emotions, and therefore, the language used to define each requires a specific code that can be unlocked by the sociocultural context under question. Cognitive appraisal theory of emotion also ascribes to this argument, whereby emotional responses are purely situational and not biologically rooted (Sander et al. 2005; Scherer 2001).

Beatty later asserts that anthropologists should adopt a narrative-based approach to both analyze and begin to decode the culturally specific ways emotions are both defined and expressed by the culture under investigation. For example, a wink may be a sign of affection or simply a twitch, trying to dislodge a piece of dust out of one's eye. In this case, a full account (i.e. thick description) of the scene in question is necessary to give the reader a fuller picture of the intent behind such behavior, and therefore, subsequent emotion(s).

Anthropologists are also equipped to analyze how emotion plays a fundamental role in society. An important task of anthropologists is to place individual behavior, including emotion, into a larger cultural and historical context. For example, in the wake of the February 2018 shooting at Marjory Stoneman Douglas High School in Parkland, Florida, archeologist Richard Wilshusen (2018) notes that fear, loss, and grief leave a nation mourning in the wake of tragic violence. Wilshusen goes on to rightly warn of an escalating cultural divide if we, as a societal collective, continue to fail to acknowledge the emotional scars of violence. An analysis of grief, and therefore emotion writ large, needs to understand the specific cultural circumstances under which that grief occurs. For example, losing a loved one in non-political circumstances (e.g. car crash) is a different manifestation of grief than a loss from a school shooting. Emotion, therefore, spawns well beyond the individual, family, or even nation-state.

How do anthropologists, or other like-minded researchers, begin to analyze such complex emotions with their informants? The answer may be found in everyday life, as field-

work and ethnography remain the discipline's preferred methodology and what keeps it distinctive from other research that includes human subjects. The anthropologist "inserts themselves in the midst of the people they wish to work among, with, and for" (Tubelle de González 2019: 3). These qualifiers, "among", "with", and "for", are important and reflect a shift in the way the study of human behavior has changed since the discipline's institutional origins in the early 1900s. Anthropologists from all four fields (i.e. archeology, linguistic, biological, and cultural) have been described as agents of colonialism in trying to make sense of, categorize, and collect "culture". Colonial mentalities and practices – not coincidentally occurring alongside rapid changes in, and even the disappearance of, Indigenous peoples – often meant that anthropologists felt a sense of urgency when collecting material culture. For example, the late 1800s and early 1900s were considered a golden age of museum collecting in North America. Museums become monuments to human discovery and often glorify its founders, a narrative that shields the public from each object's cultural significance unique to their country of origin. While the discipline still grapples with its sorted past of artifact theft and even racist categorizations of cultures under study, many have evolved beyond these early errors in the discipline's history.

Cultural anthropologists undertake fieldwork in multiple settings, both rural or urban, across the globe, in their own communities of origin, or even virtually online. The approach and guiding principles of undertaking fieldwork in cultural anthropology include cultural relativism, which is the idea that one should suspend their own moral judgement and assumptions in order to appreciate and understand a culture on its own terms, rather than in comparison to one's own. Because culture is integrated, anthropologists can understand one aspect of culture only if we understand the whole. This holistic perspective allows anthropologists to study people's beliefs and behavior without imposing our own. However, to what extent cultural relativism applies can be argued. For example, when human rights are violated or abusive behavior toward children occurs, some anthropologists may feel compelled to get involved to expose the practice or stop it, even when the practice is culturally accepted in the region of study. During fieldwork, anthropologists seek to employ local knowledge and definitions of events. This indigenous cultural context given by local informants is used by anthropologists to understand why informants do the things they do, even – and especially – when those things are different from what the anthropologist does (e.g. how they ethnically identify). Fieldwork, when armed with the tenets of cultural relativism, can be a potent cocktail for deeper understanding of any culture, and remains particularly relevant in cross-cultural communication.

In addition to cultural relativism and participant observation, tenets of visual anthropology can also aid in our understanding of the complex intersections between emotion and language. In 1974, The Society for the Anthropology of Visual Communication – now known as The Society of Visual Anthropology – published a series of essays describing why anthropologists should use visual culture as a means of analysis and teaching. Early leaders in the subfield of visual anthropology, Jay Ruby and Richard Chalfen (1974), argue that communication is basically a web of "codes" that researchers must try to untangle. This process of "decoding" communication allows the researcher to begin to understand important societal rules. Nearly fifty years later, this argument still remains vital to our understanding of culture and speaks to the importance of visual anthropology as a method-

ology to better understand language and emotion. Codes and symbols are intrinsic components in putting together a holistic understanding of any culture: our own, or otherwise. Specific codes of non-verbal communication can be captured through anthropological film and photography to compare systems and patterns of communicative behavior across codes, across behavioral settings, and across cultures. One can examine “visual perception, ethnology, body movement, the symbolic use of space from microlevels of dyadic interaction to architecture, design, and the planning of cities and whole cultures” (Ruby and Chalfen 1974: 6). These fluid concepts of behavior and the human condition have the opportunity to become crystallized when one can capture them using visual media. Ethnographic methodologies, including participant observation and components of visual anthropology, work particularly well in trying to disencode emotive interactions and responses among participants. Ethnography allows the researcher not only to immerse themselves into a specific societal setting, often by working alongside and with community member(s), but also highlights how important the senses are, in again, beginning to decode behavior(s). In the field, an ethnographer uses a variety of methods to understand dance, song, language, and transactional relations between people.

Anthropologists believe there is no substitute for witnessing firsthand how people think and what they do – to gain trust in the community they are studying in order for emotion to become normalized and not fetishized. This is why we look forward to submerging ourselves in a new environment with all the messiness of life, and trying to make sense of it. If culture includes things such as subsistence strategies, diet, social and political systems, communication, technology, art, and ideologies – everything that people create, influence, and adapt – then these methods begin to shine a light on the significance of what may be *missing* during a social interaction. For example, a dramatic pause during a crucial part of a participant telling a story or the subtle difference between a wink and just a twitch on one’s face. These particular methodologies highlight the complex commutative relationship between researcher and community under study, particularly in cross-cultural settings (O’Brien et al. 2014). Cross-cultural moments in the field can offer the researcher the privilege of taking a backseat while informants create meaning of their everyday lives, and for informants to tell their story in a collaborative approach to data acquisition and analysis.

### 3 Language and emotion

Language plays a significant role when theorizing about emotion, and consequently, emotion creates discursive spaces. Moods, feelings, and attitudes emerge in early development and are translated not only through behavior but language as well. These interwoven aspects of human evolution begin well before, while we are still in utero, and continue to develop throughout our lives. However, it is not merely acquiring spoken language, but developing an emotional language which is “crucial for active participation in a linguistic community (Gratier et al. 2015: 415). The process should be noted as unique to scholarship in the field of language and emotion. Theory, research, and application on these connec-



**Fig. 4.1:** Sample of emojis reflecting skin tone and gender variation (Apple [Hartmans 2018]).

tions begin to shed light on affective disorders, autism spectrum disorder, perinatal stroke, aphasia, among other medically recognized conditions (Lüdtke 2015).

Cross-cultural and cross-linguistic diversity begins to shed light on the identity of both the individual and community. As previously suggested, recognizing the importance of this diversity begins the process of developing emotional belonging to their culture of origin. The idea of “performing emotion with words” begins to shed light on the complex ways identity, as constituted by language and emotion, is a fluid process, one that is “dynamically constituted”, and *not* static (Wilce 2009). One example is our dynamic relationship to slang. Slang represents historical points in time. In the US, what was once “groovy” (1960s) became “rad” (1990s) and is now “fire”. When thinking about slang, the “language-emotion relationship” creates a cultural story linked to popular culture throughout time.

In the last quarter century, we see the use of language and emotion transcending the use of words as emojis become part of our collective lingua franca on social media, texting, e-mail, and other forms of electronic communication. According to Emojipedia.org, as of March 2020, there are 3,304 emojis which “include skin tone and gender variation” (Hartmans 2018; see Figure 4.1).

Emojis range from “face with a medical mask”, “Vulcan salute”, and even, “person in a suit levitating”. These hand gestures, animals, food and drink, flags, and objects can powerfully communicate feelings, regardless of the language(s) the user has mastery over. Emojis have become “a lingua franca for the digital age” (Pardes 2018). Not excluded from commodification under globalization, the emoji itself has now transformed into an even newer form of digital language with the advent of the bitmoji in 2007 and now is a company owned by Snapchat. Bitmojis are personalized avatars of the user complete with multiple skin shades, different hair color and style, particular jawlines, and so on. Facebook recently joined this trend in developing its own form of bitmoji for US users in May 2020, “the avatars will be used to share feelings and interact with friends in comments” (Guynn 2020).

Sharing feelings online transcends the written word in favor of quicker forms of communication in the form of emojis and bitmojis. Both may also be used to either conceal or reveal emotions better “said” visually instead of linguistically (i.e. typed). Emojipedia.org publishes the following statistics: “One in five tweets now includes an emoji (19.04 %); five billion emojis are sent daily on Facebook Messenger; [and] by mid-2015, half of all comments on Instagram included an emoji” (Emojipedia.org). Language and emotion become codified online through the use of these symbols and, based on these statistics, this is not a passing trend.

One must pause to provide a critical analysis of the ways we create and share in performing emotion with words. Power and privilege underscore the performativity of language and emotion (Beatty 2010: 224). Of course, access to technology will ultimately introduce the user to the world of emoji, as does certain cultural access to emerging slang in order to decode proper context and usage. However, when linked to human behavior through the lens of anthropology, we can also posit that emotion and language are such an intrinsic part of everyday life, that both are ultimately culturally specific and need to be analyzed as such. “Anthropologists have emphasized that culturally specific conceptions of emotion are intimately bound up with the part emotion plays in social life” (Beatty 2010: 224). Anthropology and its methodologies related to cross-cultural understanding can aid future research of language and emotion by calling for a holistic understanding of interpersonal communication linked to broader cultural understanding. The idea that “words may have more than one meaning, and those meanings are strongly linked to the social and cultural contexts in which the words are used” (O’Brien et al. 2014) must remain at the forefront of researchers studying language and emotion.

## 4 Social capital and emotional labor

Social capital, which is referred to in anthropology also as cultural capital, is the intangible power that an individual or group yields. It acts as “all the goods, material and symbolic, without distinction, that present themselves as rare and worthy of being sought after in a particular social formation” (Webb et al. 2002: 44). For example, an academic degree at the undergraduate, master’s, and doctoral level becomes a marker of distinction and social privilege, not only in tangible applications such as the job market, but intangibly as an indicator of intellect and superiority. One’s power and respect grow among their peer group as their access to employment and a livable wage increase. It may grow more significantly depending on the type of degree and from what institution the degree was awarded.

How does language relate to social capital? In US context, accent (or lack thereof) often suggests class status. The use of Ebonics in spoken and written language in higher education, which is only one environment that demonstrates where this scenario is significant, has historically decreased the social capital of students. Microaggressions are also an important example when behavior and language have the power to elicit an emotional response in everyday life. Microaggressions are “deniable acts of racism that reinforce pathological stereotypes and inequitable social norms [...] [they] are related to racial biases, are

offensive to many, and are harmful to victims” (Williams 2020: 4). Microaggressions take many forms and include the following:

In addition to negative statements (e.g., “Asians are bad drivers”) and seemingly positive statements (e.g., “Black people are good at basketball”), they can include actions (e.g., crossing the street to avoid walking past a Black man), inaction (e.g., failing to offer aid to a person of color in distress because “someone else will do it”), being unseen (e.g., everyone at a banquet getting served except the lone person of color), being treated as contaminated (e.g., a cashier putting change on the counter rather than in hand to avoid touching the person of color), and environmental assaults (e.g., naming a public park after a Confederate Civil War leader). A microaggression would not generally involve direct physical harm, although in certain cases it may (e.g., a person of color is tripped in a crowded train station because a White person is taking the right of way). (Williams 2020: 6)

These examples illustrate the ways offenders use language and behavior to create damaging emotional, and sometimes physical, responses at the expense of people of color. Microaggressions are damaging in many ways. Chronic stress, anxiety, depression, and suicidality are only four of many poor mental and physical health outcomes that spread across racial and ethnic lines (Williams 2020: 15). A social environment that is steeped in microaggressions, like the classroom or a doctor’s office, becomes physically and emotionally unsafe for people of color.

However, there are multiple case studies citing ethnographic evidence from around the world that refute the notion that social capital is fully unseen. There are tangible pressures for individuals to behave, look, or speak a certain way (Gmelch 2012; Hochschild 2012; Kincaid 1988). This emotive prescription is not obscured from social view, rather, purposefully implemented to control feeling, particularly in the workplace and in other consumer-related environments. Language, and the resulting relationship between customer and employee, is one way employers mold the consumer experience. Managerial-mandated scripts are used to create consumer and employee loyalty to a particular brand or experience. This prescriptive language functions as the “heart and soul of the modern corporation, representing its intellectual capital, organizational memory, and, in business school code, core competencies” (Kunda and Van Maanen 1999: 65). The *Tech Culture Handbook*, an internal publication from the early 1990s, states the “expectation is that everyone is going to work hard, not for hard work’s sake, but for the fun of it, and enjoy doing what they are doing, and show commitment no matter what it takes” (Kunda 1992: 73). Working hard, “for the fun of it”, is an intangible requirement to this specific workplace as is complete devotion to this obfuscated rule. These nebulous requirements of employees make labor precarious for many who do not play by these often culturally biased or racist codes. For example, managers and consumers alike may demand “proper” spoken or written English in the workplace (Gmelch 2012). What is considered “Standard English” grammar, syntax, pronunciation, etc., is both mandated and maintained by white supremacy and is often used as a tool for hiring committees to remove potential candidates during the interview process and for managers to reprimand or fire employees during performance reviews. This mandated performance of loyalty, and ultimately whiteness, dictates how language and emotion affect people in various socioeconomic classes – from service workers in fast food restaurants, housekeepers, and tour operators to corporate executives, educators, and politicians.

Emotional labor works to control the emotional response of the employee to elicit consumer loyalty. Ethnographic evidence supports this idea in the realm of tourism studies perhaps most saliently as employees are expected to perform for tourist enjoyment. Employees are required by employers to make guests comfortable in every way by smiling, exchanging pleasantries, anticipating the needs of guests, and being generally subservient to tourist whims in order to ensure return visits. Consumer loyalty, usually exemplified in the form of repeat visits, ultimately benefits the business and not the individual employee because of rampant vertical integration in many tourism-dependent communities around the world. Moreover, maintaining the linguistic, emotional, and physical demands of emotional labor is exhausting for employees. Employee performance of prescribed perfection and subservience demands keen attention to detail where any deviation could result in reprimand. Teetering the line of service and demand ultimately creates a volatile environment that is shaded by an institutionalized imbalance of power between host and guest as well as between employee and employer.

## 5 Conclusion

This chapter explores ideas of social capital, labor, and ethnographic methodologies in reference to the theory of the anthropological study of emotion and language. This overview is by no means exhaustive. It is intended as a resource for those interested to begin thinking about the ways anthropology can help to decode the complex relationship between language and emotion. Potential topics for future research include the use of virtual forms of communication (e.g. emojis, bitmojis, etc.) which, as previously stated, have become the lingua franca of our online lives. Exploring how these avatars for emotion replace or enhance our emotional intelligence and communication is of particular interest. Additionally, further empirical evidence is needed to determine whether human emotions are universal or culturally specific. This debate is nowhere near complete, but it is worth exploring how each is conceptualized and therefore performed in daily life in many different cultural contexts.

Psychology, cognition, and other behavioral sciences also play an important role and are sure to be covered more in depth in this handbook. However, the ways that human behavior shapes and therefore legitimates the connection between language and emotion is well suited for further ethnographic inquiry. Ethnography, with a keen focus on employing a thick description of emotion, is one way to explore the linguistic and emotional responses of informants. This is exemplified in a description of one of the most complex of emotional relationships, one between father and son:

Supposing relations between a father and son in a certain society are typically cool, the reaction of one to the death of the other will be unpredictable, nonstandard in whatever makes that particular relation humanly interesting. The warmth concealed in the reserve, the gestures of recompense, the relief that accompanies sorrow: these tell the fuller story. And it is this diversity of human types, circumstances, and histories that gives emotions their distinctive hue, their interpretative precision, their social and subjective significance. (Beatty 2010b: 438)

The complicated connections between loss, relief, and sorrow reveal themselves most deeply through an ethnographic encounter, ranging from fieldwork abroad, to home, online, and even through auto-ethnography. Anthropologists are therefore well suited to recognize a diverse array of human behavior in order to create a textured analysis of emotional and cultural depth.

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## 5 Linguistic theories of emotion

- 1 Introduction
- 2 Linguistic approaches to the study of emotions
- 3 The interrelation between linguistic findings and theories of emotion in psychology
- 4 Toward mutual enrichment
- 5 References

**Abstract:** Emotions are a multifaceted phenomenon. They are at the center of attention of different disciplines including psychology and linguistics. These two disciplines have the most direct access to emotions due to the nature of their research. For psychologists, emotions are states experienced by people on a regular basis. In contrast, linguists study words and expressions that people use to convey their emotions. Despite not being identical, these two foci of studies are closely related. Can the divide between these two disciplines be narrowed? Can the visions of emotions offered by these two disciplines be mutually enriched and possibly even merged? This chapter overviews leading linguistic approaches to studying emotions and then demonstrates their relevance to theories of emotions in psychology. Possible directions of mutual enhancement are discussed.

## 1 Introduction

Emotions are complex phenomena which are essential to humans. Due to this complexity, their different aspects are revealed by different disciplines. For psychologists, emotions are mental states experienced by people on a regular basis. In contrast, linguists study words and expressions used by people to convey their emotions. Despite their differences, these approaches are closely related. Can the breach between the disciplinary approaches be narrowed, mutually enriched, and possibly even merged?

The two disciplines vary in their views on emotions and methodology of study. The linguistics research deals with what is known as a “folk” categorization of emotions (D’Andrade 1987; Ogarkova 2013). It is often juxtaposed with the “encyclopaedic” knowledge, and the two perspectives do not necessarily match (Goddard 2011; Wierzbicka 1996). Through language one can get access to a lay or common perspective on emotions. On the contrary, in psychology emotions are primarily viewed as states that can be objectively studied through measurement or evaluation of some sort (body temperature, blood pressure, level of perspiration, heartbeat rate, facial expression, gaze movement, among others) (e.g., Cacioppo and Petty 1983; Flam and Kleres 2019; Parrott and Hertel 1999; Wagner and Manstead 1989).

Both disciplines intersect at the place of naming and describing emotion experiences, particularly emotion terms. This place of intersection will be the focus of our attention in this chapter. The chapter overviews leading linguistic approaches to studying emotions and then demonstrates their relevance to theories of emotions in psychology. Possible directions of mutual enhancement are discussed.

Before we proceed to the discussion, a disclaimer must be put in place regarding terminology. In this chapter, we will use the term “emotion” due to its widespread acceptance in affective sciences. However, from a linguistic point of view, this term introduces an Anglo-centric bias into analysis because different languages have different words or ways to refer to people’s “feeling experiences” and their meanings do not fully match the English terms (see Frevert [2016], Ogarkova [2013], Wierzbicka [1999] for examples and discussion). Ideally, research into “emotions” needs to account for a variety of states, the names of which are embedded and differentiated in various languages. As we will demonstrate later, this is not the only case of terminological bias in emotion research.

At the start, it is also important to note that in this chapter we mainly focus on the linguistic ways of studying emotion terms as labels for referring to one’s emotion states. We ignore the aspects of emotion expression in language via other linguistic means (e.g., pitch, intonation, interjections, phrase structure, grammar, and morphology) (see Majid [2012] for discussion). This kind of research is undoubtedly very important for understanding emotions, but we will focus on emotion labels as the major place of intersections between the disciplines of linguistics and psychology.

In the next section, we will overview the following approaches to studying the linguistics of emotions: the Natural Semantic Metalanguage (NSM) approach, the GRID approach, and the Conceptual Metaphor Theory (CMT). The NSM approach will be the primary focus in this overview.

## 2 Linguistic approaches to the study of emotions

### 2.1 Emotion terms through the prism of lexical universals: the NSM approach

The Natural Semantic Metalanguage (NSM) approach was pioneered by Anna Wierzbicka. Later developments of NSM were also due to Wierzbicka’s collaboration with Cliff Goddard and input from scholars who tested the universality of primitives in different languages. Anna Wierzbicka emphasized linguistic variation in conceptualization of emotions in her early publications in the 1970s (Wierzbicka 1972, 1980). Over the years the understanding of linguistic representation has been enriched by the development of the NSM methodology as well as due to collaboration with other colleagues who have applied the approach to diverse languages. We will overview the current state of the theory and its approach to the linguistic analysis of emotion terms.

The primary focus of the NSM linguistic analysis is development of semantic explications (or definitions) of lexical units or grammatical constructions. In this regard, NSM stems from lexicographic tradition, which aims to propose dictionary definitions of words’

**Tab. 5.1:** Semantic primes: English exponents, grouped into related categories.

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I~ME, YOU, SOMEONE, SOMETHING~THING, PEOPLE, BODY, KIND, PART
THIS, THE SAME, OTHER~ELSE~ANOTHER
ONE, TWO, SOME, ALL, MUCH~MANY, LITTLE~FEW
GOOD, BAD, BIG, SMALL
KNOW, THINK, WANT, DON'T WANT, FEEL, SEE, HEAR
SAY, WORDS, TRUE
DO, HAPPEN, MOVE
BE (SOMEWHERE), THERE IS, BE (SOMEONE/SOMETHING)
MINE
LIVE, DIE
WHEN~TIME, NOW, BEFORE, AFTER, A LONG TIME, A SHORT TIME, FOR SOME TIME, MOMENT
WHERE~PLACE, HERE, ABOVE, BELOW, FAR, NEAR, SIDE, INSIDE, TOUCH
NOT, MAYBE, CAN, BECAUSE, IF, VERY, MORE, LIKE

---

lexical units. Therefore, seeking a formula that can represent the meaning of a word (or its lexical units) is the outcome of this search. However, NSM definitions avoid numerous pitfalls of standard dictionary definitions in that they are non-circular and are written in a restricted metalanguage of semantic universals (Goddard 2018; Wierzbicka 1996).

The core idea of the NSM is the presence of universal meanings in language. It can be traced to the works of the 17th-century German philosopher Leibniz, who acknowledged that some words are more basic and simple in meaning than others: “Amongst the words, some are frequently used and serve as auxiliary to the others” (Leibniz [1678] 1987: 162). He named these words “the alphabet of human thoughts” (cf. Wierzbicka 1972: 6).

As a result of a 40-year empirically based research program led by Anna Wierzbicka and Cliff Goddard, 65 universal concepts were identified (see Table 5.1) (Goddard and Wierzbicka 2014). In this respect, the NSM theory accepts Leibniz’s hypothesis that they should be shared by people regardless of the language they speak. These meanings are called semantic primitives or primes and they constitute the core of human lexicon and can be used to explicate more complex meanings. These meanings can be expressed by words, bound morphemes, or phrasemes. They equal lexical units, which means that if a word is polysemous, the meaning of a prime may correspond to only one meaning of this word. To distinguish the meaning of a prime from the other meanings of a given word, the primes are, by convention, represented by small capital letters (e.g., THINK, GOOD, PEOPLE) (see Gladkova and Larina [2018a] for an overview).

From the point of view of emotion research, it is essential that not a single emotion term passes the test of linguistic universality. Therefore, neither the words *happy* or *happiness*, nor *sad* or *sadness* are considered universal within the NSM framework. However, the arsenal of lexical universals includes the primes FEEL, THINK, GOOD, BAD, SOMEONE, and SOMETHING, among others, that are used for the description of emotions. The primes combine with each other and form what is known as canonical sentences. In NSM, the following primes and their combinations (among others) can be used to render emotion terms:

someone feels something good  
 someone feels something very good  
 someone feels something bad  
 someone feels something very bad  
 someone thinks like this: [--].

While the universal syntax of the primes is not random and is limited to the combinations that have been shown to be universal, the range of expressions that can be formed using the metalanguage is diverse (Goddard and Wierzbicka 2002, 2014).

Emotion terms, like any other type of lexicon, can be explicated in terms of semantic universals. In some cases, the building elements of so-called semantic molecules are required (Goddard 2012, 2016). Semantic molecules are salient meanings that are themselves constructed of semantic primes and serve as essential building blocks in semantic explications. Some examples of semantic molecules are *ear*, *nose*, *hand*, *mother*, and *child*, among others. In explications they are marked with [m].

The meaning of emotion terms, as of any other word, is analyzed using rich and diverse linguistic data available for this word. Linguists study closely all the peculiarities of use of a word, including the contexts in which they occur, the “neighbors” or collocates that they tend to have, as well as contexts in which their use is impossible. Contemporary online corpora (e.g., COCA [Corpus of Contemporary American English], Wordbanks Online, Sketch Engine, Russian National Corpus) can provide data for linguistic research of emotions. Their technical capabilities (word collocational profile, frequency of occurrence, word mapping) significantly assist in linguistic analysis.

Based on available data, a hypothesis about the meaning is constructed. It is then captured in universal concepts. The explication of an emotion term aims to reflect a “folk” model of emotions (D’Andrade 1987). It also represents an “insider’s” perspective on the emotion (cf. Geertz 1976).

Semantic explications of emotion terms in NSM are shown to follow a similar structure called the semantic template – “an organizational pattern or arrangement of component types that is shared by words of particular semantic class or sub-class” (Goddard 2014: 78). Goddard (2014: 79) proposes a semantic template for English emotion adjectives in a predicative frame as shown in Table 5.2.

Thus, a semantic template for emotion terms has three main components. The first component (a) presents a cognitive scenario – i.e., a certain way of thinking that triggers

**Tab. 5.2:** Semantic template for an NSM explication of an emotion term (based on Goddard 2014).

---

***someone X is – (happy/angry/disappointed) at this time***

---

a. someone X thinks like this at the time:

COGNITIVE SCENARIO

“  
—  
—”

b. because of this, this someone feels something (very) good/bad at this time      RESULTANT FEELING

c. like people often feel when people think like this

TYPICALITY

---

the emotion. The second component (b) represents the resultant feeling. The metalanguage allows the choice between “good” and “bad”, as well as their combinations with the intensifier “very”. The last component (c) represents the typicality of the feeling – i.e., an emotional reaction that people would prototypically have in the situation described in (a).

The NSM has been successfully applied in the study of emotion concepts in a variety of languages, such as English, Malay, Chinese, Japanese, Korean, Danish, Russian, Portuguese, Australian and American aboriginal languages, among others (e.g., Asano-Cavanagh 2014; Gladkova 2010a, 2010b; Goddard 1997, 2011, 2014; Goddard and Ye 2014; Harkins and Wierzbicka 2001; Junker and Blacksmith 2006; Levisen 2012; Priestley 2002; Silva 2012; Wierzbicka 1999, 2018; Ye 2001, 2004; Yoon 2007).

Let us illustrate how the semantic explications are constructed based on several examples. In particular, we will overview recent research on conceptualization of “happiness” in English and Danish and several social emotion terms in English and Russian.

Happiness is a salient concept in psychology, the cognitive sciences, and economics. In this regard, McMahon claims that “happiness is now a global concern, one with roots, however shallow or deep, in many different cultural and religious traditions” (McMahon 2006: xiv). He also refers to happiness as “the truly modern god” (McMahon 2006: 472). Using linguistic evidence, Wierzbicka and Goddard (2014) argue that conceptualization and understanding of “happiness” varies from language to language and culture to culture, and that the use of the English term *happiness* introduces a considerable ethnocentric bias into research. Further studies reported in the special issue entitled “‘Happiness’ and ‘pain’ across languages and cultures” of the *International Journal of Language and Culture* (Goddard and Ye 2014) well illustrate variation in conceptualization of “happiness” (as well as “pain”) across different languages.

Goddard and Wierzbicka (2014) argue that *happiness* is a culture-specific modern concept of Anglo-Saxon society. Using the NSM semantic universals, they explicate it as shown in Table 5.3 (Goddard and Wierzbicka 2014).

This explication suggests a relatively mild and generic feeling associated with thinking about oneself as “many good things are happening to me now as I want”, and that one can do many things as she or he wants. Goddard and Wierzbicka (2014) demonstrate that in a historical perspective, the English concept of “happiness” underwent development and change. Before the 18th century, the word *happy* tended to refer to a more intense and exceptional feeling associated with good luck and good fortune (more similar to the comparable concepts *glücklich* and *heureux* in German and French, respectively).

**Tab. 5.3:** Semantic explication of happy (Goddard and Wierzbicka 2014: 103).

---

***He was happy***

---

- a. this someone thought like this for some time at that time:
  - b. “many good things are happening to me now as I want
  - c. I can do many things now as I want
  - d. this is good”
  - e. because of this, this someone felt something good at that time
  - f. like people feel at many times when they think like this for some time
-

Levisen (2012) conducted a semantic study of equivalents (or as he calls them, “pseudo-equivalents”) of *happy* in Danish against the background of “happiness research”. As is well known, Denmark consistently scores very high (or even at the top) in comparative cross-country “self-reported happiness” research (e.g., Helliwell et al. 2018). Consequently, Danes are often labelled “the happiest people in the world”. Levisen hypothesizes that this outcome could be largely related to the use of the Danish word *lykkelig* in the Danish questionnaires. He notes that there are several words in Danish that translate to the English *happy*: *lykkelig*, *glad*, and *tilfreds*. However, relying on empirical evidence, he suggests that none of them have the exact meaning as the English *happy*. Levisen argues that *lykkelig* is a polysemous word, and that Danes are likely to be “mapping” the questionnaires inviting them to estimate their “happiness” on the scale from 1 to 10 with the meaning of *lykkelig*, which refers to one’s life quality and is not an emotion term as such. He proposes an explication for this meaning of *lykkelig*, as seen in Table 5.4.

Formulating the meaning of the word in question using the set of the same universals allows one to clearly identify the similarities and differences between the two terms. It is notable that explication in Table 5.4 does not follow the semantic template proposed for emotion terms in Table 5.2 as it does not contain the prototypical component of “feeling”, which has an association of immediacy with the thinking component. It does, however, contain the components of a prototypical cognitive scenario, according to which a person “assesses” his or her state in a rather factual way. This assessment involves the realization that the person has felt something good at many times in his or her lifetime. It also involves the realization that one cannot claim that many bad things happened to this person during this time.

Levisen concludes: “The ‘lykkelig of life quality’ is essentially about ‘living well’ rather than ‘feeling good’. Nevertheless, it is the ‘lykkelig of life quality’, which is conceptually even further away from *happy* which is considered the *happy*-equivalent in happiness research” (Levisen 2012: 214).

This kind of comparison well demonstrates the dangers of using translational equivalents of culture-specific vocabulary in comparative research. The case of the study of “happiness” in Danes well shows how the words one uses influences the results of the study. Therefore, only universal concepts with full semantic equivalence can be a reliable tool in providing such interpretations.

**Tab. 5.4:** Semantic explication of *lykkelig* (Levisen 2012).

---

***Han er lykkelig ('he is lykkelig')***

---

- a. he thinks like this:
  - b. it is like this:
  - c. “I have lived for some time,  
during this time, I felt something good at many times
  - d. when I think about it now I can say: many good things happened to me during this time  
I can't say: many bad things happened to me during this time
  - e. it is good when it is like this, I know that it can be not like this
-

While we are still on the page of linguistic and cultural variation associated with emotion terms, it would be important to emphasize further linguistic findings regarding conceptualization of emotions and their relationship to culture. The NSM approach to linguistic analysis recognizes the association of linguistic meaning with culture – i.e., people's shared understandings and ideas. This means that cultural themes and ideas “penetrate” a language's lexicon and grammar and get encoded in the meanings of lexemes and grammatical constructions. In this regard, Wierzbicka (1997) proposes the notion of cultural key words – i.e., “words which are particularly important and revealing in a given culture” (Wierzbicka 1997: 15–16). In this regard, given the salience of the concepts, the English *happy* and *happiness* can be regarded as cultural key words of contemporary Anglo Englishes. Cultural elements of meaning also get encoded in lexical units which are not necessarily regarded as cultural key words (Gladkova 2010c).

Linguistic research demonstrates that it is possible to formulate cultural rules and understandings that get encoded at the level of languages. In the NSM approach they are called cultural scripts and are formulated using the same list of universal concepts. Goddard and Wierzbicka (2004) refer to cultural scripts as a “powerful new technique for articulating cultural norms, values, and practices in terms which are clear, precise, and accessible to cultural insiders and to cultural outsiders alike” (Goddard and Wierzbicka 2004: 153). Importantly, cultural scripts aim to represent an insider perspective on culture (see Gladkova and Larina [2018b] for an overview).

Emotion concepts, like other concepts, are shown to “exist” against the background of such cultural rules. These cultural rules reflect tendencies of culture-specific ways of thinking, feeling and behaving. For the Anglo-American culture, Wierzbicka (1999) formulates relevant scripts as shown in Table 5.5.

These scripts are very much in line with the meaning of *happy* formulated earlier. Levisen (2014) argues that in Danish culture, the meaning of *lykke* – the equivalent of *happi-*

**Tab. 5.5:** Selected Anglo-American cultural scripts relating to expressing positive feelings (Wierzbicka 1999).

---

***The American “Smile Code*** (Wierzbicka 1999: 242)

many people think like this:

- when I say something to other people
  - it is good if these people think that I feel something good
- 

***“Cheerful” speech routines*** (Wierzbicka 1999: 247)

many people think like this:

- it is good to say often something like this:
- “I feel something very good”

many people think like this: (Wierzbicka 1999: 251)

- it is good to think often that something good will happen
- it is good to often feel something good because of this
- it is good if other people can see this

many people think like this: (Wierzbicka 1999: 266)

when I do something I want to know:

- “I do it because I want to do it
  - not because of anything else”
-

**Tab. 5.6:** Selected Danish cultural scripts (Levisen 2014).***A Danish cultural script for, roughly, “anti-materialism”*** (Levisen 2014: 189)

many people think like this:

it is bad if someone thinks like this:

“I want many things to belong to me

if these many things don’t belong to me, I can’t live well”

---

***A Danish cultural script for, roughly, “savoring the small things in life”*** (Levisen 2014: 189)

many people think like this:

it is good if someone thinks like this:

“good things are happening to me

I want to think about these things like this: ‘These things are small things’

I want to know well what these things are”

if someone thinks like this, this someone can feel something very good at many times

if someone thinks like this, this someone can think at the same time: “I don’t want more”

this is good

---

***A Danish cultural script against the verbalization of “life dissatisfaction”*** (Levisen 2014: 190)

many people think like this:

it is very bad if someone says something like this:

“I have lived for some time

during this time, at many times I didn’t feel something good”

---

***A Danish cultural script against the verbalization of “pessimism/depression”*** (Levisen 2014: 190)

many people think like this:

it is very bad if someone says something like this:

“good things can’t happen to me

I can’t feel anything good anymore”

---

*ness* – is better understood against the background of several Danish cultural rules relating to everyday ethos. In particular, he formulates the series of cultural scripts presented in Table 5.6.

When we have relevant concepts formulated in the same set of metalanguage building blocks, we can identify similarities and differences between the concepts in question. Having background cultural rules formulated in the same set of concepts can also help us understand the comparison better.

As follows from this research, both Anglo-English and Danish concepts involve components of positive feeling (to feel something good). At the same time, they are formulated slightly differently. In the Anglo-English case, they focus on immediate feeling at a particular moment; in the Danish case, a person evaluates the positive feelings that one has experienced before, and they do not necessarily relate to the moment of speech. The prototypical cognitive scenario in the Anglo concept considerably relates to the realization of one “being in control”, and things happening as one wants them to happen. This idea is absent from the Danish concept, which, on the contrary, contains the idea that negative things can be happening in life.

The background of the emotional experiences crystallized in the two languages are also different. For Anglo (American) culture, we notice the importance of experiencing and expressing good feelings, as well as the feeling of being in control of what one is doing.

For Danish culture, the idea of satisfaction with what one has (even if it is not something big) is very salient for understanding the “happy” state. It also relates to the cultural prohibition of expressing one’s state as pessimistic or depressive. In the American culture, the emphasis is put on expressing the good feeling, which is not fully identical with the Danish attitude.

We will now illustrate variation in conceptualization of emotions based on analysis of meanings of some “social emotion” terms in Russian and English. Gladkova (2010b) argues that the English terms *sympathy* and *compassion* differ in meaning from their Russian counterparts *sočuvstvie* and *sostradanie*. These differences are explained by differing cultural understandings.

Based on linguistic data available in corpora, Gladkova (2010b) proposes semantic explications for the terms in question (see Table 5.7).

**Tab. 5.7:** Semantic explications of sympathy, compassion, sočuvstvie, sostradanie (Gladkova 2010b).

---

***sympathy*** (Gladkova 2010b: 272)

- a. person X thought about person Y like this:
  - b. something bad happened to this person
  - c. this person feels something bad because of this
  - d. it is not good
  - e. I don’t want people to feel bad things like this
  - f. when X thought like this X felt something
  - g. like people feel when they think like this about someone
- 

***compassion*** (Gladkova 2010b: 273)

- a. person X thought about person Y like this:
  - b. something bad happened to this person
  - c. this person feels something bad because of this
  - d. I want to do something good for this person because of this
  - e. when X thought like this X felt something
  - f. like people feel when they think like this about someone
- 

***sočuvstvie: ‘person X feels sočuvstvie toward person Y’*** (Gladkova 2010b: 276)

- a. person X knows that something bad happened to person Y
  - b. X knows that Y feels something bad because of this
  - c. when X thinks about it, X feels something bad, like people feel when they think like this
  - d. at the same time X thinks about Y like this:
  - e. I don’t want this person to feel bad things like this
  - f. because of this, I want to do something good for this person
  - g. when X thinks like this about Y, X feels something good toward Y
  - h. X wants Y to know this
- 

***sostradanie ‘person X feels sostradanie toward person Y’*** (Gladkova 2010b: 277–278)

- a. person X knows that something very bad happened to person Y
  - b. X knows that Y feels something very bad because of this
  - c. when X thinks about it, X feels something very bad, like people feel when they think like this
  - d. at the same time X thinks about Y like this:
  - e. I don’t want this person to feel very bad things like this
  - f. because of this, I want to do something good for this person
  - g. when X thinks like this about Y, X feels something good toward Y
-

The meaning of *sympathy* differs from the meaning of its closest equivalent *sočuvstvie* in three respects. First, direct contact with and personal knowledge of the object of the feeling are inherent to *sočuvstvie*, but not *sympathy*. Second, *sočuvstvie* entails two interrelated feelings: sharing a negative experience of the other person and a positive feeling toward him or her. By contrast, linguistic evidence does not support a positive attitude in *sympathy*. Third, ways of emotion display are more varied and visible in *sočuvstvie* than in *sympathy*. *Sočuvstvie* also involves a desire to ease the plight of another person, which is not part of the meaning of *sympathy*.

Two other counterparts – English *compassion* and Russian *sostradanie* – differ in the severity of the person's condition and in the complexity and the expression of the feeling. *Sostradanie* is an emotion response to very severe conditions experienced by another person, whereas *compassion* is appropriate in less serious states. The range of situations that cause *sostradanie* is narrower than those that cause *compassion*. In this respect, *compassion* is closer in meaning to *sympathy* and *sočuvstvie* than to *sostradanie*. *Sostradanie* is a more complex feeling than *compassion*. Like *sočuvstvie*, it involves sharing the emotional experience of another person and developing a positive feeling toward that person. *Compassion*, like *sympathy*, does not involve a positive feeling, but unlike *sostradanie*, it can result in a more helpful attitude toward the object. At the same time, *compassion* is closer to *sočuvstvie* in the array of situations that can cause this feeling and in the emotional expression of it. Therefore, in some contexts *compassion* is best translated into Russian as *sočuvstvie* rather than *sostradanie*. However, *sočuvstvie* and *compassion* are also not fully identical in meaning.

The semantic differences of the terms in questions can be linked with cultural factors. In particular, such differences are noticed for the following aspects: the degree of familiarity between the experiencer and the object, the nature of the feeling, the expression of the feeling, and the range of situations that cause these feelings.

There is a clear difference between the Russian and English words in terms of the degree of familiarity between the person who experiences the emotion and the object of it. In Russian words, there is a tendency for these feelings to be experienced toward people one knows personally or with whom one comes into contact. The Russian words involve an assumption that it is necessary to establish, at least in one's mind, a bond with the people for whom these feelings are experienced. This is not always the case with the English words, which denote feelings which can be elicited by any person. These differences in meanings can be attributed to the prevalence of different models of social interaction in these two cultures.

The Russian models of social interaction rely on the distinction between people one knows well and people one does not know (Gladkova 2013a, 2013b, 2017). This dichotomy is deeply embedded in the Russian lexicon. Thus, the social categories of *svoi/naši* (literally ‘own/ours’), *rodnye* ‘kin’, *blizkie* ‘one's people’, and *druz'ja* ‘friends’ (that is, people one knows well and regards as “someone like me”) are opposed to the social categories of *čuzie* ‘alien people’ and *postoronne* ‘strangers’ (that is, people one does not know and does not regard as “someone like me”). Consequently, the way one treats “close” people in Russia differs from the way one treats people whom one does not know or does not know well. Relations with “close” people are characterized by warmth, openness, and an overt display

of emotions. “Distant” people are treated in a more reserved manner (Larina 2003; Pesmen 2000; Richmond 2009). In the semantics of the words *sočuvstvie*, *sostradanie*, and *sope-reživanie*, we observe that these emotional attitudes are associated with thinking of other people as people who have things in common with the experiencer (they are “like me” – i.e., *svoi*).

Models of social interaction in Anglo culture do not rely to the same degree on the contrast between “close” people and people one does not know. This is evidenced by the lack of encoding of such polarized categories in the English language. While English does use social categories like *family*, *friends*, and *mates* to reflect one’s “close” people, they are not strictly regarded as opposite to the social categories of “strangers” or “alien people” (cf. Wierzbicka 1997).

The Russian and English words also differ in the nature of the feelings. In the conceptual world of Russian speakers, *sočuvstvie* and *sostradanie* involve sharing the emotional experience of another person and feeling something good toward that person. In the Anglo way of conceptualizing emotions, no such tendency is observed. This fact, again, appears to be related to the prevalence of different models of social interaction in these two cultures.

Other differences between the meanings of the Russian and English words are associated with the ways the emotions in question are expressed. Among the Russian words, expression was shown to be most significant for *sočuvstvie*. It is less marked in the case of *sostradanie* because it is restricted by ethical norms. Emotional expression is seen to be less significant in the English words.

The Russian and English words also differ in the overall range of negative situations that are expected to evoke these emotional responses. This fact relates to the different conceptualization of particular states as negative (or otherwise) across cultures. The range of situations to which the Russian words can be applied is wider than that of the English words. As the corpus data suggest, among the Russian words, *sočuvstvie* covers the widest range of negative situations. For example, a necessity to leave home, solitude, or having an unpleasant boss can be considered worthy of *sočuvstvie*, but not necessarily *sympathy* or *compassion*. This difference in the conceptualization of states as negative may be viewed as related to more general cultural assumptions about “control” over one’s life. As other linguistic studies suggest (e.g., Šmelev 2002; Wierzbicka 1992), some linguistic structures in Russian contain ideas about the significant role of the power of outside “forces” over a person’s life; thus more *sočuvstvie* is warranted. By contrast, Anglo culture values independence and control over one’s life; therefore, to think that a person is in a negative situation can be seen as demeaning to that person (cf. Wierzbicka 1999, 2006). For this reason, in comparison to the Russian words, a smaller range of situations is perceived as worthy of the emotional response in the English words.

To sum up, the NSM approach offers a rigorous way of analyzing emotion terms using empirically established lexical universals. It is successful in demonstrating subtle differences in emotion conceptualization and relating them to cultural themes and rules. The NSM has an ability to propose an analysis of emotion terminology which is maximally devoid of an ethnocentric bias and, therefore, can present a great potential for the emotion research in affective sciences. To achieve a more successful compatibility of methodology and ap-

proach, statistical analysis and experimental methods could be used in combination with the NSM (see Gladkova, Vanhatalo, and Goddard [2016] for a pilot study of this kind). We have demonstrated the application of semantic universals in the analysis of emotion terms and we will now turn to the GRID and CMT approaches.

## 2.2 The GRID approach

The GRID approach to the study of emotions was developed at the Swiss Center for the Affective Sciences at the University of Geneva. Like NSM, it views emotion terms as complex constructs comprised of meaningful elements. The GRID proposes a list of about 100 emotion features which correspond to different aspects of emotion experience: event appraisal; bodily experience; facial, vocal, and gestural expression; action tendencies; subjective feelings; and regulation. 144 features were used in the original version (Fontaine et al. 2008), but in more recent studies, a revised list of about 100 features is being used (e.g., Ogarkova, Soriano, and Gladkova 2016). The features were selected from a broad range of literature on emotions. Table 5.8 shows some examples of GRID emotion features and corresponding emotion components (from Fontaine et al. 2007).

The GRID instrument as a feature-rating instrument is used in experimental studies employing native speakers of a language. The respondents are asked to evaluate the likelihood of a particular feature belonging to the meaning of a word in question on a Likert scale from 1 to 9. The statistical analysis of acquired data allows researchers to compare and contrast the semantic constituents of words through the prism of view of these words by native speakers.

The GRID instrument is successful in identifying similarities and differences between similar-in-meaning emotion terms. It has also been shown to be helpful in naming the closest translation equivalents when two or more possible equivalents are available (Ogarkova 2013). Compared to NSM, the GRID instrument has an advantage of using measurable data which can be processed statistically. One could, however, question whether the selected features are representative and detailed enough to represent emotion experience. There is also a question of translatability if one is to acquire cross-linguistic data. The features contain complex vocabulary that might be rendered differently in different languages, thus introducing a bias into research.

**Tab. 5.8:** Emotion features in the GRID approach (Fontaine et al. 2008).

Emotion feature	Emotion component
pressed lips together	face
felt negative	feeling
wanted to break contact with others	action
violated laws or socially accepted norms	appraisal
moved against people or things	gesture
hid the emotion from others by smiling	regulation
muscles tensing (whole body)	body
spoke slower	voice

## 2.3 The CMT approach

The Conceptual Metaphor Theory (CMT) relies on the view that in language, one idea, or conceptual domain, can be understood in terms of another. Emotion is a salient area of research within the CMT since the foundational publications by Lakoff and Johnson (1980), Kövecses (1990, 2000). Research across various languages demonstrates that emotion conceptualization is prone to metaphoric mapping. For example, the following expressions are metaphoric by nature and represent examples of how emotions in language are rendered in terms of other domains (Soriano 2015: 206–207):

- To be in a panic
- To drive to despair
- To fall in/out of love.

Thus, *panic* and *despair* can be conceptualized as a “location” and love as a “container”.

The following modified table from Soriano (2015, table 19.1) offers examples and classification of a metaphoric conceptualization of *anger* in English (see Table 5.9). It demonstrates that *anger* can be conceptualized in terms of fluid, fire, weapon, opponent in a struggle, animal, force of nature, illness, insanity.

The CMT is regarded as part of cognitive linguistics, as it mainly uses corpus methods and data in its studies (Soriano 2015).

The CMT is successful in demonstrating the relationship between emotion, cognition, and bodily experience. Among its limitations, however, is the generalization of emotion experience based on metaphoric extension. Arguably, not all uses of an emotion term can be regarded as metaphoric. Also, labels chosen for metaphoric domains are often arbitrary and can be language-specific, thus introducing an ethnocentric bias into analysis.

**Tab. 5.9:** Conceptual metaphors and linguistic metaphorical patterns in the representation of anger in English (after Soriano 2015).

Conceptual metaphor ( <i>anger</i> is a ...)	Metaphorical patterns
pressured fluid in the body-container	[anger] rise in X, [anger] wells up in X, vent [anger]
fire	[anger] burn, flame of [anger], spark of [anger]
weapon	turn/direct/cast [anger] against (/at/one) Y
hot fluid	[anger] boil, [anger] simmer
opponent in a struggle	flight [anger], conquer [anger]
animal	leash/unleash [anger], fierce [anger]
force of nature	eruption of [anger], storm of [anger]
illness	spasm of [anger], suffer from [anger]
insanity	beside oneself with [anger]

### 3 The interrelation between linguistic findings and theories of emotion in psychology

We have given an overview of the three most representative approaches to studying emotions in linguistics. We will now identify their links with theories of emotion in psychology. We will conclude with possible ways of their mutual enrichment.

The NSM approach to defining emotion terms was influenced by the notion of prototype effects in cognitive sciences. Rosch's (1977, 1978) studies advocated the idea that some representatives of a category can serve better as examples of this category than others. Similarly, explications of emotion terms worded in universal human concepts represent a prototypical cognitive scenario and a prototypical feeling characteristic of a particular emotion. It is unlikely that all humans experience the same emotion in absolutely the same way; however, naming a prototypical situation or a prototypical scenario with which an emotion can be associated assists in providing its definition. At the same time, current linguistic approaches to studying emotions also accept that emotions involve multiple features which are related to each other in a complex way, thus correlating with further developments in cognitive science (Murphy 2002).

Another very important aspect in understanding emotions shared by both disciplines is their complex nature. While the GRID approach uses the classification from psychology to identify emotion components (e.g., appraisal, gesture, action), it is also possible to observe such tendencies in the representation of emotion terms in the NSM approach. The NSM does not strictly follow the divisions accepted in psychology, but similar ideas are worded using universal human concepts as NSM aims to avoid complex terminology so that all elements of meaning can be accessible to laypeople. Within the CMT, the distinction of different elements of meaning in emotions is essential. It is aligned with different conceptual metaphors identified for a particular emotion.

The linguistic studies of emotions are inspired by different theories of emotions in psychology. The social constructivist approach (Harré 1986) is the one that is shared by all linguistic approaches. In modern linguistic studies, the interrelation between emotion conceptualization, culture, and society is most accepted. All the mentioned approaches have been inspired by the views of Humboldt as well as Sapir and Whorf that there exists a relationship between language, culture and society (Humboldt [1836] 1971, [1836] 1988; Sapir 1949; Whorf 1956).

Different approaches can vary in their level of acceptance of the Sapir-Whorf hypothesis, but the fact of its salience is not questioned. The NSM demonstrates a link between the meanings of emotion terms and relevant cultural ideas formulated in the form of cultural scripts using the same set of universal human concepts. Needless to say, it is also extremely successful in identifying cross-linguistic differences. The GRID approach is also successful in showing similarities and differences between translation equivalents of emotions across languages. Based on the acquired information, the relation to culture is hypothesized using sociocultural theories. The CMT identifies cultural differences at the level of thought patterns influencing the meaning of emotion terms.

Regarding other theories of emotion, linguistic approaches align themselves mainly with the Cognitive Appraisal Theory (Lazarus 1991). NSM explications of emotion terms

identify prototypical cognitive scenarios as the “triggers” of emotion experience. Similar ideas are also found in the GRID and CMT approaches.

The Theory of Basic Emotions (Ekman 1992, 2004) is heavily debated in linguistics and, overall, linguistic research questions the idea of universality and basicness of certain emotions. As has been demonstrated with the NSM empirical research on human universals, there is not a single emotion term that can claim linguistic universality. It also does not share the idea that certain emotions can be seen as a combination of other emotions (e.g., delight = joy + surprise). The NSM approach is capable of demonstrating similarities in the meanings of emotions, but each emotion is seen as a unique set of components.

In the concluding section we will discuss possible synergies between linguistic and psychological views on emotions.

## 4 Toward mutual enrichment

In synergy with a philological tradition, modern linguistic approaches have acquired significant evidence on variation in emotion conceptualization across languages. The most salient message that linguistics needs to send to psychology in the first quarter of the 21st century is that emotions are multi-faceted phenomena which are significantly affected by language and culture. Consequently, any research on emotions needs to recognize such cultural variability and avoid the use of overarching terms of one language (English as of today) as a representation of “universal human” tendencies (e.g., *happiness*, *sadness*, *pride*).

To avoid an ethnocentric bias in emotion research, Wierzbicka (1999) makes a case for the use of universals inferred from empirical linguistic research. In particular, Wierzbicka hypothesizes that the following emotion-related “universals” can be formulated:

1. All languages have a word for FEEL.
2. In all languages, some feelings can be described as “good” and some as “bad” (while some may be viewed as neither “good” nor “bad”).
3. All languages have words comparable, though not necessarily identical in meaning, with *cry* and *smile*; that is, words referring to bodily expression of good and bad feelings.
4. In all cultures people appear to link some facial gestures with either good or bad feelings, and in particular, they link the raised corners of the mouth with good feelings [...] whereas turned down corners of the mouth or a wrinkled nose appear to be linked with bad feelings.
5. All languages have “emotive” interjections (i.e., interjections expressing cognitively based feelings).
6. All languages have some “emotion terms” (i.e., terms designating some cognitively based feelings).
7. All languages have words linking feelings with (i) the thought that “something bad can happen to me”, (ii) the thought that “I want to do something”, and (iii) the thought that “people can think something bad about me”; i.e., words overlapping (though not identical) in meaning with the English words *afraid*, *angry*, and *ashamed*.

8. In all languages, people can describe cognitively based feelings via observable bodily “symptoms” (i.e., via some bodily events regarded as characteristic of these feelings).
  9. In all languages, cognitively based feelings can be described with reference to bodily sensations.
  10. In all languages, cognitively based feelings can be described via figurative “bodily images”.
  11. In all languages, there are alternative grammatical constructions for describing (and interpreting) cognitively based feelings.
- (Wierzbicka 1999: 275–276)

Wierzbicka (1999) acknowledges that some of these proposals are still at the stage of a working hypothesis; however, by now linguistic research on emotions has accumulated undeniable evidence on the linguistic and cultural variation in this domain (e.g., Alba-Juez and Larina 2018; Altarriba 2003; Goddard and Ye 2014; Scherer, Fontaine, and Soriano 2013; Wierzbicka 1999, 2018). Therefore, research in affective sciences needs to consider linguistic variation in emotion conceptualization and develop research tools that indeed could account for human diversity and uniqueness at the same time.

The linguistic approaches discussed in this chapter offer important insights and potential for future developments. The NSM approach proposes a universal human concept that can be used in studies of emotions and resolves the issue of ethnocentrism in research. The GRID approach is a fine measurable tool for the comparison of emotions. The CMT gives direction for seeking the connection between emotion, cognition, and bodily experience.

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## 6 Psychological theories of emotion and their relationship with language

- 1 Introduction
- 2 Emotions scaled
- 3 Emotions categorized
- 4 Emotions appraised
- 5 Emotions under construction
- 6 General conclusions and future directions
- 7 References

**Abstract:** This chapter traces the complicated history of language as an aspect of different emotion theories over the last century. Historically, emotion theorists conceived of emotions phenomenologically as psychosomatic states contingent upon neuronal activation or physiology. Language, typically considered only as emotion terms denoting the theorized emotion states, would largely be seen as theoretically irrelevant. Words denoting emotions were procedurally significant in empirical studies but were believed to have no impact on the nature of emotional experience or expression. Both the experience and the expression of emotions were investigated largely in the non-verbal channel of communication. Contemporary theories often increasingly include language as a component of emotion, frequently encompassing a range of affective language beyond just emotion terms in both theoretical and empirical approaches. This chapter traces the evolution of two leading paradigms and the two most advanced theories of studying emotions in psychology, focusing on how all these approaches construed emotions, emotion concepts, and the relationship between emotions and language. The current state of the emotion theory and overall research directions are reviewed to demonstrate the systematic effort towards a reconciliation of the different theoretical positions and empirical approaches into a comprehensive theory of emotions.

### 1 Introduction

The statement that a commonly accepted definition of “emotion” does not exist has become the *sine qua non* of every empirical venture into the questions pertaining to matters of human emotionality. The crux of the problem is not the lack, but rather the overabundance, of definitions, all varying in scope and focus. The last attempt to catalogue definitions of emotion in active use in what Scherer (1993) calls emotion psychology was carried out in 1981 by Kleinginna and Kleinginna and resulted in 92 unique definitions. The authors pro-

vided a classification for their collection based both on the subfields of psychology that the definitions originated from and their overall focus, which allowed them to determine certain commonalities amidst the multitude. Throughout the history of the systematic study of emotions, however, the overarching paradigms and theories on the nature of emotional phenomena have had a much greater impact on this field than any single definition.

The history of emotion psychology in all its theoretical, empirical, and human spectra has recently been the subject of several analytical (Plamper 2015) and critical (Leys 2017) works. The common reflection presented in these exercises in the history of thought is that, in essence, there appears to be four major approaches to emotions in psychology today, two of which fit the definitional criteria for scientific paradigms and two that fit most of the criteria to be called proper scientific theories. The dimensional paradigm is based on the assumption that emotion states (however they are defined) are measurable along bipolar dimensions such as *valence*, *arousal*, and *dominance*. The basic emotions paradigm is built on the assumption that there are at least six basic, pancultural emotions indexed by discrete, dedicated facial expressions. In appraisal theory, emotions are defined as states emerging out of appraisals – the meaningful links people make between their sense of self and the relevant stimuli evoking emotions. In psychological construction, emotions are defined as *ad hoc* constructs built from a combination of relatively stable mental representations and the influence of a dynamically changing contextual situation.

The dimensional and basic emotions paradigms produce much empirical evidence with important implications for any potential definition or comprehensive theory of emotion. However, they are themselves based on narrow operational definitions of emotions and encompass tightly defined ranges of phenomena involved in emotional experience and expression. The appraisal and psychological construction theories are wide in scope, and through their integrative premises, they recruit evidence from outside their strict premises to support some of their tenets. These theories strive to capture the nature of emotions and define them. They both hold that emotions are multi-layered phenomena composed *ad hoc* from the sum of physiological, neurological, behavioral, subjectively evaluative, and interactional components. While the base assumption that emotions are made up of many intertwined components would be accepted by most researchers and theorists of emotion, those working within appraisal and construction make this the focal point of their work.

All extant paradigms and theories are the result of decades of thought and experimentation involving emotions, and their positions have not always been what they are today. One overarching conclusion from a historical review of how these approaches evolved must be that they are far less contradictory than the narrative of each would make it seem. The dimensional approaches make regular use of basic emotion terms in their procedures. Early versions of basic emotion approaches viewed them as continuous dimensions. Appraisal and construction theories both incorporate components of both paradigms. Empirically, every one of these approaches has managed to produce evidence that supports its key tenets to the satisfaction of its main assumptions. What each failed to produce is evidence that would fundamentally disprove the others.

The most recent development across emotion psychology has been the attempt to reconcile the existing positions through empirical data, largely with the help of big data analysis methods (cf. Cowen and Keltner 2017; Fontaine, Scherer, and Soriano 2013). This devel-

opment is largely driven by changing positions on the role of language and its impact on how emotions are investigated and conceptualized (Barrett 2020; Cowen et al. 2019). The language of emotions, most pertinently emotion terms, has been an issue addressed intermittently on different levels of analysis in the different approaches. While the historically shifting positions of various emotion researchers regarding language can be described in a variety of ways, they all appear to gravitate towards the conclusion that emotion concepts and how they are lexicalized has an important influence on emotion processing. This position, long accepted in linguistics, is only now gaining the status of general consensus across the various approaches to emotion research in psychology. In the following sections, I will trace the evolution of this idea across the dimensional and basic emotions paradigms, as well as the appraisal and psychological construction theories.

## 2 Emotions scaled

The dimensional paradigm of emotion research has gone through four distinct stages of development, and the core notion of specific dimensions underlying emotions has gone through several different incarnations. Today, the three dimensions of *valence*, *arousal*, and *dominance* are most frequently mentioned within the dimensional paradigm (cf. Table 6.1), although in practice, many researchers stand by a two-dimensional model which excludes the *dominance* dimension (cf. Table 6.2). The initial theoretical premise was laid out at the turn of the 20th century by the father of experimental psychology, Wilhelm Wundt. Following the behavioral research gap which stretched from the 1920s to the 1950s, when research on emotions in psychology markedly slowed down, the second stage was one of intense experimentation. In a series of seminal studies carried out between the 1950s and the late 1970s, through systematic statistical investigation of empirical data, researchers operationalized and verified Wundt's key dimensions, which now form the functional axes of the theory. Between the 1980s and 2000s, the theoretical premise has been reinvented and reorganized, largely by James A. Russell, based on the cumulative results of existing research and the increasing dialectic pressures from the leading basic emotions paradigm. Starting from the mid-1990s, a new empirical approach began to emerge which critically focused on compiling large databases of emotion expressions of various modalities evaluated for *valence*, *arousal*, and *dominance* for the purpose of general research application. These databases pushed the paradigm to align itself with the emerging field of sentiment analysis and served as a great means of stabilizing the observed effects across the paradigm.

The fundamental notion that emotions can be characterized using scalar ratings of hedonic pleasure and subjective intensity was first systematically proposed by the father of experimental psychology, Wilhelm Wundt. For Wundt, human experience formed a complex continuum from the unconscious to the consciously appraised, from simple physical sensations to emotions (Wundt 1894). Wundt's view of human emotional experience was thus monistic, meaning it encompassed in one brief, but temporally dynamic, moment of conscious appraisal all aspects of sympathetic, parasympathetic, behavioral, and expressive excitation (Wundt 1894). Emotions could be evoked by both internal and external stimu-

Tab. 6.1: The core dimensions of affect within the dimensional paradigm – a historical overview.

	Hedonic pleasure	Intensity	Engagement	Control
Wundt (1894, 1902)	quality (pleasantness-unpleasantness) ↓ pleasantness (pleasantness-unpleasantness)	intensity (arousal-subduction) ↓ activation (tension-sleep)	tension (strain-relaxation) ↓ motivation (attention-rejection)	x – x
Schlosberg (1952, 1954)				–
Nowlis and Nowlis (1956)	↓ hedonic tone (pleasantness-unpleasantness) ↓ pleasantness-unpleasantness	↓ activation (high-low) ↗ intensity + activation	↓ social orientation (attraction-rejection) ↖	– control (in-out of) ↓ x
Abelson and Sermat (1962); Green and Cliff (1975)	↓ evaluation	↓ activity		
Osgood, May, and Miron (1975)	↓ pleasantness-unpleasantness	↓ arousal + activation		– potency ↓
Averill* (1975)	↓ pleasure (pleasant-unpleasant)	↓ arousal		control ↓
Russell and Mehrabian (1977)	↓ valence (positivity-negativity)	↓ arousal		dominance (high-low) –
Russell (1980, 1983, 1989)	↓ valence (positive-negative)	↓ arousal		– x
Bradley and Lang (1994) – present	valence (positive-negative)	arousal (high-low)		dominance (high-low)

\*Averill additionally proposed 'depth of importance' as a fourth semantic dimension.

**Hedonic pleasure:** The dimensions focused on the subjective perception of pleasure.**Intensity:** The dimensions focused on the subjective perception of the level of emotion intensity.**Engagement:** The dimensions focused on the overall levels of physiological and behavioral activation.**Control:** The dimensions focused on the subjectively evaluated level of control over an emotion state.

li and themselves evoke both *approach (excitant)* and *avoidance (inhibitory)* behaviors (Wundt 1902). For Wundt, ontologically, all emotions derived from *joy* and *sorrow*, and evolved into expressively and experientially more complex and varied forms through a combination of innate psycho-physiological factors and the influence of enculturation (Wundt 1894).

To meaningfully differentiate between different emotional experiences, Wundt proposed rating them on three scales reflecting fundamental affective dimensions: *quality (pleasant to unpleasant)*, *intensity (arousing to subduing)*, and *tension (strained to relaxed)* (Wundt 1902). These ratings would have to be obtained empirically, with the strictest mathematical rigor according to the principles of the scientific method (Benjamin et al. 1992; Kim 2014). To that end, he tentatively proposed that language might be the perfect gateway to systematically investigate the nature of emotional experience, as emotion terms were meaningfully linked with their concepts (Hall 2003). Nevertheless, he also anticipated that such an instrumental treatment of language would have to address the perennial issues of the inherent ambiguity and variability of language (Wundt 1894). Wundt's scales, his focus on empiricism and careful use of language would become the principal tenets of the dimensional paradigms in all their later evolutions.

The period of time between the 1920s and 1950s saw psychology intensely focused on behavioral, physiological, and neuropsychological studies, wherein emotions were reduced to components of stimulus-response reactions (Averill 1983). While Watson and Rayner (1920) explored fear conditioning, Landis (1924) pioneered evoking emotions and the use of photography in facial expression research, and Cannon (1931) worked out the details of his thalamic theory, the theoretical work on the nature of emotions stagnated. The only exception to this rule was Robert S. Woodworth's continuous work on his *Experimental Psychology* (Woodworth 1938), which replaced James' *Principles* as the core text in the field of psychology. The Columbia Bible, as it was called by its contemporaries, was focused and data-driven where the *Principles* were broad and intuitive, and it preached a strict empirical approach and building explanatory models on firm abductive reasoning and rigorous testing (Winston 1990). These were the principles which guided the first working dimensional model of emotion processing proposed by Harold Schlosberg. Built on the pioneering work of Marjory L. Brown (Schlosberg 1952) and verified in facial emotion expression recognition studies, Schlosberg's model had three bipolar dimensions: *pleasantness-unpleasantness*, *sleep-tension*, and *attention-rejection*. He visualized the first two arrayed on a plane cross-wise at the base of a cone, the height axis of which was formed by the lattermost (Woodworth and Schlosberg 1954). This conceptualization was explicitly modelled on the Munsell color wheel (Schlosberg 1954). Echoes of this model would later be observed in others' works. Russell's circumplex (1980) utilized the idea of two intersecting dimensions on a circular base. The conical shape of the affective space, paired with certain dimensions of human personality, would later develop into Plutchik's model of emotions and personality (Plutchik and Kellerman 1989).

Schlosberg's works in the 1950s marked the revival of interest in emotions in the field of psychology. The research carried out between the 1950s and 1970s would follow one of two principal directions. One line of research was the externalist emotion recognition approach, which sought ways to eliminate language as a factor through procedures that relied

on scales anchored on the face (Abelson and Sermat 1962) and vocal tone (Green and Cliff 1975). Researchers in this line saw language as inherently ambiguous, meaning words could merely signal, but not fully denote, the entire scope of what an emotional experience was. The other line of research would, in contrast, focus on language as medium of introspection for validly measurable self-report of emotional states. This began with Nowlis and Nowlis' (1956) longitudinal study of mood structure, which was largely based on self-report questionnaires composed of emotional adjective checklists. The diagnostic tool they designed was essentially a prototypical version of the Positive and Negative Affect Scale (PANAS) (Watson, Clark, and Tellegen 1988), a tool often used today to control for the effects of emotion induction procedures. Based on their results, Nowlis and Nowlis deduced the existence of four binary dimensions of affect: *hedonic tone* (*pleasantness* to *unpleasantness*), *social orientation* (*attraction* to *rejection*), *activation* (*high* to *low*), and *control* (*fully in control* to *out of control*). Between the two lines of research within the emerging dimensional paradigm, two stable dimensions began to emerge: *valence* (measured on a scale of subjective hedonic pleasure) and *arousal* (statistically shown to be the overarching measure composed of what Wundt called *intensity* and *tension*, and Schlosberg called *motivation* and *activation*). The third dimension of *dominance* (subjective sense of control over one's emotional response) would be proposed somewhat later and would only be accepted by some.

Between the 1960s and 1980s, language would continue to play a role in the evolving dimensional paradigm and multiple studies delved into the nature of the relationship between language and emotions. Davitz (1969) compiled one of the first psychological dictionaries of emotion, Bush (1973) studied problems of individual differences in emotion evaluations, and Averill (1975) focused on the structure of emotion concepts in his seminal *Semantic Atlas of Emotion Concepts*. Averill was one of the first to substantiate *dominance* as a key component of emotional meaning. He reached this conclusion based on the results of semantic analysis, the same method used by Osgood, May, and Miron (1975) in their study, which spanned 22 languages and cultures. Their results indicated that beyond the idiosyncrasies of grammar, three semantic dimensions appear consistently throughout: *evaluation* (corresponding to *valence*), *potency* (corresponding to *dominance*), and *activation* (corresponding to *arousal*). With the three dimensions deductively crystallizing within the paradigm, the research focus began shifting to verification. From Russell and Mehrabian (1977) to Clore, Ortony, and Foss (1987), researchers focused on compiling lists of words with some emotional meaning and having them evaluated on three bipolar scales of *valence*, *arousal*, and *dominance*. Studies like these and their follow-ups cemented these three dimensions as the cornerstone of the dimensional paradigm (Clore and Ortony 1988).

Still, some researchers within the paradigm, including its leading proponent, James A. Russell, do not find the evidence for the reliability of the *dominance* dimension convincing. Working together with his mentor, Albert Mehrabian, and building on evidence from clinical psychology (Borgatta 1961; Clyde 1963; Izard 1972; McNair and Lorr 1964), Russell initially defined *valence*, *arousal*, and *dominance* as the key motivational links between external stimuli and stimulus-specific behaviors. Later, he abandoned this idea in favor of a model based on two intersecting bipolar axes of *valence* (horizontal) and *arousal* (vertical). In the research that followed, Russell found evidence, first in English (Russell 1980), then in a range of other languages (Russell 1983), that words denoting emotions evaluated on

his bipolar scales form a circular array he would call a circumplex (Russell 1980). The circumplex would later become the empirical foundation for his own hypothesis of Minimal Universality, which posited that above-chance accurate inferences about others' emotional states can be made, though only on the basic levels of discrimination, such as the dimensions of *valence* and *arousal* (Russell 1995). The circumplex also proved an effective tool to statistically demonstrate the prototypical structure of emotion concepts (Russell 1983). Russell would go on to replicate the evidence for the circumplex in other languages (Russell, Lewicka, and Niit 1989), though his focus would shift to integrating his findings with those of other theories and paradigms, notably that of psychological construction (Russell and Barrett 1999) and the Behavioral Ecology View (Fridlund and Russell 2006). In the meantime, the model that did include *dominance* as one of the core dimensions of affect would persist in the next evolution of the paradigm.

The lack of consensus on the *dominance* dimension within the paradigm may have come from specific inconsistencies in experimental procedures. The majority of research throughout the period of revived interest in emotions followed simple and reliable procedures but was based on collections of stimuli created *ad hoc* for the purposes of each study. The obvious step to address this design weakness would have been the creation of a large database of normed stimuli, which could then be used for multiple studies and generate more stable and reliable results. This was the solution proposed and pursued by the Center for the Study of Emotion and Attention at the University of Florida under the lead of Margaret M. Bradley and Peter J. Lang. Ever sensitive to the problem of language ambiguity, they first developed the Self-Assessment Manikin (SAM), a system of scalar evaluations of emotions across the dimensions of *valence*, *arousal*, and *dominance* using 9-point scales illustrated with hominine figures which represented the meaning of the scales without anchoring them verbally (Bradley and Lang 1994). SAM has since been used to compile three of the most influential large norming databases of stimuli: the International Affective Pictures Database (IAPS) (Lang, Öhman, and Vaitl 1988; Lang, Bradley, and Cuthbert 1997), the International Affective Digital Sounds (IADS) (Bradley and Lang 1999a, 2007), and the Affective Norms for English Words (ANEW) (Bradley and Lang 1999b, 2017).

Large databases of stimuli annotated with the requisite psychometric data not only aid research by providing validated stimuli, but also allow for valid comparisons across multiple studies, strengthening results by providing convergent validity across multiple data sets. They also allow for in-depth analyses of the base assumptions within the dimensional paradigm. These are the key reasons why compiling and adapting databases in multiple languages is currently the most dynamically developing field within the dimensional paradigm. Since its inception, IAPS has been adapted into Brazilian Portuguese (Ribeiro, Pompéia, and Bueno 2005), Chilean Spanish (Silva 2011), European Portuguese (Soares et al. 2015), Serbian and Hungarian (Grabovac and Deák 2019). IADS has been adapted into Spanish twice (Fernandez-Abascal et al. 2008; Redondo et al. 2008), European Portuguese (Soares et al. 2013), and Korean (Choi et al. 2015). Images and sounds are extremely difficult to produce at consistent quality and sufficient variety for research purposes, as both are always mired in costly copyright issues. They also have the tendency to become dated through rapid advances in imaging and audio technology. Therefore, only a few new databases of this nature have been attempted so far. Databases containing a variety of pictures

with at least some of the affective dimensions include the Geneva Affective Picture Database (GAPED) (Dan-Glauser and Scherer 2011), the Nencki Affective Picture System (NAPS) (Marchewka et al. 2014), the Open Affective Standardized Image Set (OASIS) (Kurdi, Lozano, and Banaji 2017), and the EmoMadrid Database (Carretié et al. 2019). Databases of sounds annotated with *valence* and *arousal* norms include the Montreal Affective Voices (MAV) (Belin, Fillion-Bilodeau, and Gosselin 2008), and the Oxford Vocal (OxVoc) Sounds database (Parsons et al. 2014).

Unlike images or sounds, however, language is not bound by copyright or issues of quality and does not require specialist recording equipment. The accessibility and relative ease of working in this medium to investigate emotions might explain why ANEW in particular was disproportionately appealing to researchers in the field. The database itself has been adapted into six languages so far: Spanish (Redondo et al. 2007), European Portuguese (Soares et al. 2012), German (Schmidtke et al. 2014), Italian (Montefinese et al. 2014), Polish (Imbir 2015), and Turkish (Torkamani-Azar et al. 2019). For the most part, these adaptations relied on translation equivalents from the original English into other languages. This opened up an opportunity for large-scale comparisons of the three dimensions, *valence*, *arousal*, and *dominance*, across hundreds of translation equivalents across several languages. Around the same time, a better-coordinated effort to document systematic differences between 142 dimensions of meaning for 24 emotion terms in 34 languages was underway within appraisal theory (see Section 4). While within the dimensional paradigm the comparisons only included three dimensions, the sheer number of words compared on these dimensions offered valuable insights into the semantics of emotions. Differences in measures of *valence* and *arousal*, often significant ones, were found between English and languages like Spanish (Redondo et al. 2007), European Portuguese (Soares et al. 2012), German (Schmidtke et al. 2014), and Turkish (Torkamani-Azar et al. 2019). Likewise, in contrast with English, gender differences in the evaluations of *valence* and *arousal* were reported for Portuguese (Soares et al. 2012), Italian (Montefinese et al. 2014) and Polish (Imbir 2015). These findings indicate that on linguistic grounds, even dimensions as seemingly fundamental as *valence* and *arousal* are subject to significant variation across languages. To date, at least 20 databases of affective language exist in different languages, although they largely only include the dimensions of *valence* and *arousal* and are often based on verbally anchored measures, which may potentially skew the results (Table 6.2).

One interesting development within this field has been the retroactive addition of basic emotion norms to the existing affective language databases. This practice is a mark of the palpable need to include the construct of basic emotions in research based on big data analysis. Furthermore, it reflects the ongoing push towards a reconciliation of the dimensional and basic emotion paradigms, heretofore posed as opposite camps in a long debate over which is closer to the “truth” about the nature of emotions (Russell 1994; Ekman 1998).

Stevenson and James (2008) asked their participants to listen to each of the sounds included in IADS and use 9-point scales of *anger*, *fear*, *disgust*, *sadness*, and *happiness*. They were thus able to expand IADS norms by mean scores of five basic emotions. Mikels et al. (2005) asked their participants to categorize all negative IAPS images into *anger*, *fear*, *disgust*, and *sadness*, while designating all positive images as *happiness*. This allowed for a limited, but fairly robust, added dimension of categorical basic emotions to be added to

**Tab. 6.2:** A summary of the available affective language databases within the dimensional paradigm.

Source	Language	Size	Valence	Arousal	Domi-nance	Scales	Other measures
Strauss and Allen (2008)	English	463	✗	✓	✗	7-point, verbally anchored	<i>emotion categorization (happiness, sadness, anger, anxiety, fear, disgust, neutral, and surprise)</i>
Võ et al. (2009)	German	2,900	✓	✓	✗	7-point verbally anchored for valence, 5-point SAM for arousal	
Lahl et al. (2009)	German	2,654	✓	✓	✗	11-point, verbally anchored	<i>concreteness</i>
Kanske and Kotz (2010)	German	1,000	✓	✓	✗	9-point, SAM	<i>concreteness</i>
Eliola and Havelka (2010)	English and Finnish	210	✓	✓	✗	9-point, verbally anchored	<i>offensiveness, concreteness, familiarity</i>
Ferré et al. (2012)	Spanish	380	✓	✓	✗	9-point, numbered SAM	<i>concreteness, familiarity</i>
Gilet et al. (2012)	French	835	✓	✓	✗	7-point verbally anchored for valence, 5-point SAM	<i>imageability</i>
Monnier and Syssau (2013)	French	1,031	✓	✓	✗	9-point, verbally anchored	<i>n/a</i>
Warriner, Kuperman, and Brysbaert (2013)	English	13,915	✓	✓	✓	9-point, verbally anchored	<i>n/a</i>
Moors et al. (2013)	Dutch	4,300	✓	✓	✓	7-point, verbally anchored	<i>age of acquisition</i>
Söderholm et al. (2013)	Finnish	420	✓	✓	✗	7-point, verbally anchored	<i>n/a</i>
Citron et al. (2015)	German	619	✓	✓	✗	7-point, verbally anchored	<i>familiarity, semantic transparency, figurativeness, concreteness</i>
Riegel et al. (2015)	Polish	2,902	✓	✓	✗	7-point verbally anchored for valence, 5-point SAM	<i>imageability</i>
Lin and Yao (2016)	Chinese	372	✓	✓	✗	7-point verbally anchored for arousal, positive/negative/neutral categorization	<i>n/a</i>

Tab. 6.2 (continued)

Source	Language	Size	Valence	Arousal	Domi-nance	Scales	Other measures
Yao et al. (2017)	Chinese	1,100	✓	✓	✗	9-point, verbally anchored	concreteness, familiarity, imageability, context availability
Mukherjee and Heise (2017)	Bengali	1,469	✓	✓	✓	7-point, verbally anchored	n/a
Stadthagen-Gonzalez et al. (2017)	Spanish	14,031	✓	✓	✗	9-point, verbally anchored, numbered	word prevalence
Liu et al. (2018)	Chinese	2,076	✓	✗*	✗	9-point, verbally anchored	n/a
Scott et al. (2019)	English	5,500	✓	✓	✓	9-point, verbally anchored	concreteness, imageability, familiarity, age of acquisition, semantic size, gender association
Verheyen et al. (2019)	Dutch	1,000	✓	✓	✓	7-point, verbally anchored	age of acquisition, familiarity, concreteness, and imageability

\*In Liu et al. (2018) the scales of valence and arousal were merged into one scale of positive/negative emotion intensity.

**Size:** indicates the total number of entries in the database.

**Scales:** annotations indicate what types of scales were used; SAM indicates a non-verbal scale using some variety of the SAM illustrations.

**Other measures:** indicates whether and what measures other than valence/arousal/dominance were used.

✓ indicates a given dimension was measured in the study.

✗ indicates a given dimension was not measured in the study.

the set. Working off the assumption that both the classic dimensions of *valence* and *arousal* and basic emotion categories should be included in newly compiled databases, Sutton, Herbert, and Clark (2019) included both in their picture database of candid facial expressions. The categories of basic emotions they included were *anger*, *sadness*, *happiness*, and *other* (than the three named).

Once again, the language databases proved the most productive, with at least eight studies in various languages, adding scalar ratings of basic emotions to existing measures of *valence*, *arousal*, and *dominance*. Thus, basic emotions ratings have been retrofitted to affective lexicons in English (Stevenson, Mikels, and James 2007; Strauss and Allen 2008), German (Briesemeister, Kuchinke, and Jacobs 2011), French (Ric et al. 2013), Polish (Wierzbicka et al. 2015), and Spanish (Hinjosa et al. 2016; Ferré et al. 2016; Stadthagen-González et al. 2018). All of these basic emotion retrofit studies included at least five of the six basic emotions proposed by Paul Ekman: *happiness*, *sadness*, *anger*, *fear*, and *disgust*. The only exception was Strauss and Allen (2008), who included *neutral* and *anxiety* categories, as well.

Ultimately, the main strength of the dimensional paradigm is its excellent fitness to systematically map emotion concepts, and to do so through language, while remaining relatively unaffected by relativistic effects of culture variation. The research within the field appears to drift naturally towards big data paradigmatic cross-linguistic research, which is already starting to yield interesting results. The core dimensions of *valence*, *arousal*, and *dominance* appear both basic enough to translate well across languages and sensitive enough to register differences (Redondo et al. 2007; Soares et al. 2012; Schmidtke et al. 2014; Torkamani-Azar et al. 2019). As most of the research within this paradigm is carried out using language, it is also noteworthy that the paradigm has reached the conclusion that emotion concepts underlying emotion words have prototypical structure with fuzzy boundaries. This conclusion has been the staple of cognitive linguistics since the conception of the field on a foundation of Rosch's (1978) model of cognition in cognitive psychology. The notion that human perceptions of objective reality are imperfectly but tractably reflected in language in ways that allow universal semantic primitives to be determined is at the heart of the linguist Anna Wierzbicka's construct of Natural Semantic Metalanguage (NSM) (Wierzbicka 1986). Not incidentally, the NSM does include the basic meanings corresponding to both *valence* and *arousal* (Harkins and Wierzbicka 2001: 12). Furthermore, Russell (1983) independently arrived at the notion of prototypical structure of concepts and applied it to emotions. With the push towards research using big data and language within the dimensional paradigm, the structure of emotion concepts across multiple languages could be mapped in ways that would allow systematic comparisons (see Section 4 for such a mapping project carried out within appraisal theory).

### 3 Emotions categorized

Because it is so firmly rooted in physiology, the basic emotions paradigm has not been as seriously affected by the behavioral gap in emotion research as other paradigms or theories. There were neurobehavioral insights from the “Little Albert” (Watson and Rayner 1920) and decortication (Cannon 1931) studies, the procedural stepping stones in the use

of photography and video (Landis 1924), and theoretical progress in the works of Woodworth (1938). In spite of this relatively good continuity of thought, the evolution of the categories that today bear the designation of “basic emotions” in psychology is not straightforward. Within this paradigm today, emotion terms are merely simulacra, meaning necessary placeholders for emotion concepts as conceived within the paradigm, though this has not always been the case. The relationship of emotion concepts and the terms used to denote them has been a great deal more complicated than in the dimensional paradigm. A summary of the evolution of the basic emotion categories within this paradigm is presented in Table 6.3. The basic theoretical premise of the paradigm is rooted in the works of Charles Darwin (1872) and William James (1890). The tenets were operationalized in a step-wise fashion by Woodworth (1938), Tomkins (1962), and Izard (1977). However, it is Paul Ekman’s version of the theory first proposed in 1969 (Ekman, Sorenson, and Friesen 1969) that would prove the most influential and enduring. Uniquely among the different approaches to emotion research in psychology, Ekman’s view stood with minimal changes for over half a century of research and theorizing.

The contemporary basic emotions paradigm is often traced back to Charles Darwin’s (1872) *The Expression of Emotions in Man and Animals*. Over the years, a lot of emphasis has been put on Darwin’s studies of facial expressions of emotion and on the rudimentary categorization of said expressions into what seemed like discrete categories (cf. works by Tomkins 1962; Izard 1972; Ekman and Friesen 1971). What this selective viewing of Darwin’s work usually overlooks is the fact that his observations about emotional expressions ran the gamut of bodily and vocal expressions. It also seems to overlook Darwin’s own admission that his categorization of expressions was completely subjective and arbitrary (Darwin 1872: 86). Darwin’s overall purpose in analyzing emotional expressions was to once more illustrate the continuity from animal to man, a further evidence of human kinship with and evolution from animal ancestors (Gross 2010). Contrary to the radical universalism that would characterize basic emotion theories a century later, Darwin did believe a range of emotional behaviors was culturally acquired (Darwin 1872: 140). Also, perceptively, Darwin noted that language is a critical factor in emotion recognition, and that identifying emotions through forced choice of verbal labels yields significantly different results than it does through free labelling (Darwin 1872: 61). One thing Darwin never did in his account was to define emotions phenomenologically – that is, as objects of direct, conscious experience. His focus was studiously descriptive in analyzing expressions of emotions, an approach embraced and reinvented for the modern era of psychology research in the Behavioral Ecology View of emotions (BECV) by Alan Fridlund a century later (Fridlund 2014). The man who would lay the foundation of a phenomenological definition of emotions for the basic emotions paradigm would be William James.

The James-Lange theory of emotions, as it is known, was propounded by William James and Carl Lange, who both arrived at the same conclusion about the nature of emotions independently at almost the same time. William James came upon the notion based on voluminous reading and serendipitous introspection (Goodman 2013). Carl Lange, a diligent practitioner of physiology and medicine, worked it out through meticulous empirical work (Titchener 1914). Lange’s (1885) neurophysiological explanation of the emotional response pathways would later be heavily criticized by Walter B. Cannon (1914), whose tha-

lamic theory seemed to undermine some of its basic premise. Cannon's critique would later evolve into the Cannon-Bard theory of emotions (Dror 2014). James' neuropsychological explanation, however, would persist considerably longer. For James, emotion was the conscious experience of any stimulus-specific physiological response to said stimulus, whether internal or external (James 1884). While the responses were stimulus-specific, they were not in any way fixed; rather, they varied so widely that they would defy systematic classification (James 1893: 382). A few select emotions were ubiquitous enough in the human experience to be deemed universal, a status cemented by those emotions bearing names that were, according to James, easily translated between languages: "anger, fear, love, hate, joy, grief, shame, pride, and their varieties" (James 1893: 374). In his opinion, all of these had specific subjective physiological signatures, but their behavioral and expressive manifestations would be endlessly varied depending on enculturation and socialization, variously coded in language so that from language to language the size and composition of emotion lexicons would vary (James 1890). Regarding the emotions that are named in a language, James believed that naming an emotion lends it a level of abstraction characteristic of cognitive concepts. This meant that an emotion named was an emotion conceptualized, and one that could be analyzed in a detached, non-subjective fashion (James 1890: 190). His position on language as a factor at least partially determining emotion concepts approximated that developed contemporaneously by Franz Boas (1910) and half a century later by cognitive linguistics.

James and Wundt are both remembered as fathers of experimental psychology, and the period after their deaths stands testament to that. Psychology focused on empirical research and the objectively observable. This meant that research on emotion was temporarily relegated to the sidelines, with the exception of the aforementioned studies, which expressly constructed emotions as stimulus-response mechanisms. Of particular note here is the series of experiments conducted by Carney Landis and William Hunt (Landis 1924; Landis and Hunt 1932, 1939). These established two key features of experimental design which would become the norm within the basic emotions paradigm. One was the use of high-resolution, high-speed photography to capture the critical moments of emotional facial expression. The other was the assumption that specific configurations of facial muscles are symbolically tied to specific discrete emotions. Another notable development in this period was Woodworth's development of a linear classification of discrete facial expressions of emotions. He proposed six basic emotional categories, derived from a semantic meta-analysis of the then existing empirical evidence from studies of facial expression, vocalizations, and physiology. He arrayed his six categories on a linear scale (Woodworth 1921). The idea behind the linear scale was to use it as a tool for emotion recognition: the categories were aligned in such a way that a misidentification would be a near-miss, landing in a category adjacent to the actual target (Woodworth 1938). The empirical application, the clarity of the categorical distinction, and the critical focus on the face would all become the foundation of the emerging basic emotions paradigm.

The works of Silvan S. Tomkins have recently come under a lot of criticism, mainly focused on the vague and circular nature of his argumentation (Leys 2017). However seemingly hard to follow, Tomkins' thinking had a huge influence, particularly on two of his mentees, Carroll Izard and Paul Ekman. Tomkins was the first to deliberately focus emotion

research within the parameters that would eventually become *the standard view of emotions*. The major tenets of his view of emotions included: (a) a focus on emotion concepts as discrete entities, (b) the existence of a limited number of basic emotions, (c) the primary function of emotion being interpersonal communication, with the primary channel of communication being emotion-specific facial expressions, and (d) language and speech being a crucial aspect of emotion regulation and communication. Tomkins' view was that, for an emotion psychologist, the key objects of interest must be emotion concepts. He saw the emotion concepts as immutable constructs which could be expressed in one of two ways: through stable, emotion-specific, discrete configurations of facial muscles (Tomkins 1962: 113), or through endlessly variable linguistic forms (Tomkins 1962: 242).

There were, according to Tomkins, eight primary emotion concepts. He saw each of those concepts as continua, which he visualized as binary scales with variants of emotions of the lowest and the highest intensity occupying the extremes. His selection of primary emotions included two positive items: *excitement-interest* and *joy-happiness*; one cognitive "reset": *surprise-startle*; and five negative items: *fear-terror*, *distress-anguish*, *anger-rage*, *contempt-disgust* and *shame-humiliation* (Tomkins 1962: 185). Tomkins' work also produced one of the first systems of describing facial expressions by selectively focusing on specific muscle groups (Tomkins 1962: 126). He was a strong supporter of using photography to study emotions to overcome what he called the "face taboo", a phenomenon he observed in Western cultures. He described it as an apparent social interaction rule which disallowed overt and prolonged looking at the face of another (Tomkins 1962: 106). Tomkins did consider language a factor in emotion communication, but more as an ontologically late addition to the range of means humans evolved to express emotions. Furthermore, language served as a means of learning emotion concepts and regulating emotional behaviors in the self and others. At the same time, he saw language as an extremely dynamic communicative medium, endlessly forming highly variable lexicalizations for stable and unchanging concepts (Tomkins 1962: 243). This last observation would have a lasting impact, particularly on Paul Ekman's theory of emotion.

Early on, the work of Izard and Ekman overlapped significantly, with both collaborating with each other and Silvan Tomkins. Ultimately, however, their views on emotions differentiated. Izard followed Tomkins' framework more directly; his take of basic emotions was more relativistic in character and his empirical work focused on emotion communication (Izard 1977). He expanded the range of basic emotions to ten binary scales, and worked to integrate the findings from physiology, psychology, and neurology into a cohesive whole. Rather than distinguishing emotions by their hedonic value, he conceptualized them as behavioral drives leading to increased or decreased psychosomatic and behavioral entropy (Izard 1977: 8). His approach to emotions was essentialist, meaning his basic assumption was that emotions are essences – phenomena with specific constitutive traits that make them what they are, and which can be captured in objective terms by methods of scientific discovery. He also explicitly defined the notion implicit in all essentialist approaches to emotions, that of emotional-expressive thresholds. An emotion threshold for any given emotion is the level of emotional excitation a person is able to control, and once the excitation passes that idiosyncratically conditioned threshold, an emotional expression shows up on that person's face (Izard 1971).

Furthermore, Izard was an early proponent of the homeostatic views of emotion, later adopted by the neuroscience of affect (Panksepp 1998), which partially defined his attitude to language. The homeostatic view has been developed largely within the context of evolutionary psychology. It assumes that the human psyche remains in psychosomatic homeostasis, often subjectively identified as the categorical state of “happiness”, and is occasionally disrupted by other, subjectively “negative”, emotions which arise to deal with potentially harmful environmental stimuli (Izard 1977). Regarding language, Izard largely departed from Tomkins’ view of language as an important aspect of emotion concepts. He too saw language as an important tool of emotion regulation, but he believed there was a neuro-psychological disconnect between language (located in the left hemisphere) and emotion (located in the right hemisphere) (Izard 1977: 12). His view of emotions was thus an interesting blend of neuropsychology and behaviorism, but it would come to be seen as a mere alternative to Ekman’s more radically reductive position.

Over the 50 years of its existence, Paul Ekman’s basic emotions paradigm has garnered as much positive attention and empirical substantiation as it has severe criticism and empirical refutations. The debate around Paul Ekman’s theory has been continuous, and he has engaged in it on a regular basis, which means that over the decades, few aspects of the theory remained completely unchanged (cf. Bąk 2016). The few that have survived five decades of empirical verification and theoretical wrangling form the core of the basic emotions paradigm. The emotions here are seen fundamentally as essences, discrete psychosomatic states which, following Izard (1971), reach certain thresholds and “spill over” into facial expressions of emotion, which are supremely difficult to consciously control (Ekman, Friesen, and Tomkins 1971). According to the model, each basic emotion has its dedicated facial expression, which is pancultural, not just expressively, but perceptually as well (Ekman, Sorenson, and Friesen 1969).

There are, according to Ekman, six basic emotions, which in English are denoted by the verbal labels *happiness* (interchangeable with *joy*), *surprise*, *fear*, *sadness*, *anger*, and *disgust* (occasionally paired with *contempt*) (Ekman 1970). Within this version of the basic emotions paradigm, emotion terms are simulacra, procedural placeholders for real emotions. This position on the role of language was Ekman’s way of addressing the problem of language relativistic effects in emotion expression posed by extant anthropological evidence (Ekman 1998). Throughout his long and often heated dispute with anthropological positions on emotion, his own views became progressively more entrenched. Thus, in Ekman’s view, an essential psychological cause (emotion) drives a physiological-behavioral reaction (facial expression), which is then flawlessly recognized by observers, regardless of cultural divides (Ekman 1992). This view has been partially undermined by emerging empirical evidence in different fields investigating emotions: Psychological construction questioned the inherent essentialism of basic emotions (Barrett 2017); physiology researchers challenged the body of evidence for basic emotions being limited to a narrow range of facial expressions (Kret 2015); evidence from the dimensional paradigm stood against the basic assumption of the universal nature of emotion expressions (Russell 1994).

Responding to the criticism and mounting evidence contradicting his claims, Ekman’s more recent commentary on his life’s work shows a much more moderate approach. One interesting development here is a change in emphasis on his seminal work with Sorenson

and Friesen (Ekman, Sorenson, and Friesen 1969), where facial expressions for specific discrete emotions were actually amassed in a type/token fashion, with multiple and varied tokens of each type included (Ekman 1992). Ekman likened the resulting collections of facial expressions to “families” (Ekman 1994b), and the ways he described those “families” is strongly reminiscent of the prototype structure of language concepts (Rosch 1978). This shift in emphasis from one discrete emotion corresponding to one discrete expression to showing a range of prototypical and peripheral expressions was accompanied on the theoretical level by relaxing the rules for emotion classification. In the most recent update of his stance on the matter (Ekman and Cordaro 2011), Ekman relaxed his criteria that would allow a given psychosomatic-expressive experience to be classified as an emotion. He increased the range of these criteria and declared they are not absolute for emotion classification; rather, fulfilling some of them may be sufficient to classify a phenomenon as an emotion. With these shifts, his paradigm of basic emotions now points to a less categorical, more continuous view of emotions and their expressions, bringing the leading position on basic emotions back to the milder positions offered originally by Woodworth and Schlosberg (1954).

Not unlike the dimensional paradigm, one way the basic emotion paradigm found to systematize the study of the nature of emotions was through compiling databases. For the most part, especially when expressive behaviors outside the face are investigated, the databases are limited in that they are created *ad hoc* and are generally not available to the research community. Furthermore, uniquely for this paradigm, there exists a subset of databases created exclusively for man-machine emotion communication, which usually means the material compiled was shot in the infrared light spectrum (Wang et al. 2010) or includes actors wearing motion-capture gear (Fourati and Pelachaud 2014) or face markers (McKeown et al. 2011). These have limited use for general research on emotion perception and production, as the technology involved distracts from the emotional content. Also, uniquely for this paradigm, some databases, including the seminal bank of photographs compiled by Paul Ekman and his associates (Ekman 1997; Matsumoto and Ekman 1998), are currently behind pay walls. Table 6.4 contains a summary of the databases currently openly available to the research community that have been created for the purpose of investigating basic emotions within and across languages and cultures. It only contains those which include humans, have been in whole or in part annotated by humans, and include an operational definition of “basic emotions” as the key design principle.

Overall, the databases show a heavier lean towards adult Caucasian populations in English-speaking countries, with a preference for audio-visual stimuli followed by still images, both focused almost exclusively on the face or audio-only material. The grand majority of these databases also include all six of the basic emotions as proposed by Paul Ekman, with the addition of a neutral expression used for contrast or baseline measurements. Overall, the number of databases of induced or naturalistic to acted or posed emotion expressions are fairly even, with a slight advantage for the posed and acted variety. Furthermore, researchers in this paradigm are allowing image search algorithms to trawl the internet for a variety of pictures of emotional expressions and are annotating them using human raters (e.g. Mollahosseini, Hasani, and Mahoor 2017). The automated and semi-automated methods of collecting stimuli and data on an unprecedented scale are increasingly polished

Tab. 6.3: The basic emotion categories within the basic emotions paradigm – a historical overview.

	Joy/Happiness	Surprise	Fear	Sadness	Anger		Disgust	Shame	Approach
Darwin* (1872)	joy, high spirits, love, tender feelings, devotion	surprise, astonishment, fear, horror	suffering, weeping   low spirits, anxiety, grief, dejection, despair	reflection, meditation, ill temper, sulkiness, determination   hatred and anger	dissain, contempt, disgust, guilt, pride, helplessness, patience, affirmation and negation	self-attention, shame, shyness, modesty: blushing	x	x	
James** (1890, 1893)	love ↘ joy x	↙ x	↙ fear	↙ grief	↙ anger	↙ hate	↙	↙ shame	↙ x
Woodworth (1938)	love, happiness, mirth	↙ surprise	↙ fear, suffering	↙ anger, determination	↙ contempt	↙ disgust	↙	↙ x	↙ x
Tomkins (1962)	enjoyment-joy	surprise-startle	fear-terror	distress-anguish	anger-rage	↙ contempt-disgust	↙	↙ shame-humiliation	excitem-ent-interest
Izard (1977)	enjoyment-joy	surprise-startle	fear-terror	distress-anguish	anger-rage	↙ disgust-revulsion	↙ contempt-scorn	↙ shame/shyness-humilia-tion	↙ guilt-humilia-tion
Ekman (1969–2011)	happiness/joy	surprise	↙ fear	↙ sadness	↙ anger	↙ disgust (contempt)	↙	↙ x	↙ x

\* Darwin considered “suffering, weeping” and “low spirits, anxiety, grief, dejection, despair” to be distinct groupings; he also considered “reflection, meditation, ill temper, sulkiness, determination” and “hatred and anger” to be discrete groupings. However, his descriptions of the expressive behaviors for these groupings suggested they might be logically grouped together.

\*\* James additionally included *pride* as a basic emotion.

An X symbol signifies a given researcher did not include the specified basic emotion category in their model.  
Arrows indicate how the basic emotion concepts merged and split from one researcher to the next.

and relevant. They are supported in the main by the efforts of the editorial team behind *IEEE Transactions on Affective Computing*, which promotes development of new algorithms and databases for man-machine communication of emotion.

Two things become immediately obvious from looking critically at the databases of basic emotion expressions. One is that they remain focused on facial expression almost to the exclusion of any other means of emotion expression or communication. The other is that they are obstinately designed within a narrow design premise wherein only six basic, prototypical, pancultural expressions of emotion exist. For the overview provided in Table 6.4, I specifically looked for databases that listed “basic emotions”. According to Paul Ekman (1994a), all emotions are basic, meaning any emotional state that checks off sufficient categorical criteria are emotions; therefore, any operational definition of basic emotions was acceptable here. Still, the researchers compiling these databases preferentially opt for the six basic emotions listed in Table 6.4.

Both of these limitations – the focus on the face and the six basic emotions – have recently been systematically addressed by the concerted efforts of Alan Cowen and his collaborators. While not all their materials are publicly available yet, all their research is driven by massive databases of various modalities, and it is beginning to show that the basic emotions paradigm still has a great potential beyond the confines of six basic emotions expressed in the face. The research led by Cowen appears to show that there are 27 distinct emotion categories, including but not limited to the usual suspects of *joy, surprise, fear, sadness, anger, and disgust* (Cowen and Keltner 2017). Crucially, all of these categories are naturally defined in language and occupy partially overlapping semantic spaces (Cowen and Keltner 2018). This constitutes the first statistical confirmation of the existence of emotional blends within basic emotions paradigm (Tomkins 1962: 631), a mathematical illustration of Ekman’s notion of basic emotion families (Ekman 1994b), as well as the first big-data driven confirmation of the prototype theory for emotion concepts (Rosch 1978).

Cowen and his collaborators found similar results for upwards of 20 distinct basic emotion concepts in language (Cowen and Keltner 2017), vocalizations (Cowen et al. 2018), combined facial and postural expressions (Cordaro et al. 2019), and, naturally, in facial expressions (Cowen and Keltner 2019). They also found 12 distinct dimensions for speech prosody (Cowen et al. 2019) and are currently working on calculating the number of categories detectable in music and video. By abandoning the predefined limitations of just the facial expression and just the six emotions and using big data algorithms, Cowen and his collaborators seem to push the stagnant limits of the basic emotions paradigm. Their open approach to a variety of stimulus modalities, including that of language, is much more compatible with other paradigms and has real potential to advance our understanding of emotions.

The basic emotions paradigm, despite the heavy criticism leveled against it, remains the mainstream view of the nature of emotions, to the point that it is often referred to as *the standard view* (Russell 1994). The major strength of the paradigm lies in its power to generate reliable and replicable results to show that, at least to a level exceeding chance, certain complex emotions are universal (Elfenbein and Ambady 2002a). Historically, its biggest weakness has been its reluctance to treat both language and culture as significant

**Tab. 6.4:** A summary of the available basic emotion expressions databases.

Databases	Actors						Basic emotions						Remarks			
	#	Year	Size	Mode	N/P/ A/I	No	M/F	Age	Ethnicity	Joy	Sur- prise	Fear	Sad- ness	Anger	Disgust	Neutral
Lyons et al. (1998) (AFFE)	1998	219	stills	P	10	F	?	Asian (Japanese)	✓	✓	✓	✓	✓	✓	✓	semi-transparent mirror used – participants took pictures themselves when ready with posed expression
Kanade, Cohn, and Tian (2000) (CK)	2000	2,105	stills	P	210	both	18– 50	Caucasian, African-American, Other	✓	✓	✓	✓	✓	✓	X	modeled on FACS; other facial expressions included
Pantic et al. (2005) (MMI)	2005	740	stills, video	P	19	both	19– 62	Caucasian, Asian, South American	✓	✓	✓	✓	✓	✓	✓	modeled on FACS; database annotation apparently incomplete
Abrialian et al. (2005) (EmoTV)	2005	51	au- dio & video	N	48	both	?	Caucasian (French)	✓	✓	✓	✓	✓	✓	✓	clips cut from French TV interviews and tagged; additional emotions included: <i>despair, doubt, exaltation, irritation, pain, serenity, worry</i>
You et al. (2005) (CHAD)	2005	6,228	au- dio & video	A	42	both	19– 32	Asian (Chinese)	✓	✓	✓	✓	✓	✓	✓	a mixed collection of authentic radio recordings and lab-induced acted emotion (amateur actors)
Martin et al. (2006) (INTERFACE)	2006	1,166	video	I	42	both	?	Caucasian	✓	✓	✓	✓	✓	✓	✓	multiple nationalities included; most speakers had English as their L2

Tab. 6.4 (continued)

Databases		Actors				Basic emotions						Remarks				
#	Year	Size	Mode	N/P/ A/I	No	M/F	Age	Ethnicity	Joy	Sur- prise	Fear	Sad- ness	Anger	Disgust	Neutral	
Lopez et al. (2007) (RekeEmojo)	2007	2,618	au- dio & video	A	17	both	?	Hispanic	✓	✓	✓	✓	✓	✓	✓	Spanish and Basque populations and languages
Grimm, Kroschel, and Narayanan (2008) (VAM-Faces)	2008	1,867	stills	N	20	both	16– 79	Caucasian (German)	✓	✓	✓	✓	✓	✓	✓	German; clips cut from a reality talk show “Vera am Mittag”
Koolagudi et al. (2009) (ITKGP-SESC)	2009	12,000	audio	A	10	both	25– 40	Indian (Telugu)	✓	✓	✓	✗	✓	✓	✓	additional emotions included: compassion, sarcasm
Afanti, Papa- christiou and Delopoulos (2010) (MUG)	2010	136,793	stills	P, I	52	both	20– 35	Caucasian	✓	✓	✓	✓	✓	✓	✓	modeled on FACS
Langner et al. (2010) (Radboud)	2010	5,880	stills	P	49	both	?	Caucasian (Dutch)	✓	✓	✓	✓	✓	✓	✓	modeled on FACS; multiple angles and gaze directions
Esposito, Rivello, and Maio (2009) (COST)	2012	60	video	A	?	both	?	Caucasian	✓	✓	✗	✓	✓	✓	✗	clips cut from Italian movies; additional emotions included: sarcasm/irony
Sneddon et al. (2012) (BINED)	2012	1,400	video	I	256	both	≈23.78	Caucasian (Irish), South American (Peruvian)	✓	✓	✓	✓	✓	✓	✓	contributions from the Irish population markedly larger; high ecological validity by emotion antecedents used for induction

Li et al. (2013) (SMIC)	2013	164	video	I	16	both	22–34	Asian (8) Caucasian (8)	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	x x x x x x x x	x x x x x x x x	successful induction verified through self-report
Mavaddati et al. (2013) (DISEA)	2013	130,000	stills	I	27	both	18–50	Caucasian, Asian, His-panic, African-American	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	x x x x x x x x	x x x x x x x x	modeled on FACS
Zhang et al. (2013) (3D)	2013	328	video	I	41	both	18–29	Caucasian, Asian, His-panic, African-American	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	x x x x x x x x	x x x x x x x x	modeled on FACS; 3D modelled; additional emotions included: <i>pain, embarrassment</i>
Bao et al. (2014) (CASIA)	2014	200	video	NA	219	both	11–62	Asian (Chinese)	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	x x x x x x x x	x x x x x x x x	clips cut from popular media and reality shows; 18 additional emotions included
Cao et al. (2014) (CREMA-D)	2014	7,442	au- dio & video	A	91	both	20–74	Caucasian, Asian, His-panic, African-American	✓ x ✓ ✓ ✓ ✓ ✓ ✓	x x x x x x x x	x x x x x x x x	professionally trained actors working with professional thea- ter directors
Happy et al. (2015) (ISED)	2015	428	video	I	60	both	18–22	Indian	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	x x x x x x x x	x x x x x x x x	emotions video-induced; self-re- port combined with coding for annotation
Mollahosseini et al. (2017) (AffectNet)	2017	450,000*	stills	N.P.A.I ?	both	?	Variety	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	x x x x x x x x	x x x x x x x x	*database formed by querying image search engines to find emotional facial expressions based on 1,250 keywords in 6 languages – the whole has 1,000,000 images, half annotat- ed for Basic Emotions, Valence, Arousal	

Tab. 6.4 (continued)

Databases		Actors				Basic emotions						Remarks				
#	Year	Size	Mode	N/P/ A/I	No	M/F	Age	Ethnicity	Joy	Sur- prise	Fear	Sad- ness	Anger	Disgust	Neutral	
Livingstone and Russo (2018) (RAVDESS)	2018	7,356	au- dio & video	A	24	both	21– 33	Caucasian, Asian, Black Canadian, First Nations	✓	✓	✓	✓	✓	✓	✓	speech and song – no surprise or disgust in song

**Mode:** designates the type of stimuli in the database (still images, audio clips, video clips).

**N/P/I/A:** designates whether the emotion expressions in the database were Natural, Posed, (Lab-)Induced, or Acted.

In the **Basic Emotion** section all ✓ marks indicate a given emotion is present in the dataset, ✗ marks indicate a given emotion is absent from the dataset.  
Throughout, ? marks indicate information missing from database parameters description.

factors in emotion conceptualization. Originally, Ekman dismissed the cultural variability of emotional expressions by invoking what he called display rules: culture-specific norms that dictated which emotions could be openly expressed under specific circumstances (Ekman and Friesen 1969, 1974). Since then, multiple studies, including those of Cowen and his colleagues, have shown that both language and culture are important factors differentiating emotion recognition. Languages do not exist in a void, but in a rich and dynamic cultural context which determines what can be communicated when and by whom. It has been demonstrated in a large-scale meta-analysis that there is a large in-group advantage in emotion processing, whereby people are significantly better at processing emotional expressions communicated by the members of their own culture (Elfenbein and Ambady 2002b).

Such results speak to another weakness of the basic emotions paradigm – its English-centric nature (Ogarkova 2013). Despite its claims towards panculturalism of emotion expression, the basic emotion concepts as empirically verifiable psychological constructs have been conceived in English (Janney 1996; Leavitt 1996), and the most robust basic emotion effects are found in English-speaking populations (Elfenbein and Ambady 2002b). Therefore, with the more relaxed premise and the acceptance of the prototypical structure of emotion concepts, the obvious way forward is to focus more on language and languages other than English. Emotion concepts as conceived within the basic emotions paradigm are complex structures which can and have been investigated linguistically in culture-relativistic perspectives (e.g. Bourke 2006; Braund and Most 2004). A systematic investigation of emotion concepts as coded in language within their cultural contexts can further our understanding of the extent to which emotions are universal across cultural divides.

The necessary procedures for this type of research have been worked out, one in the dimensional approach with Osgood, May, and Miron (1975), the other in appraisal in Fontaine, Scherer, and Soriano's GRID paradigm (2013) (see Section 4). The former offers more cultural sensitivity, deriving common aspects of meaning out of large emotion lexicons and not relying on translation-backtranslation techniques to determine the words for their analyses. The latter has more normative value, with a predefined set of words to be translated and tested on a vast list of parameters that allow for systematic comparisons. Between these two approaches and the procedures developed in sentiment analysis, a new approach could be forged (Liu 2010). If, for example, an algorithm could be created based on the semantic parameters specified by GRID and trained on lexicons in various languages, it could become a tool for advanced emotion recognition across languages. For now, however, such ideas remain in the realm of speculation.

## 4 Emotions appraised

Although the dimensional and basic emotions paradigms are often portrayed as opposites, their premises are not mutually exclusive. The dimensional paradigm analyzes basic emotion terms, plotting them by their mean scores of *valence*, *arousal*, and *dominance* (Russell 1980). The proponents of basic emotions paradigm acknowledge the significance of folk intuitions, dividing all basic emotions into positive and negative ones (Ekman 2003).

Both paradigms ultimately see emotion terms as a form of codified reference to a concept (Ekman 1994a; Russell and Barrett 1999), and emotion concepts as structured prototypically with fuzzy boundaries at the peripheries that overlap between different emotional and non-emotional concepts (Russell 1983; Ekman 1994b). Researchers in both paradigms work under the assumption that their premises follow universal psychological principles, the rules of human psyche immune to cultural or individual variability. The theory behind both theories is abductive; that is, formulating the most likely predictions based on incomplete observations, the latter coming from reductionist procedures. Both the dimensional and basic emotions paradigms lean heavily on empirical evidence generated with the express purpose of substantiating their models of emotion processing. Both appear to have reached a similar stage of expanding their premises, critically verifying tenets and hypotheses through research based on big data and reconciliatory theoretical positions. The latter is particularly visible in the expansion of the range of basic emotions on linguistic-conceptual and dimensional grounds in the works of Alan Cowen, and in the retroactive basic emotion scaling of dimensional affective databases (e.g. Stadthagen-Gonzales et al. 2018; Wierzb et al. 2015). Both dimensional and basic emotion approaches to emotion are functionally closer to paradigms than theories. They do tap into grand theories of both human psyche and physiology, but do not themselves (intend to) constitute scientific theories in the definitional sense.

Two approaches do come very close to footing the bill in scope and empirical support to become full-fledged scientific theories of emotions: the appraisal theory of emotions and the Conceptual Act Theory (CAT), as developed and popularized by Lisa Feldman Barrett. The appraisal theory was initially a response to the reductionist view of human psychology which had become the norm within the behavioral research gap in the first half of the 20th century. These origins determined many of the key characteristics of appraisal theories in their many incarnations. Appraisal theories by and large look inward, conceiving of emotions as complex interplays of the mental, physiological, and motivational factors. Emotion models within appraisals are intricate, with many elements connected by feedback loops continuously changing the nature of the subjective experience of emotions, their expressions, and the behaviors they provoke. Appraisal theories are also integrative in nature, with the more historically recent variations explicitly including dimensional and basic emotion paradigms as their constituents. Historically, though, while certain ideas were developed from one researcher to the next, this approach has been largely fragmented into schools of thought, each with its own unique take on what emotions and appraisals are, how they work, and what to make of language (Lazarus 1993). Appraisal theory started with the intrepid Magda Arnold, and the field of appraisal research is largely led today by Klaus Scherer and his colleagues.

Magda Arnold came into emotion research at a time when behaviorism ruled the mainstream discourse in psychology, and emotions were seen as a topic unworthy of serious consideration (cf. Duffy 1941; Meyer 1933). Her own research began in the field of behavioral neurochemistry (e.g. Arnold 1945), and she remained active in the field late into her life and career (e.g. Arnold 1984). However, she is mainly remembered today for her pioneering work in the field of emotion research and establishing the appraisal theory of emotions. Arnold propounded a model of emotions as psychosomatically complex processes of infer-

ence, whereby external stimuli are processed through a series of perceptual filters in relation to the feeling self (Arnold 1960). Those filters, grounded in subjective experience and evaluative in nature, were what Arnold called appraisals, and they lie at the heart of this theory of emotions. Arnold saw appraisals as critical in motivation, with positive appraisals potentiating approach behaviors and negative appraisals potentiating avoidance behaviors. Emotions themselves were contingent upon appraisals and a complex configuration of somatic, neuronal, and contextual stimulation (Arnold 1968). With that, she viewed the stimulus-response models of emotions offered by the behavioral mainstream as crude and mechanistic (Arnold 1970). Her own vision was more sweeping, incorporating elements that would become indispensable tenets of different appraisal theories to this day, elements like the importance of the subjective sense of self, goal-orientation, evaluation, situated perception, and a broad activation of the sympathetic and parasympathetic nervous systems (Arnold 1960). Distant echoes of her vision are also apparent in Damasio's (1994) emotionally motivated model of decision-making and in Barrett's (2011) Conceptual Act Theory, with its deep roots in neurological studies of emotion. Arnold's powerful advocacy for the importance of emotions for the study of human behavior and psyche helped pave the way for what some have called the "affective revolution" (Soriano 2013).

The appraisal theory of emotions fell on willing ears in the emerging field of emotion psychology in 1960s. Around this time, Schachter and Singer (1962) demonstrated that physiological excitation induced with epinephrine injections can be subjectively seen as positive or negative, depending on how they are labeled and consciously interpreted. This finding supported Arnold's core assumptions that emotions include both cognitive and evaluative components. Further evidence and further development of the appraisal theory would come with the works of Richard Lazarus, who found it a powerful explanatory framework for his research on stress and coping (Lazarus 1964). Early on, Lazarus echoed Arnold, observing that stimuli evoking emotions do not inherently carry emotional meaning. The emotional meaning of a stimulus came from the perceiver's appraisals of the stimulus, and these were both deeply idiosyncratic (Lazarus 1964) and variable depending on culture (Lazarus et al. 1966).

Lazarus made several important contributions to the development of appraisal theory, but four of them stand out in particular, given the later developments in the works of Nico Frijda and Klaus Scherer. First, he elaborated on the nature of specific appraisals and proposed a rudimentary hierarchy for them, specifying the order in which they are activated to produce emotions (Lazarus and Lazarus 1994). Second, he cemented the notion that emotions are processes, rising from appraisals to the level of consciousness in different configurations to form different subjective experiences (Lazarus 1991). Third, he mused on the nature of language and observed that different communities of people lexicalize emotions differently because they give relevance to different appraisals (Lazarus 1993). Finally, he integrated into his theory a modified version of the idea that there exists a small collection of emotions which, with certain relativistic caveats, can be found across different languages (Lazarus 1993). Lazarus is largely remembered for his debate with Zajonc on the primacy of cognition over affect (Lazarus 1981; Zajonc 1980). Even though the debate was dismissed as a Cartesian anachronism before the decade was out (Leventhal and Scherer 1987), his contributions to the development of appraisal theories lived on.

As late as 1993, Lazarus was able to say that the existing works on appraisal do not amount to a coherent theory. At that time, he and Magda Arnold, as well as the founders of two important directions in appraisal – Nico Frijda and Klaus Scherer – were all alive and working in the field. And yet, Lazarus remarked that between them, they only have “the beginnings of common theoretical ground” (Lazarus 1993: 14). What differed from one approach to appraisal to the next was, in essence, emphasis. Frijda’s focus was on what he called action readiness. The latter he defined as a state of readiness (or lack thereof) to engage with or adjust to one’s changing environment (Frijda et al. 1995). He specified that action readiness operates on specific schemes, such as movement (to/away/against), hypo- and hyper-activation, inhibition, submission and *dominance* (Frijda 1986). Action readiness operated alongside affect, subjectively perceived as pleasure or pain, and general *arousal*, all following appraisals (Frijda 2005). Frijda defined appraisals as processes in which one’s perception of the environment is attributed relevance for one’s goals, and for him, it was that link between stimuli and relevance that produced emotions (Frijda 1988; Frijda and Mesquita 1998). His model of emotions was dynamic, based on multiple feedback loops moderating emotional processing continually; emotions were processes in which an individual mobilized all resources to pursue and protect their goals (Frijda and Parrott 2011).

This novel, non-essentialist view of emotions is largely what shaped Frijda’s approach to language as an aspect of emotion processing. On the one hand, Frijda proposed that so much as labelling emotions can alter how one experiences and responds to them, depending on one’s hierarchy of appraisals (Frijda and Mesquita 1998). Furthermore, he appreciated that emotion words are the crux of laypeople’s rationalizations about emotions (Sonnemans and Frijda 1994). On the other hand, he observed that in real life, people do not actually name their emotions very often. Rather, they identify emotions in themselves or others from a multitude of non-verbal cues and act accordingly (Frijda 1969). Indeed, he found that people can reliably identify emotions in human faces without using emotion labels, only various schemes of action readiness (Frijda and Tcherkassof 1997). It is the schemes of action readiness, Frijda claimed, not emotion concepts or words for those concepts, that are both innate and universal (Frijda et al. 1995; Mesquita and Frijda 1992). For this reason, he believed that studying emotions by starting with emotion words would be ill-advised (Frijda and Mesquita 1998).

Frijda’s model of emotions was emphatically based on motivational aspects engendered in the notion of action readiness. He mistrusted language as a venue to reliably study emotions, and towards the end of his life, he even questioned the existence of emotion concepts as stable, identifiable representations of emotions (Frijda 2016; Mesquita 2016). It is on the aspects of representation and language of emotions that Klaus Scherer formed the polar opposite of Nico Frijda’s position. Scherer’s theoretical work has always been driven by research which broadly tackled different practical aspects of effective communication of emotions (e.g. Banse and Scherer 1996; Dan Glauser and Scherer 2011; Mortillaro and Scherer 2009). His Component Process Model (CPM) is also arguably the most elaborate model of appraisals to date. To Scherer, emotions are subjective experiences emerging from a complex system of *valenced* appraisals of various types (Scherer 2013), which range from the basic to very complex in a hierarchy not unlike the Maslovian pyramid of needs (Scherer 1997). Appraisals continuously affect and are affected by physiological and motivational

responses, experiences, and expressions of emotion in multiple and interconnected feedback loops (Scherer 2013). Activated in response to environmental stimuli, appraisals produce subjective representations of emotional reality – emotion concepts – in the mind of the feeling self (Ellsworth and Scherer 2003). What shape these concepts usually take and how they become lexicalized is determined by what a given language culture defines as relevant (Scherer 2013). And while the differences between emotion lexicalizations between languages are a fact, according to Scherer, on the level of the more primitive appraisals emotion concepts may well be universal (Scherer, Clark-Polner, and Mortillaro 2011; Scherer and Walbott 1994).

Echoing the long linguistic tradition of semiotics (Ogden and Richards 1923), Scherer functionally linked emotions to their conceptual representations and to the words used to denote them. Scherer reached the same conclusion linguists and psycholinguists did before him regarding the place of language in the study of emotions: namely, that language helps us categorize emotional reality and formulate individual emotion concepts in ways that are meaningful and relevant within the context of the culture we are a part of (Ogarkova 2013; Scherer 2013; Shaver et al. 1987; Wierzbicka 1999). Scherer's appraisal theory became the theoretical cornerstone of a massive research effort to systematically study the language of emotions through appraisals, called the GRID paradigm. The paradigm focuses on language, specifically on the meaning of emotion words, and while the results produced within the paradigm have implications for emotion research in general, the focus is quintessentially linguistic (Soriano 2013). Within GRID, the psychological notion of appraisals as outlined by Scherer was paired with the linguistic notion of feature profiles by Fontaine (2013). Where appraisals define the key cognitive affective aspects of emotions, feature profiles determine the key aspects of emotion word meaning.

Building questions explicitly tapping into different appraisals and applying them to words denoting emotions, the researchers working on GRID managed to build feature profiles for a small collection of emotion words across 34 languages, representing all major contemporary language families (Fontaine, Scherer, and Soriano 2013). They found that across all tested languages, *contempt* and *compassion* yield very poor inter-rater agreements, while various words denoting *anger*, *fear*, *sadness*, and *joy* yield stable and reliable effects (Soriano et al. 2013). They also found that *valence* accounts for most of the variability between the semantics of different emotion words, with subjective power perceptions, *arousal*, and novelty factors contributing (Fontaine and Scherer 2013). The novelty aspect of meaning, corresponding to the novelty appraisal, was not only found to be critical in *surprise* emerging as a discrete emotional category, but also an important factor in differentiating words denoting *joy* and *fear* (Gillioz et al. 2016). The research now focuses on assessing the import of factors like situational context on emotion word processing (Gentsch et al. 2018), and on confronting the semantic GRID data with self-reports on subjectively experienced emotion states (Scherer et al. 2013).

The theoretical scope of the appraisal theory, especially in Scherer's take, allows it to be classified as scientific theory. Many tenets of the theory are supported by a respectable body of research. However, the bulk of the evidence is linguistic in nature, and a research paradigm tapping into complex appraisals outside the language of emotions in appraisals is yet to be proposed. This will require seeking convergent evidence in fields such as social

psychology and personality research. Social psychological constructs, such as identity, including perceptions of gender, class, age, and ability, should affect both the primitive and complex emotion appraisals in measurable ways (Boroditsky, Schmidt, and Phillips 2003). Personality factors such as emotional stability, conscientiousness, extraversion, agreeableness, and emotional imagination (Goldberg 1992) should also have an impact on the same evaluations. Furthermore, some researchers in the field of appraisal, notably Nico Frijda (2016), rejected the notion of identifiable brain activation patterns for specific emotions, while for others, the neurochemical signatures of emotional responses were of critical importance (Arnold 1960; Schachter and Singer 1962). As physiology is one of the key components of CPM and is governed by the sympathetic nervous system, a study of appraisals from the positions of neurology and neurochemistry is another necessary step. Finally, while some headway has recently been made on this problem (Gentsch et al. 2018), the situational context and how it interacts with appraisals and shapes emotions still remains an understudied area that will require further research. Appraisal theory is backed by strong, functional models, sound integrative theory with good explanatory power, and evidence supporting a considerable proportion of its tenets. All of this makes it a strong candidate for a proper theory of emotions, if sufficient evidence is produced to explain the more complex appraisals in dynamic situational contexts, including physiological and neurochemical responses.

## 5 Emotions under construction

Lisa Feldman Barrett is currently at the forefront of the most recent approach to emotions emerging within the last couple of decades: the psychological construction. Her theory, itself expressed in the Conceptual Act Theory (CAT), certainly has the scope of a proper scientific theory for emotions and has a considerable body of evidence supporting many of its key tenets. However, it has yet to declare a systematic research agenda the way appraisals theorists did with GRID (Fontaine, Scherer, and Soriano 2013) or to generate empirical support for its premise. Psychological construction of emotions is a theory of ambitious scope, incorporating both external and internal factors determining emotional experience and integrating elements of the dimensional, basic emotions and appraisal approaches into a remarkably coherent whole. Currently, the literature on CAT is divided into three distinct areas. The first are massive meta-analyses of existing research on specific aspects of emotion processing reinterpreted within the CAT framework (e.g. Lindquist et al. 2012; Kober et al. 2008). The second are smaller analyses of a similar type, but with a heavier focus on the theoretical implications of a specific batch of empirical evidence (e.g. Barrett, Lindquist, and Gendron 2007; Quigley and Barrett 2014). The last one is a still comparatively small but rapidly expanding area of empirical research conducted within CAT, specifically to test its tenets (e.g. Gendron et al. 2014; Lee, Lindquist, and Nam 2017). A detailed account of Barrett's theory can be found in Gross (this volume), but here, I will focus on the aspects of CAT which specifically pertain to emotion as a construct and language as a factor shaping that construct.

As Arnold's appraisal theory was a critical response to behaviorism, so Barrett's CAT was a critical response to the radical reductionism inherent primarily in the basic emotion paradigm, which she saw as too fundamentally restrictive (Barrett 2006; Gendron, Crivelli, and Barrett 2018). Within her theory, emotions are considered on two levels: first, as experiential phenomena, and second, as relatively stable concepts (Wilson-Mendenhall et al. 2011). For the experiential aspect of emotions, the core appraisals in concert with all primary senses act like a barometer, continuously and (largely) subconsciously querying the natural and social environment about the state of things in relation to the self (Barrett 2014). When this barometer detects a relevant change in observed parameters matching any of the emotion-conceptual configurations stored in memory, appropriate associative connections are triggered. When processing emotional expressions in others, these associations form the base for complex predictive appraisals, whereby certain emotions are expected to occur, given a particular set of circumstances (Chanes et al. 2018). When experiencing emotions in the self, the barometer operates on multiple levels of perception simultaneously (Wilson-Mendenhall, Barrett, and Barslou 2013), and it is particularly fine-tuned to pick up on subtle affective (Siegel et al. 2018) and social (van Hoorn et al. 2019) cues. A subjective sense of an emotion is then produced out of these appraisals and cues activated *ad hoc* (Barrett 2011), based on networks of knowledge forming emotion concepts. These networks have a prototypical structure with fuzzy peripheral boundaries overlapping with other emotional and non-emotional concepts (Barrett 2006).

Emotion concepts are formed gradually on a foundation of primitive, inherent core appraisals of *valence* and *arousal* (Russell and Barrett 1999). Every emotion is shaped by contextualized cultural and social experience, wherein complex evaluative appraisals are formed pertaining to the situation, actors present, and events transpiring. All the above information is then stored in long-term memory in a manner that resembles a computer directory, each emotion concept file labeled with a dedicated emotion term (Barrett 2011). The formation and acquisition of emotion concepts is of key importance within CAT and is closely tied to language and language acquisition. Recent evidence supports the idea that both children (Hoemann, Xu, and Barrett 2019) and adults (Lebois et al. 2018) learn and reshape their emotion concepts continuously by immersively observing situations which evoke emotional responses. The development of new concepts and the refinement of one's catalogue of emotion concepts closely parallels language development (Hoemann and Barrett 2019). Once the language system is fully developed and the concepts of emotions are refined and relatively stable, even very subtle linguistic cues can trigger various affective states. For instance, it has been demonstrated that the diffuse linguistic cues to negative emotions people pick up from regular consumption of news can aggravate depressive symptoms (Wormwood et al. 2018). In such cases, the construct of certain negative emotions is continuously primed and active, thus affecting perception and overall mental state.

While concepts may contain representations of all types (like language, behavior, societal relations), the emotion term used habitually for a given emotion concept is a very significant part of the concept. Barrett's team have shown that semantic saturation procedures can render the entirety of an emotion concept, including its nonlinguistic components, temporarily inaccessible (Lindquist et al. 2014). What is more, because humans form their emotion concepts in social interaction with its cultural, linguistic, and idiosyncratic

trappings, the concepts have the tendency to vary from person to person and from culture to culture (Barrett 2017). A person's directory of emotion concepts may be incomplete, distorted, mislabeled, or non-existent compared to that of another person, depending on life experiences and cultural norms alike. Culture and language within this model play a stabilizing role, allowing people to identify and meaningfully classify emotions they perceive in others and experience themselves (Lindquist, MacCormack, and Shablack 2015). At the same time, it has been demonstrated that giving a name to an emotional experience and describing it verbally reduces the subjective experience of emotional intensity. This, in turn, allows the creation of a healthy mental distance from the raw emotional experience and increases people's coping abilities (Hoemann and Barrett 2019). Within CAT, language thus emerges as not only a means to convey and categorize emotions, but also as one of the mechanisms of regulating emotional experience and expression.

Apart from its scope, the strongest aspect of the constructivist Conceptual Act Theory is its flexibility and a certain accommodating nature. New findings, even from studies carried out in different frameworks and with different assumptions than those characterizing CAT, can be recruited to serve as supporting evidence for the theory. On the experiential level, it awards equal importance to the external factors, such as physical circumstances and social context, and internal factors, such as personal experience and linguistic development. The construct of emotion itself is complex and involves multiple levels of representation of a wide variety of factors that make up emotions, with language playing a crucial role. However, the empirical evidence produced entirely within CAT to specifically test its premise still only supports some of its tenets and often only partially. The evidence also leans heavily on neuroimaging methods like fMRI and EEG (Lindquist et al. 2012; Kober et al. 2008) and facial expressions processing (Gendron, Crivelli, and Barrett 2018). This leaves a lot of ground to cover in classic behavioral and physiology research. Additionally, CAT leaves one crucial aspect of emotion language acknowledged but empirically unexplored. Barrett observes that there are fundamental differences in how emotions are linguistically expressed in different languages (Barrett 2017). However, the only two perspectives that appear in CAT research with respect to this observation hinge on either fundamental differences in perception or linguistic idiosyncrasies of language users (Lee, Lindquist, and Nam 2017). The key conclusion from appraisal studies of language, that languages have inherent structural differences which may influence how emotions are conceptualized (Ogarkova 2013), appears to be absent from the empirical accounts within CAT. Thus, all-in-all, CAT is currently the strongest candidate for a complete theory of emotions, though more empirical evidence is needed to fully support it as such.

## 6 General conclusions and future directions

The state of emotion psychology today can only be fully understood when viewed from a historical perspective. The theoretical discourse speaks of integrative approaches and reconciling formerly opposing positions; empirical studies are designed to incorporate aspects of different paradigms. Both theoretical and empirical approaches increasingly acknowledge that language is anything but inconsequential in defining the nature of emo-

tions. This state of events is the result of the long evolution of thought on what emotions are across different paradigms and theories in psychology. Ultimately, there is more agreement between the approaches as they are now than a cursory overview might suggest. All would agree that emotions are complex phenomena that can be investigated on multiple levels, both introspectively in the self and externally in others. Emotions are physiological (expressed and identified), behavioral (acted on and observed in others), cognitive (self-reported and inferred), and linguistic (coded in and decoded from language). Some aspects of emotional life are inborn, while others are learned. In some aspects, emotions are culturally universal; in others there are measurable differences in how they are expressed between cultures. All approaches investigate deeply subjective and idiosyncratic notions of emotions in normal populations, and conclusions are made about a statistically normalized abstraction of those folk notions of what it means to feel an emotion. Those ideas are not only coded in, but are also accessible through language, however imperfect and ambiguous its link to said ideas is phenomenologically. All of these are conclusions eventually reached by all approaches to emotions in psychology.

To make real progress that would expand the explanatory powers of existing approaches, what is absolutely necessary is a determination of the structure of emotion concepts. Ultimately, all emotion psychology hinges on how the human psyche forms representations of emotion. The empirical studies within dimensional paradigms and appraisal theory tap directly into representations and measure them using a variety of semantic dimensions including, but not limited to, the key dimensions of *valence*, *arousal*, and *dominance*. The basic emotions paradigm, with its essentialist notions of expression thresholds, prototypical expressions, and display rules, has emotion concepts built into the very foundation of its premise. At the heart of the psychological construction of emotion, there are also emotion concepts – both stable and created *ad hoc*. How concepts of all kinds are formed and how they are connected to objective reality and language has been well established in cognitive psychology (Rosch 1978) and in cognitive linguistics (cf. Geeraerts 2009; Lakoff 1999). All approaches to emotions in psychology appear to agree that emotion concepts have prototypical structures that can be reliably measured through language, although actual linguistic expertise often appears to be somewhat lacking in this field (cf. Ogarkova 2013).

When deployed together, the scales already widely implemented in the dimensional paradigm and appraisal theory appear discriminating enough to study emotion concepts across cultures (Russell, Lewicka, and Niit 1989; Soriano et al. 2013). Applied to terms for basic and other emotions, and contextualized in relation to the feeling self, those dimensions can be used to systematically map emotion concepts across languages and cultures. This, above all else, appears to be the major task that now stands before emotion psychology. It is already underway in appraisal theory with the GRID project, but that project is limited by the number of words involved. Recent findings by Bąk and Altarriba (2019) show that the six basic emotions alone can be lexicalized into hundreds of words within a single language. The studies under the auspices of GRID only involve 24–80 words (Soriano et al. 2013). Therefore, advanced though it is in its design and despite the body of evidence already gathered, the GRID project is merely the beginning of the work that must be done. Only by understanding how all emotions are subjectively represented across the mass

minds of multiple cultures can we hope to validly gauge the extent of both universality and culture specificity of emotion experience and expression.

By further analyzing how factors pertaining to the construction of the self affect emotion representation, we will be able to build a statistically validated understanding of what determines how emotions are expressed in different cultures. Cultures certainly mold emotions and their expression, but on the individual level determinants such as self-image and self-presentation appear of more immediate importance. The latter notions have been the object of study in pragmatics of language for decades (cf. Kopytko 2002). Some emotion psychologists, notably Alan Fridlund (2017), have now started exploring the possibility of studying emotion precisely as an aspect of interpersonal communication. To analyze emotion communication in context in a reliable and systematic manner, however, a system of critical analysis of verbal expressions of emotions will have to be developed. All communication being based on negotiating meaning, the determination of the structure of emotion concepts will also be of critical importance for this area of research. Furthermore, all approaches will have to expand in a serious manner into communities other than the apparent norm of the educated, middle-class, English-speaking, Caucasian study participants who appear to form the great majority of the population samples in the existing research. Science without diversity is inherently burdened with bias. This applies as much to experimental design as to the interpretation of results. Therefore, a systematic, language-based, cross-cultural study of emotion concepts that allows for an equal representation of a wide range of sociodemographic and cultural variables is the first necessary step towards a meaningful advancement in the field of emotion psychology.

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## 7 Cognitive approaches to emotion and semantics

- 1 Introduction
- 2 Emotion and semantic activity
- 3 Reciprocal effects?
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**Abstract:** Emotions, generally, are more functional and adaptive than dysfunctional and maladaptive. In the emotion and goal compatibility theory, I argue that discrete emotions promote goal-driven behavior, which prioritize specific executive/cognitive processes to achieve the intended behavior. Emotions are functional when they prioritize executive/cognitive processes that are compatible with situational demands and dysfunctional when those processes are incompatible. Within this chapter, I examine how basic emotions influence access, activation, and retrieval of semantic information. I suggest that happiness promotes goals related to social communication, exploration, and conceptual processing. As a result, people in happy states are more efficient at gaining access to and facilitating the spread of activation among concepts, which facilitates understanding and resolution of ambiguous meanings, learning, and generative abilities; however, conceptually related errors become more likely. Conversely, the emotion of sadness promotes goals related to spatial processing, error analysis, and monitoring, which facilitates spatial analysis, inhibition, and reactive control. Such processes impede semantic activity, comprehension, and generative processes, but facilitate analysis of the content and reduce conceptually related errors. Thus, specific emotions influence meaning and comprehension through semantic activity and situational demands determine the functionality of emotions.

### 1 Introduction

Language acts as a bridge between the self and the world, and the self and others. Information is taken in from the world, and in an effort to understand, or more simply, organize this information, it becomes linguistically labeled. Semantic labels have personal meanings, which may be idiosyncratic; however, on the whole, language is consensual (Rosch 1973; Tversky 1977). Language allows for an understanding of one's inner needs, thoughts, beliefs, and feelings, and their description to other individuals requires the retrieval of meaning from their semantic representations. Success of communication and thought is then dependent upon semantic activity and retrieval. The goal of this chapter is to examine

how emotions influence semantic accessibility, and how it may guide linguistic interactions with the world.

Emotion and semantic activity have been linked together since the inception of network theories. A central figure in the development of network theories within the emotional literature was Bower (1981; Anderson 1976 – Human Associative Memory model). Bower described the effects of mood on memory by building from general semantic network models of memory (Quillian 1967) and semantic processing (Collins and Loftus 1975; McNamara 2005) derived by cognitive psychologists to understand how general information is organized. Bower's model assumed that activation of internalized concepts spreads throughout semantic networks from active concepts to associated, inactive concepts. His model further posits that the linguistic labels used to describe affective states represent nodes within semantic networks, and that subjective affective experiences serve to activate these nodes and spread to closely related, mood-congruent nodes (i.e., within the proximate semantic neighborhood surrounding an emotion node). For instance, sad feelings within this network would activate physiology (e.g., decreased heart rate), concepts (e.g., sad, down, blue), and events (e.g., death of a grandmother). Although these theories were in vogue to explain mood-dependent retrieval and mood-congruent memory, they ultimately were not supported (see Bower 1987).

Contemporary competing models describing mood effects on cognition were developed without relying on network models. Some of the more compelling theories explaining emotion and cognition interactions were cognitive tuning theories. Cognitive tuning refers to the belief that distinct, everyday situations require different processing demands. As such, situational demands influence our emotional responses to the situation and those emotional responses guide attentional and cognitive resources to deal with such demands (Schwarz 2002). Cognitive tuning theories differentiate between judgment effects ("how do I feel about something?") and processing effects. For this review, I will focus only on processing effects as described by the affect-as-information approach (Clore and Huntsinger 2007; Clore et al. 2001).

The affect-as-information approach argues that, in task situations, affect can serve as feedback about the value of one's current thoughts and inclinations with the default strategy being relational processing (e.g., Clore 2001; Clore and Huntsinger 2007; Schwarz and Clore 1983). As such, positive affect reinforces this tendency to rely on relational (cognitive, interpretive, category-level, and global) processing, whereas negative affect tends to inhibit this tendency leading to referential (perceptual, item-level, and local) processing (see Clore and Huntsinger [2007] for a review). This theory talks generally about the effects that should arise when one is feeling positive or negative and engaged in a task that requires semantic activation. Generally, positive affect fosters relational processing with incoming information being assimilated with prior knowledge structures. Conversely, negative affect fosters referential processing as incoming information is processed in a more accommodative manner limiting associations. Thus, predictions can be made that positive affect would foster greater semantic priming, cognitive flexibility, and verbal fluency, whereas negative affect would reduce such effects. One downside to the cognitive tuning approach is that the mechanism causing increased or decreased (in this case) semantic activity is not identified. Rather, moods influence a more general processing style that would result in changed cognitions and behaviors.

Building upon the affect-as-information approach, I developed the emotion and goal compatibility theory. The main advantage of this approach is that it tries to identify mechanisms (underlying cognitive processes) to explain the effects affect has on behavior. The tenets of the model are derived from a functional perspective in that each emotion promotes goal-driven behaviors and by doing so prioritizes specific executive/cognitive processes over other processes to achieve the intended behavior (Bargh et al. 2001; Kruglanski et al. 2002; Simon 1967). Simon (1967) postulated that situations that are appraised similarly should elicit the same emotion and corresponding behavior. For instance, a dangerous environment may elicit fearfulness and freezing, which require inhibition among other cognitions. Over time, the emotion and behavior (including supporting cognitions and executive functions) become coupled together or integrated in a Hebbian-like fashion (Hebb 1949). Given this integration of emotion and behavior occurs, we propose that emotions become embodied anticipations of the cognitive (and other) requirements of the situations with which they are integrated. Goal integration implies less psychological effort is required to maintain performance as correctly anticipating the cognitive requirements of situations conserves psychological resources (e.g., Friston 2010; Gray 2004; Gray, Braver and Raichle 2002). Thus, a main influence on this theory was the belief that the brain is a predictive machine (Friston 2010) and emotions can serve as one of many types of cues that help the brain to anticipate situational needs and reduce surprise and minimize psychological effort. Thus, when the goal promoted by the emotion (e.g., happiness → verbal working memory) is incompatible with situational requirements (e.g., error analysis), goal competition arises. Goal competition induces performance (effectiveness) and/or psychological (efficiency) costs due to compensatory or regulatory processing (see Eysenck et al. [2007] for an efficiency and effectiveness distinction). An interesting component of the emotion and goal compatibility theory is that reciprocal relationships should exist between specific emotional states and cognitive/executive processes, such that where emotion state A (e.g., happiness) benefits cognitive process Z (e.g., verbal working memory) it should also be the case that when engaged in cognitive process Z (e.g., verbal working memory) emotional state A (e.g., happiness) should increase. Lastly, one other aspect of this approach is that it allows emotion to influence both bottom-up and top-down processes guiding cognition in an iterative manner (Cunningham et al. 2007). Early perception is influenced by previously learned associations (i.e., automatic, bottom-up) and executive control (top-down) is activated to coordinate goal-driven processes necessary to achieve the appropriate behavior (Baddeley 1996; Perner and Lang 1999; Pessoa 2009).

Specific predictions have been proposed such that approach-motivated emotions (e.g., happiness) promote behaviors related to communication, conceptual processing, and exploration. Emotions like happiness should automatically elicit bottom-up processes related to conceptual processing, including semantic activity. Moreover, these emotions should prioritize executive functions of verbal working memory, shifting (cognitive flexibility), planning, and executive control. In contrast, withdrawal-motivated emotions (e.g., sadness, fear, disgust) promote behaviors related to spatial processing, monitoring, and error and threat detection. Such goals should prioritize executive functions of spatial working memory, inhibition, and attentional control, and automatically bias perception toward referential qualities of an entity (e.g., color, form, shape) and special elements. The behavioral goals prioritized by withdrawal-oriented emotions should result in either a lack of support

or an actual inhibition of semantic activation or access. For the purpose of this review, we will focus on the specific emotional states of happiness and sadness, and the remainder of the chapter will review evidence for how happiness and sadness influence components of semantic activity.

## 2 Emotion and semantic activity

Language is learned through assimilation and accommodation processes (Piaget 1954), and newer models of language continue this legacy by reframing this terminology within a semantic framework (e.g., semantic growth and preferential attachment; see Steyvers and Tenenbaum [2005] for example). Semantics refers to the language-specific linguistic labels that are given to these concepts. They are thought to be arranged in a network built around associations including similarity (i.e., synonymy), dissimilarity (i.e., antonymy), gradation (i.e., qualitative synonymy and antonymy), syntactic adjacency (e.g., summer–vacation), and categories. Semantic networks reflect theoretical systems that store factual information and conceptual knowledge, and their activity contributes greatly to linguistic functions, working memory (e.g., phonological loop activity), and learning and memory (Collins and Loftus 1975; McNamara 2005). Their structure is both hierarchical and associative, such that activated nodes (i.e., concepts that are accessed) can direct switching and clustering of cognitive concepts (Goni et al. 2011; Steyver and Tenenbaum 2005). Concepts are likely to have unique neurological signatures, and they can be combined combinatorially, and perhaps more importantly, associatively, because the emergence of thoughts involves combinations of existing concepts (Marupaka, Iyer, and Minai 2012).

The organization of semantic networks is important because it guides activity within the network. Two major mechanisms of association (access) and propagation (activation) guide activity. Semantic access can occur through a guided search of a target concept given associated cues. Often semantic access occurs when a word or a series of words is presented and activates an associated concept (e.g., the spread of activation from disambiguating nodes from the cue “*an animal with humps that lives in the desert*” should lead to access of the target node, “*camel*”; Assaf et al. 2009). Successful retrieval of the target (i.e., *camel*) is a result of targeted selection rather than random spread of activation. Semantic access likely occurs spontaneously and/or due to the targeted spread of activity. Semantic activation describes the spread of one accessed concept to other conceptual nodes. In early development (<7 years old) this is often shaped by syntactical relations (i.e., syntactically adjacent words or thematically related), and typically shift to paradigmatic relations (i.e., same grammatical class, taxonomic category) (Nelson and Nelson 1990; Wojcik 2018). Moreover, early in development the relations are more idiosyncratic and later in development they become less idiosyncratic and more homogeneous (Wojcik and Kandhadai 2020), which may reflect cultural influences. As such, culture may influence the contents of the network (e.g., shared beliefs, knowledge, and self-concept) but do not influence the mechanisms involved in lexico-semantic structure and properties (Youn et al. 2016). As a result, I suggest that emotions operate at the mechanistic level, particularly for the basic emotions (e.g., happiness, sadness, anger, fear, disgust), and thus this review will focus on how emotions influence the mechanisms that operate on semantic activity.

## 2.1 Semantic activity and priming

One classic paradigm that has been used to access associated concepts and the structure of the semantic network is the priming task (e.g., Neely 1991). *Semantic priming* is a phenomenon in which people identify letter strings as words (rather than nonwords) faster when the strings are preceded by a semantically related word compared to a semantically unrelated word. For example, the letter string DOCTOR is identified as a word faster after the prime NURSE, than if the prime were an unrelated word such as TABLE. Thus, this task can be used to examine whether an induced affective state can modify the accessibility of targets. Based on the emotion and goal compatibility theory, happiness should enhance semantic priming through increased accessibility, whereas sadness should inhibit such priming effects.

My colleague and I explored whether affect influences priming across three different tasks (Storbeck and Clore 2008). The priming tasks relied on the same set of stimuli with the same timing parameters (stimulus onset asynchrony of 300 ms), but the task goal varied: evaluation (good vs. bad), categorization (animal vs. texture), or make a lexical decision. Across the three different priming tasks, we observed that the positive affect conditions revealed evaluative priming (Exp. 1), category priming (Exp. 2), and semantic priming (Exp. 3). Of course, the most interesting condition was the negative condition in that negative affect inhibited semantic activity from prime to target, which is quite astounding given the robustness of semantic priming. These effects demonstrated how affect influences semantic memory by regulating semantic accessibility to target nodes (see also Corson [2002], Vermeulen Corneille and Luminet [2007] for other affective factors to consider).

A more recent study conducted in our lab examined whether affect influences both automatic and controlled types of priming. Prior work has suggested that priming with forward associations (e.g., panda – bear) requires a degree of controlled processing versus other types of automatic priming such as backward (e.g., ball – catch) and symmetrical (e.g., answer – question) associations (see Heyman et al. 2015). Following procedures similar to Heyman and colleagues, we manipulated working memory load (low vs. high) conditions within-participants, with the assumption that low load conditions should reveal all types of priming (i.e., automatic and controlled), whereas the high load conditions should only allow for automatic types of priming (i.e., automatic). After having induced a happy, sad, or neutral (control) mood state, people completed a series of priming trials while holding in mind the location of four dots within a  $4 \times 4$  matrix. For low load conditions, the four dots were presented in a single row or column, whereas for the high load conditions, the four dots were placed randomly within the grid. The happy condition revealed priming for all types of relationships across all load conditions, whereas the sad condition revealed no priming at all. The neutral condition revealed priming for backward associations across load conditions, but they failed to produce priming for forward associations across both load conditions. Thus, the initial results suggest that happiness facilitates priming due to automatic and controlled processing, whereas sadness eliminates all priming effects. We note this is the first study in a series of studies that will look to replicate these findings.

Assuming these results are replicated, I suggest that happiness may benefit from both automatic and executive control processes facilitating controlled priming as more resources

would be available to pursue secondary tasks. In support of this argument, prior research has found that happiness increases verbal working memory (see Gary 2001; Storbeck 2012) and working memory capacity (see Storbeck and Maswood 2015; Yang, Yang, and Isen 2012), which may facilitate semantic access, holding of semantic relations, and the prevention of interference from the secondary task. In sum, this study may point to the importance of happiness motivating a system prioritizing conceptual processing, including automatic and controlled processes (e.g., semantic network, verbal working memory, working memory capacity, proactive control) to enhance semantic activity.

## 2.2 Semantic activity and false memories

Another paradigm that has been essential to studying semantic activity and memory is the Deese-Roediger-McDermott false memory task (Roediger and McDermott 1995; Roediger et al. 2001). Deese, in a seminal article from 1959, created a memory paradigm that produces false memories reliably. He presented to participants lists of words that were highly associated to a single word, referred to as the *critical lure*. The lists were created by taking a critical lure (e.g., sleep) and finding 12 other words that were highly associated to that lure (e.g., bed, pillow, rest, etc.). Participants were then shown the list of words, but not the critical lure, and later were asked to recall the presented items. Deese found that participants were highly likely to recall non-presented lures. Roediger and colleagues re-introduced this paradigm decades later to further understand the mechanisms at play. They identified that backward association was a key predictor of producing false memories among other factors (Roediger et al. 2001; though see Reyna et al. [2016] for an alternative theory predicting false memories). In essence, the more likely the list of presented words is associated to the related critical lure, the more likely that lure would be recalled, suggesting the list of items propagates activation to the critical lure. Such findings are consistent within a network approach to semantic activity as spreading activation generates activation of related words and retrieval of such associations. Therefore, this task is quite useful as the production of false memories (i.e., reporting critical lures) serves as a measure of both activation and strength of activation as strongly activated words are often misperceived as having been presenting during learning (Roediger et al. 2001).

Dr. Clore and I conducted a series of studies to further identify whether happiness and sadness would guide the production of false memories as it did semantic priming (Storbeck 2013; Storbeck and Clore 2005, 2011). We first ran the “classic” experiment with some participants induced to feel positive or negative prior to list learning (we also had a no mood control condition). Reliably, we observed that happiness fostered more false memories compared to sadness. More interesting was the fact that sadness produced even fewer false memories compared to the control condition, suggesting how strong the inhibition effect was for people in a sad mood state. Our initial follow-up study used an inclusion paradigm where participants were asked to recall all items in mind even if they thought the items were not presented during learning to ensure the results were not due to sad people responding conservatively. The findings replicated the aforementioned effects, and critically, the sad people listed fewer critical lures compared to the happy condition, suggesting the

critical lures were activated less frequently during list learning for people in the sad condition (Storbeck and Clore 2005). A subsequent experiment examined the effects of mood on learning and retrieval more directly and used a recognition test allowing us to use signal detection analyses and examine potential retrieval biases (Storbeck and Clore 2011). We manipulated the timing of the mood induction either before learning or after learning but before retrieval. Again, we found that happiness led to enhanced recognition of critical lures, whereas sadness decreased false memories and the effect was not attributable to sadness influencing retrieval strategies. Thus, these series of experiments provided concrete evidence that sadness was able to inhibit activation of the critical lure, and thus making participants induced to feel sad less susceptible to false memories (see alsoForgas 2013). Conversely, happiness consistently increased the activation strength of critical lures, increasing the likelihood of false memories.

### **2.3 Cognitive flexibility, breadth of processing, and verbal fluency**

Other studies have used different paradigms that explored whether emotion influences semantic activation or the breadth of association. Such studies in breadth of activation are important as they serve as predictors of creativity and more importantly can demonstrate the spread of activation to more distant concepts (see Beaty and Silvia 2012; Mednick 1962). Newer models of creativity or divergent thinking have proposed that multiple mechanisms underlie creativity, including associative processes and executive processes. Associative processes have been discussed where a concept is activated and spreads to close and distant relations (e.g., Bowden et al. 2005). Executive processes have also been identified that facilitate divergent thinking, including inhibition, switching, fluid intelligence, and working memory capacity (see Beaty et al. 2014). The central idea is that associative thinking begins the activation process and executive functions facilitate the search to more distant targets by inhibiting non-relevant concepts, switching to alternative concepts, speeding up the search process via fluid intelligence, and working memory capacity enhances both search and inhibition processes. Thus, creativity or divergent thinking requires both automatic and controlled processes.

One of the more prominent affect and creativity researchers, Alice Isen, and her colleagues produced a wide array of studies documenting that happiness increases breadth of processing (i.e., semantic activation) codified in the neuropsychological theory of positive affect (see Ashby, Isen, and Turken 1999). This theory suggests that happiness elicits dopamine, which leads to increased activity in the prefrontal cortex including the anterior cingulate, allowing for increased associations (breadth of processing) and set-shifting (i.e., cognitive flexibility). There has yet to be direct evidence connecting such breadth of processing and cognitive flexibility effects directly to dopamine and the respective brain areas. However, the theory does articulate a plausible system for the observed effects, and many of those same systems are suggested in the emotion and goal compatibility theory.

Other research groups have explored paradigms that require activation of indirect associates, rather than direct associations. The most commonly used task is the remote associ-

ates task (Mednick 1962). The remote associates task presents three words (e.g., bike, pass, goat) that have a common word (e.g., mountain) that links the three words together, although the linking word is not directly associated with any of the three words (e.g., “climber” would be a direct associate to mountain). Happiness often facilitates identification of the correct answer, and more interesting, happiness can also increase the ability to identify associates that have a correct answer or ones where there are no correct answers (Baumann and Kuhl 2002; Bolte, Goschke, and Kuhl 2003). Related to indirect associations are insight problems, where again the answers are not directly accessible. Happiness again facilitates insight solutions that require a non-obvious semantic association (Isen, Daubman, and Nowicki 1987). Finally, Isen and colleagues observed that an induced state of happiness increased the ability to identify and produce unusual associations (Isen et al. 1985). To review, happiness fosters increased activation and access to remote associations or indirect associations that has benefits to creativity and solving insight problems (see also Fredrickson 2001). However, the just reviewed studies often did not induce a negative state and thus, less can be said about sadness except that it did decrease the ability to solve remote associates task problems in one study (Bolte et al. 2003), suggesting sadness may also inhibit indirect as well as more direct associations (Storbeck and Clore 2008).

Other evidence exists concerning the links between emotions and semantic processing. One common examination of semantic access are fluency tasks, and negative moods typically result in poorer performance of semantic fluency tasks (Baker, Frith, and Dolan 1997). Interestingly, these fluency deficits go away when semantic fluency is replaced with letter fluency (Carvalho and Ready 2010) or figural fluency tasks (Bartolic et al. 1999). Thus, negative moods may have a direct impact on limiting semantic fluency, suggesting further that sadness may inhibit and/or disrupt conceptual processing.

More work is required to better understand how happiness and other emotions influence creativity. Thus far, most work has focused on a singular process (e.g., spreading activation), while ignoring other contributing processes (e.g., shifting). The neuropsychological theory of positive affect provides a limited explanation of creativity specific to breadth of processing. The emotion and goal compatibility articulates a more complex approach to understanding how emotion influences creativity that is consistent with the creativity and divergent thinking literature. For instance, happiness would facilitate associative processes and bring on-line executive processes (e.g., verbal working memory, working memory capacity, fluid intelligence, and shifting) necessary to achieve creative and divergent thinking. Of course, an acute state of happiness may not influence measures of fluid intelligence, but our work and others have found that happiness fosters spread of semantic associations (Storbeck and Clore 2008), verbal working memory (Gray 2001; Storbeck 2012), working memory capacity (Storbeck and Maswood 2015; Yang et al. 2012), and shifting (Dreisbach 2006) consistent with cognitive processes that foster creativity, divergent thinking, and verbal fluency.

### 3 Reciprocal effects?

One of the more interesting aspects to the emotion and goal compatibility theory is the assumption of reciprocal associations between emotions and cognitive/executive systems.

As reviewed above, there is a preponderance of evidence that happiness fosters a breadth of associations (i.e., great semantic access and activation) (see Bolte et al. 2003; Storbeck and Clore 2008). However, is the opposite true? That is, does engaging in tasks that encourage a breadth of processing result in higher levels of reported happiness? Evidence from Bar (2009) suggests indeed it does. Participants were asked to either think broadly or more narrowly, and after task completion participants were asked to self-report their feelings. They found those asked to broaden semantic processing reported higher levels of positive affect. Although verbal working memory is not directly linked with semantic activation, verbal working memory is critical for access to and retrieval of semantic information and facilitates creativity and divergent thinking (De Dreu et al. 2012). As such, previous research has found that states of happiness enhance verbal working memory (Gray 2001; Gray et al. 2002; Storbeck 2012). Thus, does holding information in verbal working memory enhance happiness? It might. Storbeck and Watson (2014) observed that engaging in a verbal working memory task, compared to a spatial working memory task, fostered greater positivity when evaluating affective images and words. Moreover, when people completed a dot-probe task following a verbal working memory task, those individuals found it harder to disengage from positive images, whereas those individuals completing a spatial working memory task found it more challenging to disengage from negative stimuli. Thus, thinking more broadly or holding verbal material in mind may increase feelings of happiness, and conversely, feeling happy increases breadth of associations and capacity to hold verbal information in mind. Such findings are important for establishing that specific emotions may be integrated with specific cognitive processes linking emotion, cognition, efficiency, and performance.

## 4 Summary

Language is an important part of life and the ability to express ourselves depends on accessing and retrieving semantic information that often reflects our personal and cultural experiences. Emotions are key guides to what information is accessible or not and may govern our ability to communicate and express our desires and knowledge. The failure to access, activate, and retrieve information from semantic memory can lead to diminished conversations, inability to perform academically, and an inability to describe our internal states. The emotion and goal compatibility theory suggests that happiness and sadness both have their functional and dysfunctional effects on cognition and executive functioning. Hopefully, this review demonstrated that there are benefits to both happiness and sadness depending on the situational demands. Happiness promotes social behaviors and exploration, which should prioritize executive and cognitive systems supporting language and communication. In this case, happiness served to enhance semantic activity that allows for greater access, activation, and retrieval of concepts that allow us to communicate with others about one's experiences. Of course, happiness also has downsides in that it can lead to misremembered information, adding non-experienced details to events, and an inability to remain focused on a singular concept/idea (e.g., Dreisbach 2006;Forgas 1998). Sadness appears to inhibit and prevent the spread of activation and limit access and re-

trieval of associated concepts. Why? Because sadness motivates behaviors that are necessary for detecting problems and monitoring the environment. For instance, sadness was beneficial for preventing false memories by inhibiting semantic activity. Of course, limiting semantic activity would be beneficial for solving a complex problem and research suggests sadness may indeed enhance complex problem solving (Andrew and Thomson 2009). Thus, sadness may impair the default style of processing that often makes life easier (e.g., reliance on heuristic processing), but it may help achieve situational goals that require more focused attention. Although this theory is still a work in progress, this review hopefully provides a framework for how emotions interact with cognitive and executive systems and how emotions may facilitate or hinder linguistic processes.

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## **II Methods of emotion research and their linguistic relevance**



Virginia Eatough and Leah Tomkins

## 8 Qualitative methods

- 1 Introduction
- 2 Key characteristics of qualitative research methods
- 3 Different epistemological and philosophical commitments
- 4 Language and emotion research: disclosers and constructors
- 5 Ricoeur and language
- 6 Some concluding thoughts on the way forward
- 7 References

**Abstract:** Polkinghorne suggests that “[d]espite the problems involved in transforming human life experiences into language, language is our primary access to people’s experiences” (Polkinghorne 2005: 139). In this chapter, we discuss some of the relevant issues and examine how qualitative methods address them. We utilize Yancher’s (2015) distinction of people as *existential world-disclosers* originating from phenomenology and people as *epistemic world-constructors* arising from social constructionism to illustrate the expressive and performative functions of language. The former proposes that experience precedes language and the latter that it is language that constructs experience with an emphasis on content and form, respectively (Willig 2012). We draw on the work of Ricoeur to suggest a more complex picture, one which recognizes the inextricable relationship between lived experience and the mutable nature of language. We consider a range of qualitative methods underpinned by these different ontologies, paying particular attention to critical discursive and hermeneutic-phenomenological approaches.

## 1 Introduction

Qualitative methods provide researchers with a rich and diverse range of approaches with which to examine and understand emotional phenomena. Emotional life is complex and qualitative methods aim to do justice to this complexity by focusing on how emotions, moods and feelings are experienced, talked about and made sense of in the flow of everyday life; in other words, how they are *lived*. Our intention is to provide the reader with an insight into how qualitative researchers approach the study of emotions and what qualitative emotion research looks like in practice. This is necessarily a selective account illustrating some of the methods researchers use to understand the emotional fabric of human lives. We organize the studies we discuss by loosely grouping them as either phenomenological/experiential or constructionist/discursive in terms of their different epistemological commitments. In reality, this is often a fuzzy divide and is simply a heuristic device to help

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readers navigate through some complex issues. The studies we describe make use of written text such as interviews as well as naturally occurring conversation and interaction sequences.

Polkinghorne suggests that “[d]espite the problems involved in transforming human life experiences into language, language is our primary access to people’s experiences” (Polkinghorne 2005: 139). For qualitative researchers, language lies at the heart of their endeavour to understand emotions but it is an endeavour realized differently and dependent upon their philosophical and epistemological commitments. In what follows, we show how these commitments have implications for how we think about emotional phenomena. We do this by utilizing Yancher’s (2015) distinction of people as *existential world-disclosers* originating from phenomenology and people as *epistemic world-constructors* arising from social constructionism to illustrate the expressive and performative functions of language. We draw on the work of Ricoeur to suggest that these aspects are not separable; rather, they exist as a reciprocal and inextricable relationship between lived experience and the mutable nature of language.

## 2 Key characteristics of qualitative research methods

Izard comments that the problem with the term “emotion” is not that it is meaningless but that it is burdened with many competing and indeterminate meanings (Izard 2010: 385). Similarly, Dixon’s historical analysis describes emotion as a “keyword in crisis” from both a definitional and conceptual point of view since the 19th century (Dixon 2012: 338). “Emotion”, “feeling”, “mood”, “affect” and “affectivity” (to name but a few) are terms that are used variously and interchangeably, denoting different theoretical perspectives and different disciplinary allegiances. For our purposes here, we use these terms likewise, accepting the proposal that these phenomena share a common structure that is “feeling oneself in a certain way in relation to something” (Slaby and Stephan 2008: 507).

We begin by examining some of the key shared characteristics of qualitative methods, followed by a discussion of their different epistemological and philosophical commitments which yield different insights into the study of our affective life. This will set the scene for the subsequent elaboration and evaluation of Yancher’s distinction described above.

Qualitative research has been described as heterogeneous and “best conceptualized as a fuzzy set” (Madill and Gough 2008: 254) as well as a “family” where there are “some close relations, some distant relations, some extended kin, some odd cousins, and a few nasty divorces” (Drisko 1997: 186). Nevertheless, like any family, it is possible to identify commonalities and a key interest is “with people’s grasp of their world” (Ashworth 2008: 4), which manifests itself as a focus on both subjective experience and the resources available to people in order for them to understand their world. For example, phenomenological researchers might ask *what-it-is-like-for* a person to be happy, fearful, overwhelmed or even resolute, hoping to find out what it means for the person involved. In contrast, ethnographers or narrative researchers emphasize how conversations and stories both shape and reflect these meanings; whilst studies of discourse focus on how certain understandings of

emotion come about, and whose interests are served by making some versions of emotional life more acceptable and more “common sense” than others.

Sometimes, qualitative researchers liken their work to a “voyage of discovery”, an “adventure” or a “craft” (Finlay and Evans 2009; Miles and Huberman 1994; Willig 2001). These representations indicate the importance of having an open, curious and receptive stance throughout the research process. For instance, remaining open to uncertainty and ambiguity, because often these are qualities which reflect the reality of people’s emotional lives (Eatough 2012). There is an emphasis on naturalistic settings, real-worldness and familiarity which is exemplified in the work of cultural anthropologists and ethnomethodologists (Rosaldo 1984; Schweder 1991); for example, the study of the use of emotion words in Ifaluk culture (Lutz 1982) or the identification of discourses of despair and concern in the localized context of child protection case workers (Forsberg and Vagli 2006). Alternatively, emotions can be examined in naturally occurring conversations which are audio- and video-recorded, such as Wiggins’ (2013) study of disgust expressions during family mealtimes. Sometimes, however, this research is practically and/or ethically difficult to carry out, so researchers make use of interviews in a place familiar and comfortable for research participants.

It is fair to say that any cursory review of psychological and social science qualitative research shows that the interview is the primary mode of data collection. Even so, there is considerable diversity and interviews can be semi-structured or unstructured, emphasize concrete description or meaning making or be carried out in group settings. For instance, semi-structured interviews exploring how women cope with the feelings experienced after miscarriage (Andersson, Nilsson, and Adolfsson 2012) or the use of a single question such as “What does forgiveness mean to you” (Halling, Leifer, and Rowe 2006) to trigger reflections and sense making. Interpretative phenomenological analysis (IPA) foregrounds meaning making in a case study which explored the experience of depression (Rhodes and Smith 2010), whilst descriptive phenomenology was employed to establish the general structures of security and contentment with children (Sadowski and McIntosh 2015). In a study exploring the experience of being a “working carer”, both interviews and focus groups were used to examine the feelings evoked around issues of identity (Tomkins and Eatough 2014). Qualitative interviews are a specific form of human-to-human interaction, adopt a conversational style and aim to elicit concrete description and real-time sense making. However, like all methods, a sole reliance on interviews yields a partial perspective on what we are trying to understand, and emotion researchers are increasingly using visual approaches alongside the traditional interview format.

Qualitative researchers tend to prioritize depth over breadth, particularity over universality, and richness over superficiality. Given that affective phenomena can appear ineffable and “beyond language”, these priorities represent a challenge for emotion research. Qualitative researchers aspire to *enable* their participants to provide “thick” descriptions of their emotions and feelings with the goal of getting as *experience-near* as possible. To achieve this, some are turning to multimodal inquiry using interviews with visual data such as photographs, drawings and other objects in order to capture the texture and intensity of our feelings (Cromby 2011; Gillies et al. 2005; Reavey and Johnson, 2008).

Willig (2015) employed object elicitation methodology in her study on “living with dying”. This involved asking participants to bring a significant object(s) to the interview as a

way of getting closer to the more elusive aspects of their experience and thus avoid a more abstract account. Other qualitative researchers have drawn inspiration from therapeutic techniques and adapted them for the research context. For instance, Imagery in Movement Method (Schneier 1985) involves guiding participants to produce an abstract colour drawing followed by a process of interpretation, and this was used alongside Focusing (Gendlin 2012) in a phenomenological study of men's guilt. This visual-to-verbal imagery is illustrated with a case study where the participant reflected on a visual image in their drawing and worked with the researcher to articulate and give meaning to it. In addition, sensory metaphors were explored via the colour and texture of the drawing. (Boden and Eatough 2014). Using visual material acknowledges how the "aesthetic" is an integral part of our emotional experiences.

### **3 Different epistemological and philosophical commitments**

Qualitative researchers attend to different aspects and features of emotional life, which necessitates having different epistemological assumptions about what it is they can know about affective phenomena. These assumptions are bolstered by ideas drawn from a range of philosophical traditions. In this section, we focus on two influential schools of thought, namely phenomenology and social constructionism, which give rise to different sorts of knowledge about emotion, moods and feelings: for heuristic purposes, we call these two sorts of knowledge *experiential* and *discursive*, respectively (Reicher 2000). We briefly discuss some key features from both approaches which have been taken up by qualitative researchers inspired by these ideas (see Sokolowski [2000] and Langridge [2007] for accessible introductions to phenomenology; see Burr [2015] and Gergen [1999] for social constructionism).

#### **3.1 Phenomenology**

Phenomenology is one of the dominant philosophical movements of the 20th century and its ideas provide fertile ground for researchers interested in the subjective experience of emotions. Major figures include Husserl, Heidegger, Stein and Merleau-Ponty and their work has influenced thinkers such as Gadamer, Ricoeur and Derrida (Kearney 1994; Moran 2000). Husserl's stirring call, "back to the things themselves" (*auf die Sachen selbst zurückgehen*) motivates phenomenological researchers to describe how emotions, feelings and moods manifest themselves to us because what we can know about reality/the world is what is given to us in experience (Thompson and Zahavi 2007).

Phenomenology is resolutely non-dualist, rejecting notions of mind-body, idealism-realism, subject-object and person-world. There is no separation between the world and the world that is experienced; rather, there is a co-givenness of self-world and our experience is always tuned directly to the world (Zahavi 2008). This has profound implications for the

study of emotions in that emotional phenomena are not the product of either a disembodied mind nor a mindless body:

they are modes of bodily attunement to, and engagement with, the lived world. It is only through our affectivity that we find ourselves in a meaningful environment in which persons and things matter for us, and in which we care for them as well as for ourselves. Affects are the very heart of our existence. (Fuchs 2015: 613)

From this perspective, people are *intentional* beings; with respect to our emotional lives, we are overjoyed *about* something, in love *with* someone and sad *for* ourselves. This *intentionality* is often described as a relation between the what and how of experience. The *what* is the emotion or feeling but it is not the emotion or feeling per se that is of interest to phenomenological researchers, it is *how* the emotion or feeling is experienced; the “event” of being bereft, in love or delighted (Churchill 2014).

For phenomenology, *Dasein* is a person’s state of engagement as “being-in-the-world”; we are *thrown* into an already existing world of language, discourse, culture and history (Heidegger [1962] 2004). Thus, for the phenomenological researcher, people are embodied, situated and agentic beings, “bearers of understanding of the world” (Inkpen 2016: 27). This world is *Lebenswelt* or life-world which is the focus for study; the everyday world that we are directly immersed in and which is lived, felt and understood by a conscious actor.

### 3.2 Social constructionism

The roots of social constructionism lie in postmodernism, poststructuralist theory, the philosophy of language and the sociology of knowledge (Berger and Luckmann 1966; Bourdieu 1990; Wittgenstein 1963). Like phenomenological philosophy, there are a wide array of influential thinkers, in particular, Foucault, Barthes and Kristeva (Kearney 1994). It is perhaps best seen as an orientation with a set of principles rather than a philosophical movement, which most qualitative researchers, including phenomenological researchers, subscribe to in one way or another.

Burr (2015) describes four key tenets of social constructionism, which are adopting a critical attitude towards taken-for-granted knowledge, the belief that knowledge is culturally and historically specific, the proposal that knowledge of the world is derived from social interaction and processes and that knowledge has implications for action. The first two tenets encourage us to question assumptions about how we divide and categorize the world, as if these categories are real and natural. For example, Burr discusses how the categories of “men” and “women” are not natural ones; rather, they are shot through with normative gendered prescriptions about what it means to be masculine and feminine. Thus, from this perspective, it follows that affective phenomena are constructed categories which are culturally and historically specific. For a social constructionist, “road rage” is less a matter of individual experience and more a case of an extended contemporary vocabulary of rights which have been violated (Butt 1999).

The final two tenets point to how we construct knowledge through the engagements (conversations, rituals, art and so on) we have with one another during which we render

accounts of what we think to be the case; these knowledge constructions facilitate some forms of action and not others. For example, the phrase “get a grip on your emotions” constructs emotions as risky and to be controlled as well as reflecting imbalances of power. To be perceived as highly emotional in most work contexts is often seen as a form of personal failure (Gergen 1999; Tomkins and Eatough 2014).

Sometimes, social constructionism is seen as giving rise to two different forms of qualitative research practice, namely “light” or “micro” and “dark” or “macro” (Burr 2015; Danziger 1997). From a micro perspective, emotions are intersubjective phenomena that are constructed between people in localized daily discourse and are to be understood as cultural meaning systems that enable people to make sense of the situations they encounter (Harré 1991; Lutz 1985). On a macro view, they are inextricably coupled with peoples’ membership of specific social groups and their positions and roles in various social systems and institutions. This approach is exemplified in Scheff’s (1990) work on shame and pride and Averill’s (1982, 1985) on anger and love.

## 4 Language and emotion research: disclosers and constructors

In this section, we bring language centre stage, examining how the ideas and commitments above lead to different emphases for the role of language in understanding affective life. We find Yancher’s (2015) distinction of people as either *existential world-disclosers* or *epistemic world-constructors* useful in this respect, although we disagree with his view that people are best understood as only the former. In contrast, we propose that people are both, a position discussed in the final section of this chapter.

The notion of people as *existential world-disclosers* draws on the work of Heidegger as an *expressivist ontology* in which language has the “power to make things manifest” (Taylor 1985: 238). Fundamental to this ontology is the Heideggerian idea that it is “meaningful engagement in everyday activities that unconceals phenomena in particular ways for particular purposes” (Yancher 2015: 108). This engagement is a form of *concernful involvement* by conscious actors who are situated in a world of meaningful historical, social and cultural practices with other people and objects:

What is perhaps most important about an expressivist ontology is that what can be legitimately known about a given phenomenon is a function of how it is engaged by participational agents for particular purposes. That is, phenomena show up – they are disclosed or revealed – in a given setting based on the concernful involvement of participational agents, including their tacit familiarity, purposes, use of equipment, and so on. (Yancher 2015: 110–111)

Disclosure refers to how we find or feel ourselves in the world in ways which matter to us. Heidegger calls this *Befindlichkeit*, which for our purposes here, we might usefully translate as “attunement” or even “affectivity”. We are always attuned to the world in some sense; “mooded”, moving and being moved in a world which is, to borrow a phrase from Fuchs, an *affective space* (Fuchs 2015: 612). And, like Being-in-the-world, language is language-in-

the-world (Inkpen 2016:16), a shared and collective undertaking *from out* of which we speak and express modes of attunement as they are given to us.

Frost's poem "The Tuft of Flowers" captures the sense of disclosure (in this case, the disclosure of happiness) wonderfully. The narrator of the poem is turning over grass in a newly mown field. At the outset, the unknown mower is present to the narrator but only in a limited sense, by his absence and the freshly mown grass. The narrator comes across a single tuft of flowers and a connection is made. The mower becomes present to the narrator because the tuft of flowers is not an inert signifier but "a message from the dawn" disclosing the being of the mower. The tuft of flowers *affects* the narrator's relationship to the mower, shifting the mode of attunement, saying "I worked no more alone/But glad with him, I worked as with his aid" (Frost 2001; King 2009: 59).

In contrast, the idea of people as *epistemic world-constructors*, places *discourse* rather than practical engagement at the heart of its understanding of language. Language is *performative* and action-oriented, constructing our emotional experience through a *positioning* within localized discourses which themselves are embedded in a wider socio-cultural context:

saying "I love you" to one's partner on Valentine's Day is part of a culturally specific repertoire, the discourse of romantic love, which sets up subject positions (of the lover, of the beloved, of the broken-hearted, of the betrayed, and so on) that require particular routines and rituals [...] saying "I love you" is part and parcel of a socio-cultural practice which many of us engage in and which helps us to structure our relationships in ways that fit in with the discourses and institutions of our particular culture. (Willig 2012: 65–66)

Discursive research, especially work in cultural anthropology, *deconstructs* the notion of emotions as private and natural, pointing to how these notions are culturally specific linguistic constructions rather than self-evident and fundamental entities. For example, the English word *disgust* does not have a precise counterpart in the Polish language and *fear* and *shame* do not appear to be discriminated lexically in the Australian Aboriginal language Gidjingali (Wierzbicka 1986). It is important to emphasize that this does not mean that emotions are not *felt*; but rather, that the intensity, energy and appropriateness of these feelings relate to how they come about within a particular set of culturally and institutionally mediated practices, routines and performances.

Other types of discursive research emphasize what can be *achieved* in emotional talk through a detailed analysis of the narrative, metaphorical and rhetorical constructions of emotional events. This includes the use of rhetorically based discursive oppositions and contrasts such as emotions as dispositional versus temporary states in order to achieve particular meanings and effects. A study examining the testimony of former US president Bill Clinton, highlighted how Clinton attributed various emotion states to Monica Lewinsky through a series of rhetorical and reflexive moves in order to manage accountability and to counter alternative accounts of events (Locke and Edwards 2003). The emphasis on language as process and activity which is always embedded in an experiential, social and cultural world means that qualitative emotion researchers are able to offer unique insights into our emotional lives which are missed by more quantitative approaches.

In the remainder of this section, we illustrate how the discloser-constructor distinction shapes and directs qualitative emotion research. We draw on a small number of selected

studies to exemplify the phenomenological-constructionism, experiential-discursive and discloser-constructor distinctions described above. Our use of extensive examples is deliberate; it allows the work to speak for itself and for the reader to assess the knowledge produced from qualitative research. The studies discussed make use of different sources of linguistic material: written descriptions, interviews, newspapers, naturally occurring conversations and interactional sequences.

## 4.1 Phenomenological approaches

The studies described here include both descriptive and hermeneutic phenomenological methods (Dahlberg 2008; Giorgi 2009; Smith, Flowers, and Larkin 2009). The first study we look at is Robbins' (2006) descriptive phenomenological study of joy, which addresses questions such as what is it like for a person to experience joy? How is the world disclosed (e.g., body, others, place, time) to people caught up in feelings of joy? In other words, his concern is the experiential *structure* of joy and Robbins argues that if joy is to be properly understood (and by extension, all emotions), then the starting point must be an examination of its appearance in lived experience.

Written and verbal accounts as well as drawings were elicited and situated structural descriptions developed for each participant through a process of analytic steps. These descriptions are a blend of concrete moments and possible meanings emergent from the original accounts of participants. In particular, there is a focus on metaphor as “the way of seeing which opens up a world which matters and which must be understood” (Romanyshyn 1982: 173). For example, one participant talked about the importance of the colour green in her experience of joy, saying, “The green was important to me, important to me at the end, because of like, being, like verdance, like, nutritious, life-giving kind of thing.” As Robbins comments, it would be rather silly to understand green as a literal quality of joy, but a possible meaning of green is that, for this participant, joy is experienced as nurturing, life-sustaining and affirming.

The situated structural descriptions are then synthesized into a general situated structure, a gestalt or form which remains grounded in the concrete experiences that have been described. To give readers a sense of what such a gestalt might look like, we provide a small part of the make-up of the final structure:

Joy was not experienced as willed, but resulted from an openness to the possibility of a connection to the world out of which joy erupted. The connectedness of joy required a reciprocal openness to the experience by self, other, and world, which, in the right moment, came together in harmonious agreement and affirmation of existence. Joy, in the case of these participants, was not experienced as the result of accomplishing an instrumental aim. Rather, joy was felt to be completely spontaneous and without expectation. Instead of a movement toward an instrumental goal or the achievement of a previously calculated purpose, joy involved an immersion in present activity.

Joy's movement from awe to fulfilled being was experienced as harmony, completeness, and perfection in which the daily imperfections of life were momentarily forgotten and placed aside. The world took on the character of an undifferentiatedly good place in which there were no impinging complications and nothing was lacking. (Robbins 2006: 200–201)

We suggest that this sort of descriptive work which aims to clarify and elucidate emotions in their appearing is essential if we are to achieve a better understanding of what an emotion is.

In contrast, hermeneutic phenomenological approaches emphasize the interpretative aspect of the description-interpretation dimension of phenomenological research. Moules says that “[h]ermeneutics peers behind language” (Moules 2002: 3), meaning that interpretation is concerned with the relationship between the said and the unsaid and the potentialities of meaning and understanding within. Here, the concept of the hermeneutic circle, which is central to hermeneutic inquiry, becomes an important tool because it reminds researchers how understanding is relational and referential; how “we understand something by connecting it with something we already know, whether through comparison, contrast or juxtaposition” (Tomkins and Eatough 2018).

The hermeneutic circle encourages us to think in a dynamic, non-linear and back-and-forth manner:

The hermeneutic circle is not like a clock, with fixed and mutually exclusive points around a rigid circumference, which make it impossible, say, for it to be both 3pm and 8pm simultaneously. Instead, it is an expansive and productive way of thinking about the constitutive relationships between things, steering us away from abstract, ‘either/or’ thinking which strips human phenomena of contextual richness. The more circular our movements in interpretation, the larger the circle will become, embracing more contexts, more perspectives, and more possibilities of understanding. (Tomkins and Eatough 2018: 10)

One way to work towards this expansive understanding is to employ the whole/part relationship; we engage with our material examining the parts for what it can tell us about the whole and vice versa. For example, this relationship can be expressed as the single word/ the sentence in which the word is embedded through to the single episode/the complete life (see Smith, Flowers, and Larkin [2009] for further elaboration of these relationships).

We illustrate this hermeneutic endeavour with an interpretative analysis of the experience of a first episode of depression in an interview study with seven people (Smith and Rhodes 2015). Hermeneutic researchers make fruitful use of the fundamental experiential features of the lifeworld; these *existentials* include embodiment, temporality, relationality and spatiality (Manen 1990). They are fundamental because people are always embodied, situated in time, space and in relation to others. Although how these features manifest themselves will vary from person to person and across the many diverse contexts they find themselves in. Utilizing these existentials enables a move beyond the thematic to a multilayered interpretative narrative to portray the feeling dimension of depression.

The authors identify a dominant theme in the participant’s stories which they describe as an overpowering sense of depletion, rendering life as “bleak and empty” (Smith and Rhodes 2015: 200). They interpret this depletion as manifesting itself as relational (*Being alone*), corporeal (*Being empty*) and temporal (*Losing one’s life*) in form, and below we illustrate how the authors move from what is said by one participant whose son had received a lengthy prison sentence to a foregrounding of their interpretative understanding of it:

“It’s emptiness, it’s nothing don’t matter, it’s being locked away, you just don’t care about yourself. It’s like part of you gone, your heart, I don’t know. Perhaps half my heart has gone away.”

The metaphors are powerful here. First, being depressed is like being in prison disheveled and devoid of freedom. Ironically, it may be that here Sally finds an empathetic, imaged connection with the person she has lost, her psychological experience of depression mirroring her son's physical endurance of imprisonment. The account then becomes even more embodied and the imagery is dense with meaning. The loss of her beloved son leaves her feeling she has lost part of herself. This is realized particularly strongly by describing the loss of her heart. Literally losing her heart would mean losing a vital physical organ, so this depression is like not being alive. At a symbolic level, it points to her having lost an affective base, a *joie de vivre* because she no longer has the heart for life. But the metaphor also directly speaks to the relational component in her depression; reminding us of a previous heart being given away representing her love for her son. Finally, the anguish of what has happened is captured in the final sentence. It is as though she is left, just alive, but missing her other half, the half that gives her life its meaning, its pulse. (Smith and Rhodes 2015: 202)

Phenomenological methods, whether descriptive or interpretative, aim to gather concrete accounts of experiences rich in the specifics of everyday life. Although there is considerable discussion about the nature of the description-interpretation continuum, both approaches resist, at least in the very early stages of analysis, bringing external interpretive frameworks (e.g., psychoanalysis) to bear on "things in their appearing". However, the ultimate aim of the situated structure and the multilayered interpretative narrative is different: the former is concerned more with establishing an *invariant structure* of the emotion experienced by people, whilst the latter emphasizes the shifting textures and qualities of an emotion as experienced for particular people at a particular time.

## 4.2 Discursive approaches

We move now to a discussion of those qualitative methods which emphasize the work of language and discourse in shaping and animating our emotional experiences. These methods ask questions about how emotions are generated, expressed, negotiated and legitimized in social interaction. Like the phenomenological approaches described above, discursive methods can be viewed as falling into two broad camps: discourse analytic methods which stress what can be achieved through talk; and Foucauldian discourse analysis which explores how the discourses we absorb and produce position us in a complex web of power relations, and emotion is thereby one aspect of what passes for acceptable, normal experience at any particular point in time (Foucault 2002).

We begin with Edwards' (1999) analysis of emotion discourse in newspaper reports following the death of Princess Diana to illustrate how the use of rhetorical contrasts or affordances (e.g., emotional reactions as honest vs. fake) at play in discourse works to construct alternative versions of events and manage accountability. The first data extract is a rejoinder from *The Sun* newspaper to a news interview with Earl Spencer (Diana's brother) in which he said, "I always believed the press would kill her in the end." The extract is followed by Edwards's analysis:

Extract 4 (*The Sun*, 1 September 1997, p. 10; original headline capitals)

1. DON'T BLAME THE PRESS
2. THE SUN SAYS
3. In the depths of his grief, Diana's brother

4. is entitled to be bitter about her death....
5. At such a harrowing time, we can
6. understand his emotional outburst

The narrative-rhetorical relevance of “the depths of his grief” and “at such a harrowing time” is that they provide the occasion and basis for Spencer’s statement, defined now as “his emotional outburst” (line 6). The implication is that there is no need to look to rational, observational, long-term grounds for his judgement; it was an emotion-driven reaction. Further elements in the Sun’s treatment of Spencer are the notions of understanding (line 6) and entitlement (line 4). Whereas Spencer emotionally reacts, the Sun itself understands, gets things in perspective, transcending the moment in which Spencer is entrapped, in the very act of defining Spencer’s reaction as of the moment. The notion that Spencer is “entitled to be bitter” invokes a kind of emotional scenario or script, that his feelings and judgements are predictable, understandable in the circumstances, even proper in their place, part of his role as grieving brother. In acknowledging such an emotional legitimacy, the Sun manages to build Spencer’s words as emotional, and as stemming from his sister’s death (grief rather than anger), and therefore as not to be taken seriously as any kind of rational judgement about the press. Of course, the rhetorical take-home message is given explicitly in the headline: “don’t blame the press”. (Edwards 1999: 284–285)

The analysis of small, situated pieces of discourse such as the one above does much to challenge cognitive models of emotion because they undermine the assumed logic and consistency in people’s discursive practice. In contrast, it stresses rhetorical variability and the action-performative nature of everyday discourse. Indeed, one might argue that rhetoric is to discursive research what metaphor is to phenomenological analysis.

Discourse analytic methods begin and end with situated discourse, paying little or no attention to individual subjectivity. In contrast, Foucauldian discourse analysis proposes that the person is produced out of multiple competing and shifting discourses or repertoires. People position themselves within discourse and are equally positioned by them:

The constitutive force of each discursive practice lies in its provision of subject positions. A subject position incorporates both a conceptual repertoire and a location for persons within the structure of rights for those that use that repertoire [...] Among the very products of discursive practices are the very persons who engage in them. (Davies and Harré 1990: 43)

We have chosen Stenner’s (1993) study of jealousy to illustrate this approach and his claim that jealousy, far from being an internal unitary psychological state, is generated from culturally available discourses which are played out in social interaction. The data comprises of interviews with Jim and May who are in a relationship, and Stenner demonstrates Jim’s “ideologically informed anti-jealousy” subject position:

- J: I’ve never been jea ... I’ve never really believed in monogamy.  
 There are two parts to this first story. First, jealousy is seen as being the emotion of unenlightened, unaware individuals with outmoded beliefs.
- J: No, no, never, no. I can say that about any woman ... it would never have worried me if they’d gone off with other men.
- Int:* So how do you feel about jealousy then, do you see it as a kind of weakness?
- J: Uh ... it’s one of the many things I don’t understand about people. Why do they go around chopping each other up with axes and stuff? Why do they go around shooting each other when it’s patently not necessary to do so? How do the very rich people feel about the grinding poverty surrounding them? Why do people get sexually jealous? ... You know, I don’t understand the mass of humanity at all.

Jim (J) is positioned by his story as an “outsider” or “non-conformist”. It provides him with a particularly positive identity as a member of an ‘ideologically’ sound vanguard of enlightened individuals. The second part of the story, “other people can’t handle my ideas”, concerns Jim’s relations with other people (mainly women) which, within this story, are hindered by the inability of others to accept the hard truth of the unacceptability of monogamy. (Stenner 1993: 116)

Taking up various subject positions is a fluid process and, in the course of their talk, people can slip between them with considerable ease. It is clear that for discursive methods, emotions are not internal psychological states; rather, they are constituted out of language and socio-cultural historical practices.

So far, we have focused on material derived from written protocols, interviews and other textual material such as newspapers. However, naturally occurring conversations which emphasize the interactional exchange between people is also a valuable resource for the qualitative emotion researcher. Ethnographic work from anthropology and sociology as well as discursive studies from critical social psychology provide excellent exemplars of research which focuses on the display and management of emotion in situated interactional exchanges. Maintaining our phenomenological/discursive distinction, there is ethnographic phenomenological work which has explored the construction and expression of humour in families visiting fun houses through the use of audio and video recordings (Katz 1999), as well as observational and field note analysis of how metro police officers in Paris manage peoples’ emotions as a key part of their job (Paperman 2003). Other naturalistic accounts derived from firsthand observation include the experience of gambling loss (Avery 2009) and the organization of emotional experience into narrative in the Nahuat community in Mexico (Taggart 2011).

From a discursive perspective, attention focuses on aspects of interactional sequences ranging from identity negotiation, rhetorical strategies, requests and turn-taking to a focus on prosodic features. For example, the work on sequences of crying in phone calls to a UK helpline for children (Hepburn and Potter 2007), the display and management of “hysteria” during emergency calls in the US (Whalen and Zimmerman 1998) and emotional labour in the workplace (Toerien and Kitzinger 2007).

To illustrate this mode of data collection, we describe one study which examines emotion-involving activities such as joint laughter in a workplace setting. Kangasharju and Nikko (2009) concentrate specifically on leader-member interactions because of how emotion is an often unacknowledged component of decision making by leaders. Recorded conversations of internal meetings of two large Finnish-Swedish corporations were analyzed to identify the different functions of joint laughter as well as what sorts of interactional practices were deployed in laughing sequences. The following extract focuses on the conversation between nine people at the outset of a meeting. The chair of the meeting is Swedish, the other participants are Finns, Swedes and Germans and they conducted the meeting in English:

- 01 Ch: This is now actually (.) a sign of trust (.) if
- 02 I didn't trUST you I would say I
- 03 would say (.) mid next week first part (.) because
- 04 then I can CHECK (.) and scream a bit

05 and be more (.) red in the face (.) er not because of  
 06 → country X ((refers to his prior slip of tongue  
 07 → in the same discussion)) he he  
 08 → ((joint laughter))  
 09 Ch: but because of of frustration with (difficulties) (.)  
 10 But but you get a CHAnce  
 11 otherwise I will (.) I will hunt you from the  
 12 vacation  
 13 Sten: Oh (.)  
 14 Antti: >It's a [threat]<  
 15 Sten: [That ] >that is a threat< (.) now  
 16 → ((joint laughter))  
 17 Sten: It's not trust its threat  
 18 → Antti: There there was a nice guy but now  
 19 (.)  
 20 Sten: Now he is normal  
 21 → ((joint laughter))

This extract is an example of shared laughter and humour where the aim of the laughter is to reduce tension whilst the chair of the meeting assigns a demanding task to the members of the group. The long turn of the chair includes drawing attention to his joking by referring to a slip of the tongue (lines 6–7), whilst his laughter could be viewed as an invitation to joint laughter (line 8). The joking mode is sustained through Sten and Antti's "laughables" (line 16) and their turns which are delivered in a laughing tone saying that the chair is issuing a threat. Overall, the joking sequence works to create collegiality, reduce tension and reduce asymmetry between the chair who is the manager and the rest of the team.

Scratch the surface and it is reassuring to find that there is considerable commonality between the two approaches described above and it is fair to say that most qualitative researchers take a middle ground position. Both approaches acknowledge that language does not disclose the world in an unproblematic and unambiguous manner, just as they recognize that a discursive world does not deny that people experience feelings. Our view is that language is *both* disclosive *and* constructive, that content and form are equally important, and that experience and discourse are "mutually illuminating rather than mutually exclusive" (Tomkins 2017: 16). We propose that the way forward for qualitative emotion researchers is to ensure their work better reflects these complementary standpoints and the work of Paul Ricoeur provides one way of doing this.

## 5 Ricoeur and language

Paul Ricoeur is acknowledged as one of the giants of 20th century Continental philosophy and his work, although challenging, is a treasure trove of insights for the emotion research-

er, not least because of Ricoeur's understanding of language as enriching, creative and imaginative rather than constraining and limiting (see Kearney [2004] and Muldoon [2002] for highly accessible introductions). Moreover, his work on both content and form is a generous bringing together of often opposing schools of thought. In this final section, we sketch very briefly some of Ricoeur's ideas which we believe provides qualitative emotion researchers with a way of thinking about language and emotion which has the potential to harmonize the experiential-discursive distinction described above.

For Ricoeur, the world and our lived experience of it pre-dates language and exists beyond it. Yet, it is language as an open referential system that mediates our access to this world and gives meaning to our experience: "Language is not a world of its own. It is not even a world. But because we are in the world, because we are affected by situations, and because we orient ourselves in those situations, we have something to say, we have experience to bring to language" (Ricoeur 1976: 20–21).

Thus, language is both rooted in the ontology of existence and is its ontological expression; as such the linguistic dimension of experience is derivative rather than primary. In addition, Ricoeur emphasizes the relationship between imagination and language, one which works in a creative back-and-forth manner enabling us to envisage new realities and fresh possibilities of meaning.

## 5.1 Language as discourse

Ricoeur distinguishes between discourse as speech (*la parole*) and language as system (*la langue*) where discourse is innovative and inventive, irreducible to words, whilst language consists of a system of signs out of which discourse is constituted. Discourse has four key features which further distinguish it from language: first, it is realized temporally and is an actual event of speaking, and it is this temporality which gives discourse its creative force. In contrast, language as a system of signs is atemporal, and although discourse is constructed from signs, it is not itself a sign. Second, in discourse, there is always a subject who speaks, indicating that discourse is always self-referential. In discourse "I" is a living word and in language it is an empty sign. Third, discourse fulfils the symbolic function of language because it is always about something, claiming to describe or represent a world. Finally, discourse is dialogue, it communicates with others. These features remind us that the world-self-other nexus lies at the heart of discourse out of which, in principle, possibilities of meaning are limitless. For, as Kearney points out, "[m]eaning, as Ricoeur constantly reminds us, involves *someone saying something to someone about something*" (Kearney 2004: 4, original emphasis).

## 5.2 Discourse as text

Ricoeur differentiates between spoken and written discourse, and he uses *text* to denote any discourse which is fixed in writing. Text is a *work* of discourse, a gestalt that is always more than the individual sentences that make it up. Importantly for qualitative researchers,

a text is something that can be worked on and interpreted. Indeed, for Ricoeur, the text is a model of interpretation: “The hermeneutic model of the text reveals complexities of meaning beyond the face-to-face of spoken dialogue. It goes beyond the direct reference of two interlocutors co-present to one another in an immediately identifiable situation ‘here and now’. This involves a “long” intersubjective detour through the sedimented horizons of history and tradition” (Kearney 2004: 4).

This detour of the text takes us to something beyond the text itself, what Ricoeur calls the *matter of the text* where “we encounter the ontological horizon of world-meaning opened up by the textual workings of language” (Ricoeur 1976: 4). As well as being a work of discourse, text is also to be conceived of as human action. This is a radical move which seeks to highlight the intrinsic similarities between the two and how the methodology of the human sciences and the techniques of textual analysis share a close resemblance.

A hermeneutic dialectic of distancing (*distanciation*) and belonging (*appropriation*) underpins the detour, and both have implications for qualitative research. Once the interview as intersubjective dialogue is transcribed into a transcript-as-text, then meaning is always provisional because the concrete conditions of speakers in the “here and now” no longer exists. Thus, distanciation is unavoidable, freeing the “matter” of the text from the author’s determinate intentional horizon. It invites the qualitative researcher to engage with “a multiplicity of readings – that is, an open horizon of interpretations” (Kearney 2004: 31). Appropriation is the dialectic foil to distanciation and means rendering familiar what was strange in order to actualize meanings in the text. Through appropriation, the reader (or qualitative researcher) discerns something of relevance for the present situation:

What would we know of love and hate, of moral feelings and, in general, of all that we call the *self*, if these had not been brought to language and articulated by literature? Thus, what seems most contrary to subjectivity, and what structural analysis discloses as the texture of the text, is the very *medium* within which we can understand ourselves. (Ricoeur 1981: 143)

In essence, we appropriate a proposed world of meanings from the text and this proposed world is not hidden furtively behind the text; it is *in front of the text*, and is revealed and opened up by the language of the text.

### 5.3 Hermeneutics of faith and suspicion

The interplay between faith and suspicion provides qualitative researchers with an intriguing way of approaching the interpretation of text. The distinction between faith (*la foi*) and suspicion (*le soupçon*) is elaborated especially powerfully by Ricoeur (1970), although it appears in the hermeneutic canon long before his time. Faith assumes the possibility of bringing meaning into the realm of conscious, subjective reflection, whereas suspicion aims to expose and reduce the lies and illusions of consciousness. We have retained Ricoeur’s use of faith to contrast with suspicion. However, contemporary readings frequently replace the term with “affirmation”, “restoration of meaning” or “empathy”.

In his review of the three “masters of suspicion”, Marx, Freud and Nietzsche, Ricoeur (1970) reminds us that meaning is far from transparent and that meaning making is always

an enigmatic process; for example, Freud's idea that concealed behind the mundane world of manifest meaning is a world of more elusive latent ones. Employing hermeneutics of suspicion encourages qualitative researchers to question what is presented at face value and paves the way for a hermeneutics of faith which might enable them to grasp the ontological surplus of meaning in their participants' accounts. This hermeneutics of faith urges researchers to be open to Being-in-the-world, in order to understand and resist the "narrowing of the existential field" (Muldoon 2002: 40). Also, it reminds researchers that understanding is never complete; it is an ongoing project because as finite human beings we are contained within the historical limits of the hermeneutic circle. The hermeneutics of faith and suspicion reflect the preoccupations of phenomenological and discursive approaches, respectively. But, as we have argued elsewhere, seeing these two modes as interwoven and mutually concerned with exploring emotional meaning helps to do justice to the dynamic and historical character of emotional life (Tomkins and Eatough 2018).

In sum, Ricoeur's particular brand of hermeneutics offers qualitative researchers a way of thinking about emotional life that is both ontological and epistemological. It bridges the gap between subjectivity and language, between signs and discourse and discourse and text. Crucially, its commitment to multiple meaning does not seek a resolution; rather, this multiplicity is to be embraced because it illuminates the contingencies, motivations and implications of their construction (Tomkins and Eatough 2018).

## 6 Some concluding thoughts on the way forward

Phenomenological and hermeneutic approaches to the study of emotion can be criticized for not attending sufficiently to language use and for privileging human subjectivity, whereas discursive approaches might be charged with neglecting the body and erasing the person from their accounts of affective life. Ricoeur's work provides qualitative researchers with ways of thinking about how they might unite their diverse commitments and emphases in order to develop emotion research. One way to achieve this is to adopt a dual focus methodology which brings phenomenological and discursive approaches together in a complementary and mutually illuminating manner. Recent studies have combined interpretative phenomenological analysis with Foucauldian discourse analysis to study both the lived experience and the socially constructed and discursive character of relationship satisfaction (Colahan 2014; Colahan, Tunariu, and Dell 2012), of living with a cancer diagnosis (Willig 2011) and having a tattoo (Black and Riley 2018). For instance, the Colahan et al. (2012) study addressed experiential questions such as "How do participants experience satisfaction in their relationship?", whilst "When does it make sense for participants to talk about relationship satisfaction in certain ways?" addressed the discursive aspect of the experience.

In this chapter, we have deliberately worked with a set of tensions or dialectics that we see as productive for qualitative researchers interested in emotional phenomena. They are productive because they encourage the researcher to attend to both the mutable and ambiguous nature of language in order to explain textual function and composition, as well as meaning within the text so that the existential possibilities contained within can come into

view. We propose that seeing our emotions as dialectical in nature is equally fruitful because they are “something we artfully produce and yet experience as forces that take us over as independent of our will” (Katz 1999: 7). From this perspective, discourse, experience and subjectivity exist in a symbiotic relationship, and teasing out the tangled nature of this relationship is, without doubt, a challenge. However, it is our view that hybrid approaches such as dual focus methodology which seek to transcend different epistemological and theoretical commitments, as well as a greater willingness to make use of and combine different forms of linguistic (and non-linguistic) material, will help researchers to better explain and understand the conundrum that is our emotional life.

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## 9 Quantitative and behavioral studies

- 1 Introduction
- 2 Characteristics of emotion words
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- 4 Study of language and emotion in cognitive behavioral tasks
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**Abstract:** The study of emotion has captured the attention of researchers for centuries, yet interest in this area has grown tremendously within the past decade (see Altarriba 2012). Much of the empirical work within this domain has focused on the intersection between emotion and language, specifically in how emotional concepts and words within a language are represented in memory and processed when activated. The current chapter will review the diverse research paradigms used in quantitative research to study emotion and language processing, with an emphasis on cognitive-behavioral tasks (e.g., priming, emotion Stroop, memory recall, etc.), as well as those that implement physiological measures and brain activity (e.g., eye tracking, fMRI, etc.) during emotion processing (Knickerbocker, Johnson, and Altarriba 2014; Kousta, Vinson, and Vigliocco 2009). In addition, this review will also examine differences in emotion language, as research has indicated that emotional words (e.g., *happy, sad*) are processed differently than words that elicit an emotion (e.g., *gold, cancer*), but which do not directly describe an emotional state (see Altarriba and Basnight-Brown 2011). These findings will be discussed in both monolingual and multilingual populations, given that there are important implications for how one processes emotional content in each of the languages that they know.

## 1 Introduction

The study of emotion has captured the attention of researchers for centuries, yet interest and knowledge in what is known about emotion processing have grown tremendously in recent years (see Altarriba [2012] for a historical overview). Most likely, the surge in interest can partly be attributed to the use of cognitive and neurological research methods that allowed researchers to uncover more specific ways that language and emotion intersect, thereby allowing them to gain better insight into how these processes affect the mind. Specifically, the development and use of widely used paradigms such priming tasks, recall and recognition tasks, eye tracking procedures, and even brain imaging techniques allow

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modern researchers to have a better understanding of this relationship. From the findings that used these experimental paradigms and methods, we now know that emotion words differ from other words in certain qualities and attributes, that emotional content can affect memory storage and retrieval, that different areas of the brain are engaged in the processing of emotional stimuli, and that language selection (using one's first language [L1] vs. second language [L2]) can influence the intensity of an emotion or the message conveyed. The aim of the current chapter is to introduce the reader to some of the most commonly used methods in quantitative studies, in an effort to provide a better understanding of the tasks and paradigms that are discussed in future chapters in this volume. In addition, a brief summary of some of the key findings and overall themes that have been determined from use of these experimental techniques will be provided. In the section that follows, key cognitive and linguistic differences that define emotion language will be described, so that one can gain familiarity with some of the terminology and trends reported in the literature to date.

## 2 Characteristics of emotion words

Initial research in this area focused on the use of rating tasks to determine whether emotion words differ from other types of words. In these tasks, participants rated different types of words (i.e., concrete, abstract, and emotion) on various dimensions such as concreteness, imageability, whether the word was perceived to be positive or negative, and/or level of emotional intensity (i.e., arousal). At this time, researchers also began to distinguish emotional stimuli based on their *valence*, the term referring to whether a word is positive (e.g., *happy, glad*) or negative (e.g., *sad, frustrated*). In this original rating work, important differences in emotion stimuli emerged, such that emotion words were rated as being easier to form a mental image of (i.e., higher in imageability) as compared to abstract words, but were found to be less concrete than *both* concrete and abstract words (Altarriba, Bauer, and Benvenuto 1999). Other studies showed additional semantic differences between words, where emotion words generated more word associations as compared to concrete and abstract words (Altarriba and Bauer 2004). Interestingly, a contrasting pattern has been reported in those who are younger ESL students (e.g., 11–12 years old English as a second language students), who generated more words to non-emotion stimuli as compared to emotion stimuli (Jimenez and Dewaele 2017). This suggests that in early stages of language acquisition, the emotion lexicon is not as well developed, which is not particularly surprising given that most individuals tend to acquire more concrete words during early foreign language learning. However, it does indicate that there is a time course for emotional language development, which is a function of proficiency and perhaps the age at which the language is acquired (see Basnight-Brown and Altarriba [2016] for a description on how these different word types may be acquired in one's L1 and L2).

Typically, when one thinks of emotion and its expression, a certain state of mind or feeling is activated. For example, a person may think "I am *happy* to attend this party this evening" or "I feel *frustrated* by all the traffic during my commute today". Regardless of the differences in valence expressed, the emotion words used here directly describe an

emotional state, and therefore are often referred to as *emotion* words. In contrast, other types of emotional stimuli also characterized by high levels of arousal, but which activate emotion in an indirect way, are often referred to as *emotion-laden* words. For example, words like *cancer*, *rape*, and *snake* are negatively valenced items that do not directly describe an emotional state, but which activate strong emotions. Similarly, emotion-laden words can be positive in nature, with words such as *heaven*, *money*, and *gold* serving as examples of those that score high on arousal measures. For many years, these two types of emotional stimuli were treated similarly, yet more recent studies have pointed to differences in processing between emotion and emotion-laden words. For instance, depending on the task used, some studies have reported faster response times and larger effects for emotion words as compared to emotion-laden ones (Kazanas and Altarriba 2016; Knickerbocker and Altarriba 2013), while others have shown this distinction is equally important but also affected by differences in valence between emotion and emotion-laden words (Altarriba and Basnight-Brown 2011).

Aside from the more recently discovered emotion and emotion-laden differences in the literature, early researchers often used the question of “what is emotion?” as a starting point in the exploration of emotion. For example, researcher Klaus Scherer first proposed the component process definition of emotion, where emotion was represented as five separate subsystems, based on behavioral indices of emotion such as expressions, physical arousal, fight/flight responses, and a cognitive, information processing component (see Scherer and Fontaine [2018] for a review).

In an effort to expand the understanding of important dimensions related to emotion processing, many researchers have focused on differences related to valence – are positive and negative emotional stimuli processed in the same way? Many studies revealed that words which are negative in valence seem to drive reported outcomes, in that negative words often produce larger effects, implying that those words may activate emotion in a more intense manner depending on the task and type of measurement used (Itkes and Mashal 2015; McKenna and Sharma 1995; Sutton et al. 2011). Yet some studies reported no difference in valence, while some have even shown an advantage for positive words in speeded tasks (Kousta et al. 2009; Martin and Altarriba 2017), the latter of which is supported by a meta-analytic review conducted by Pool et al. (2016), who conclude that there is a bias toward positive stimuli for tasks that measure very early levels of attentional processing.

Finally, in terms of linguistic differences, emotion words are reported to be of lower frequency and shorter in length as compared to other word types (Larsen, Mercer, and Balota 2006). Phonologically, certain phoneme clusters are reported to occur with greater frequency for negatively arousing words in some languages (e.g., German), indicating that emotion words differ not only in terms of the semantic attributes described earlier, but also in terms of linguistic variables (Ullrich et al. 2016). Overall, words that represent and activate emotional content have emerged as being different from more neutral stimuli (or those considered to be concrete or abstract) on various semantic and linguistic dimensions (see also Wilck and Altarriba [this volume] for a more comprehensive description on these word type differences). In the sections that follow, the specific methodologies that have been used in emotion research will be described now that some of the emotion language terminology is better understood.

### 3 Effects of language and emotion on recall and recognition tasks

It is often argued that facts and events that are associated with strong emotions are more likely to be remembered than those that lack emotional richness. A specific form of this type of memory is known as *flashbulb memory*, which refers to memories where people appear to have encoded an almost photographic memory of a highly emotional event (Ken-singer and Corkin 2003). Studies focused on other kinds of memory systems, particularly those that used recognition and free recall memory tasks, have supported the idea that emotion contributes to enhanced memory by revealing that emotional items are remembered better than neutral or non-emotional items (Siddiqui and Unsworth 2011). This finding extends to word type and valence differences, where studies have shown that emotion words are better recalled than concrete or abstract words (Altarriba and Bauer 2004), and that *both* positive and negative words show better recall as compared to neutral words (Adelman and Estes 2013). The understanding of how emotion affects memory relies on the disputed effects of the two dimensions of emotion mentioned previously: arousal and valence. As Adelman and Estes (2013) describe, some theories attribute this emotional memory enhancement more to arousal (i.e., how exciting or calming the stimulus is), with valence having little to no effect. Theoretically, it is suggested that arousing stimuli can lead to a narrowing of attention to certain details of the item during encoding, which in turn prioritizes certain relevant information and facilitates recall (Siddiqui and Unsworth 2011). This is viewed as support for why memory recall is enhanced for both positive and negative stimuli, assuming both are considered sufficiently arousing (Riegel et al. 2016). In contrast, others have suggested that emotional content is better remembered because of its cognitive distinctness, and not just due to arousal qualities (Hourihan, Fraundorf, and Benjamin 2017).

In an early memory experiment conducted by Ayçiçeği and Harris (2004), Turkish-English participants rated words that varied on degree of emotional content in both of their languages and were later asked to recall as many words as possible from the prior list. The results showed better recall and recognition, as well as an apparent deeper level of processing for emotion words compared to neutral words, referred to as the *emotion-memory effect*. As mentioned, it is thought that this occurs because of the word's inherent arousal as the emotional stimuli dominates one's attentional capacity. With this in mind, two important conclusions were drawn from the data with these bilinguals: (i) bilinguals are more likely to experience emotionality within their L1, and (ii) that bilinguals who acquire their L2 later in life can still develop emotional associations (see also Ayçiçeği-Dinn and Caldwell-Harris 2009).

While certain emotion words may be remembered better in one's native language, Anooshian and Hertel (1994) hypothesized that heightened emotional processing in one's L1 could actually hinder memory, depending on the valence of the items being processed. For example, they proposed that the activation of negative L1 language could lead to a change in mood. Therefore, in an attempt to minimize experiencing negative emotions, participants may (consciously or subconsciously) minimize the processing of aversive stimuli, which in turn could lead to decreased memory for negative words. This memory disadvantage for negative words in the L1 does not affect memory in the L2 to the same

degree due to the presumed emotional distance in one's second language. Moreover, other studies indicate superior memory – both recall and recognition – for taboo words in *both* of a bilinguals' languages (Anooshian and Hertel 1994; Ayçiçeği-Dinn and Caldwell-Harris 2009; Ferré et al. 2010; MacKay et al. 2004). It has been argued that this may occur simply due to the novelty and unusualness of the stimuli rather than the word occurring in the person's L1 or L2, provided that taboo words are more unique and potentially negatively charged as compared to negative words that measure high in arousal but which do not also carry a taboo connotation. Importantly, Ferre et al. (2010) identify that some differences observed in terms of the degree of similarity of memory performance in a bilingual's L1 and L2 can be attributed to differences in stimuli construction across experiments. For example, they highlight that memory studies often used word lists that differed on the percentage of negative emotional words being tested, which could affect recall outcomes. A second difference that may contribute to the different patterns reported is the criteria used to decide whether a word is emotional. They note that some studies chose words from the *Handbook of Semantic Word Norms* (1978), which uses a pleasantness scale ranging from 1 to 5, with positive words categorized as 3.5 or higher, negative words as being 2.0 or lower, and neutral words ranging from 2.5 to 3.4. In contrast, other early studies in this domain obtained their stimuli from other sources, such as subjective personal judgments from individuals on how emotional a word is, all of which have the potential to affect findings. Finally, a further complication arises when conducting experiments with bilingual populations, where there is the additional challenge of finding equivalent words in both languages, an issue that is only magnified by the difficulties in how emotion words translate across languages (see Basnight-Brown and Altarriba 2016).

### 3.1 False memory paradigm and emotion

In 1932, Bartlett asked a group of British students to read a Native North American story and retell it the best way they could. As the students retold the story, they made mistakes in the details based on their own personal knowledge and experience. Participants made sections of the story more familiar in their recollections, for example, where a seal hunt in the original story was recalled as a fishing trip, and a canoe became a rowboat. Bartlett explained that when people are asked to recall something, they are likely to construct their memories based on what they remember, but also taking into account how they understood and made sense of the story, which is not necessarily always in line with the material they actually read (Bartlett 1932, cited in Newman and Garry 2014). This effect became known as *effort after meaning*: the revelatory understanding that human memory is inherently prone to distortion.

As novel and important as this very early work proved to be, one cannot help but wonder what happens when the memory to be recalled is emotional in nature, as opposed to a more neutral story that is retold. While most people would assume that emotional content of a memory increases the accuracy of the memory, outcomes have been mixed in showing that although emotion may enhance true memory, emotional content has the potential to increase or decrease the likelihood of false memories (see Bookbinder and Brain-

erd 2016; Choi, Kensinger, and Rajaram 2013). Typically, false memories are defined in the literature as the recollection of events that did not occur, or that did not take place in the way in which the person recalled it. This type of memory is divided further into two kinds: suggestibility and misattribution. Suggestibility refers to the tendency to combine inaccurate information from external sources into one's personal recollections, while misattribution occurs when one recalls an event or memory and assigns it to the wrong source. Suggestibility is often tested using the misinformation paradigm pioneered by Elizabeth Loftus, where participants are shown a criminal activity (e.g., a car passing a stop sign and hitting a pedestrian) and are then exposed to verbal misinformation about the accident (e.g., the car passed a yield sign versus a stop sign). In these studies, the language used to question the participants has been shown to be a strong factor in determining whether false memories of what was seen will emerge (see Laney and Loftus 2008; Loftus 2005).

In contrast, misattribution occurs when memory errors for events that never happened are recalled or recognized. In terms of methodology, misattribution is often tested empirically using the Deese-Roediger/McDermott (DRM) paradigm (Roediger and McDermott 1995). In the DRM procedure, participants are presented with a list of semantically related words (e.g., *nurse*, *hospital*, *medication*, etc.) that appear in either a visual or auditory mode. After a delay, the participants are asked to either recall or recognize the words that were presented. In the recognition version of the DRM paradigm, the word list contains both words that were presented, as well as related words that were not presented, those known as critical lure words (e.g., *doctor*). In the free association procedure, participants generate the words remembered themselves. Results from a plethora of studies since the invention of the original DRM show that participants typically recall the non-presented critical lure words with high levels of confidence. Theoretically, the type of misattribution observed in the DRM occurs because as one studies the words in a particular list, semantic overlap with memory representations of similar words are activated and result in the individual creating a “semantic gist” of what occurred. If the critical lure matches the semantic representation during retrieval, it is more likely to be falsely recognized or recalled.

Outside of the traditional DRM procedure used in many monolingual populations, this methodology has been extended to bilingual participants in an effort to examine whether closely related semantic concepts of word translations are activated during encoding and retrieval of the words in the list. For bilinguals, false recall and false recognition of the critical lures have been found to be robust, although higher rates of false memory appear to emerge in one's dominant language (see Graves and Altarriba [2014] for a review; Marsolejo et al. 2009). For those who introduced emotion as a variable into the DRM construct, early research in this area found that when the critical lures were emotionally charged (e.g., emotion or taboo words), they did not result in more false memories as compared to non-emotional lures, and sometimes were even easier to reject (Pesta, Murphy, and Sanders 2001; Starns et al. 2006). More recently, this was supported in a well-constructed study that extended across three experiments, where it was found that emotional content helped overall true memory but did not increase the proportion of false memories. Furthermore, this study also reported no effect of valence on false memory (Choi et al. 2013). Finally, a series of studies focused on emotion have turned to the role that mood plays on the outcomes observed when using this paradigm. Zhang, Gross, and Hayne (2017) used the DRM to

examine the effect of positive and negative mood induction on memory for word lists that consisted of both positive and negative words. Their results revealed that false memory prevalence was not affected by the valence of the words when individuals were in a positive or neutral mood, but interestingly, for those in a negative mood, a mood congruent effect emerged.

Overall, the DRM is one of the most frequently used experimental methods to study memory, in addition to the traditional free recall and recognition tasks described earlier. This task has been used extensively over the years and has even been extended to the study of bilingual populations, as well as to the study of emotion and its influence on false memory occurrence. Despite its popularity, some worry that DRM memory errors may not be adequate in reflecting false memories in real world scenarios (e.g., cases of eyewitness testimony in court) (see Pardilla-Delgado and Payne 2017). Others have cautioned that using the DRM in bilingual contexts may be problematic because it requires original word lists to be directly translated, which may not prove to be the most effective method for testing if direct translations across those languages do not exist, an issue that is likely to be magnified for emotion words (see Basnight-Brown and Altarriba 2016; Graves and Altarriba 2014). In the section that follows, some of the most common cognitive behavioral tasks used to study the relationship between language and emotion will be discussed.

## 4 Study of language and emotion in cognitive behavioral tasks

Cognitive scientists and psycholinguistics have taken advantage of many different experimental methodologies over the years, in an effort to gain a better understanding of the influence that emotion has on language processing, and vice versa. For example, experiments using priming tasks (Altarriba and Bauer 2004), Stroop tasks (Eilola, Havelka, and Sharma 2007; Sutton et al. 2007), Affective Simon tasks (Altarriba and Basnight-Brown 2011; Meuter and Buckley 2008), translation production (Basnight-Brown and Altarriba 2016), and negative priming (Sutton and Altarriba 2016), just to name a few, have all contributed significantly to better understanding this relationship. The foundation of these tasks rests on response latencies or reaction time (RT) measurements, often calculated in milliseconds (ms). In terms of cognitive or mental processing, it is assumed that shorter (or faster) RTs indicate that the stimuli (i.e., words, pictures, shapes, colors) were easier to process, while longer RTs indicate that more cognitive capacity, or maybe even competition between responses, was needed. The focus of the current section will be to review the general methodology and overall findings of two dominant tasks used in the study of language and emotion – priming and Stroop tasks.

In a traditional priming task, stimuli typically appear on the computer screen in the following order: (i) a fixation (usually a + sign) will appear in the center of screen so that participants know where to fixate their eyes, (ii) followed by a word that appears for a very brief amount of time, often for 50–100 ms in duration (i.e., referred to as the *prime word*), (iii) followed by a second letter string (i.e., referred to as the *target word*) that will remain

on the screen for longer. Participants are asked to make a response to the target word only. In the lexical decision task (LDT) version of the priming paradigm, participants press one of two keys on the keyboard to indicate whether the letter string presented is a real word (e.g., *table*) or a nonword (e.g., *blit*) in the language of experimentation. In the pronunciation version of the priming task, participants are required to say the word aloud, into a microphone. In both cases, the amount of time required to make a lexical decision to the word or to pronounce the word is measured. Depending on the length of time that the prime word is presented, most participants do not have awareness that they even saw the prime; most usually only report seeing the second word, the target word. In the original work surrounding this paradigm (Meyer and Schvaneveldt 1971), it was observed that when the prime and target were semantically related (e.g., *nurse–doctor*), participants were faster to make a lexical decision, as compared to words that were unrelated (e.g., *bread–doctor*). The basic concept behind this task, and why it continues to be so widely used, is that it reveals that when a word is presented, not only is its meaning automatically activated, but that activation spreads to words that are also closely related on various dimensions (e.g., semantic, valence, etc.). For this reason, it provides researchers with a useful tool to measure how various concepts are processed and stored in memory (see Neely [1991] for a comprehensive review).

Naturally, like the DRM procedure mentioned earlier, the priming method has also been extended to the study of multilingual populations, as well as to the study of emotion. One of the earliest studies designed to examine priming for emotion words in a monolingual population included prime-target pairs that consisted of both abstract and emotion primes, paired equally with abstract and emotion word targets (Altarriba and Bauer 2004). Results from this study indicated significant facilitation (i.e., known as *priming effects*) for abstract-abstract, emotion-emotion, and abstract-emotion pairs, with no effect emerging in the emotion-abstract condition. The absence of this effect for emotion-abstract prime-target pairs led the authors to suggest that emotion words likely have more synonyms and are connected to more concepts in memory, resulting in a more widely dispersed, but weaker level of activation that does not extend from those primes across word types. When the priming task was used with bilinguals, in an effort to determine how emotional language and concepts are represented across two languages, significant priming for emotion-emotion word pairs was observed in all language directions, as well as for positive and negative items. This study, conducted by Kazanas and Altarriba (2016), also included an emotion word stimuli manipulation in addition to valence, where emotion and emotion-laden word pairs were systematically compared (e.g., positive emotion pair: *delight-joy*; negative emotion pair: *afraid-scared*; positive emotion-laden pair: *gift-birthday*; negative emotion-laden pair: *coffin-burial*). Interestingly, they observed that response times were faster for emotion as compared to emotion-laden items in the dominant language (English) only. This provides additional support to the previous discussion outlined in this chapter, which stressed that the distinction between these two kinds of emotional stimuli is important to consider. Moreover, this more recent priming work is of particular interest as it shows that the distinction between the emotion and emotion-laden stimuli is larger in the dominant language (i.e., often the L1 for the majority of bilinguals).

In other quantitative experiments where emotion has been of particular interest, some researchers have chosen to use a variation of the traditional priming task, one known as

*affective priming.* Studies using this task are often designed so that a prime word such as *snake* is followed by a target word such as *disgusting*, where participants press one of two keys to indicate if the target word is positive or negative. Affective priming is based on the assumption that if prime and target words are congruent in valence (e.g., both prime and target represent something positive or good, or both represent something negative or bad), the participant should make a fast response because the evaluation associated with the prime word will have activated the evaluation associated with the target word or words related to the target word. If the trials are incongruent (e.g., *sunrise-disgusting*), one would expect interference (i.e., slower response times as compared to neutral control conditions). In the same vein as semantic priming studies, larger magnitudes of facilitation have been interpreted as representing a stronger association or relationship between the two words and smaller amounts have been interpreted as representing weaker associations (see original work by Fazio [1986]). Some theories suggest that evaluative priming effects are caused by spreading activation, while others suggest that the effect is most likely the result of “response” priming and competition between responses. This paradigm has been used in dozens of studies (see Klauer and Musch [2003] for a comprehensive review of outcomes), not only extending to the lexical representations of emotional stimuli, but importantly also revealing that attitudes can be viewed as associations in memory given the consistency of positive-positive and negative-negative congruency effects observed in many affective priming studies. Despite this general trend, the issue of strong versus weak associations between the prime and target introduces the element of subjectivity that naturally encompasses the affective priming paradigm, a relatively important difference that separates affective priming from the more traditional semantic priming paradigm. For instance, in the following example, *vodka-pleasant* may be presented as a congruent pair; although it is obvious that, depending on the individual, this combination of words may be incongruent if the individual has a distaste for vodka, or for alcoholic beverages in general. In semantic priming studies, response latencies, as well as accuracy data, are generally reported so that one can determine whether the observed pattern of results was caused by a speed/accuracy tradeoff. However, this is not always possible in studies that examine individual attitudes, in which the relationship between the prime and the target can change across participants, a challenge that any researcher needs to consider when considering whether to examine attitudes using this paradigm.

Another cognitive behavioral task used extensively in an effort to better understand the relationship between emotion, language and memory is the Stroop task. In the original Stroop paradigm, participants are presented with words and are asked to verbally or manually (by key press) determine the ink color of those words (Stroop 1935). The basic finding is that participants are faster to make a response when the ink color is congruent with the word presented, such as *RED* presented in red ink. However, when the ink color is incongruent to the word presented, such as *RED* presented in blue ink, responses are slower. This phenomenon is based on the idea that words are processed automatically and that properties of the word outside of its color are hard to ignore. Correctly responding to the ink color interferes with the semantic properties of the word, and often requires more processing time. Like priming, this task has been adapted to the study of emotion, a variation of the task commonly referred to as the *emotional Stroop task*. In this variation, participants

are presented with different colored emotion (e.g., *annoyed, happy*) and neutral words (e.g., *car, house*), rather than the traditional color congruent and incongruent words. Participants are then asked to identify the color of the words manually or vocally as they are presented. When examined in monolinguals, interference effects are frequently reported, which refers to longer response times for negative emotion words as compared to neutral words (i.e., an effect also reported for taboo words, see MacKay et al. [2004]). Interestingly, positive words in this early level attentional task do not seem to capture attention and show the same type of delay as negative items typically do (see Williams, Mathews, and MacLeod [1996] for a very thorough review of this task).

As with other cognitive methodologies, emotion Stroop has been extended to the study of bilingual populations, which is important in understanding how each of a person's languages are affected by the emotional content embedded within words. Interestingly, studies that have examined this effect in both L1 and L2 reported significant emotional Stroop effects for both languages in highly proficient bilinguals (Eilola et al. 2007; Sutton et al. 2007), but not for those with weaker proficiency in the L2 (Winksel 2013), suggesting that proficiency plays a dominant role in emotional development of an L2, as compared to age of acquisition. In summary, the use of various cognitive behavioral methodologies contributed a tremendous amount to the understanding of emotion and language, specifically how they are both processed and represented in memory. In the section that follows, attention will turn to those tasks that have contributed to more of a physiological and neurological understanding of the interaction between emotion and language.

## 5 Study of language and emotion in physiological/neurological tasks

In addition to the popular cognitive methodologies discussed, most of which focus on response time measures and error rates as an indicator of emotion language processing, researchers have also directed their attention to the use of methodologies that measure more physiological and neurological components during emotion activation. Specifically, methods focused on measuring eye movements as a function of measuring attention during single word recognition and reading (e.g., known as *eye tracking*), as well as those that measure brain activity using imaging techniques, have all contributed to what is known about emotional language processing.

Eye tracking methodology allows researchers to measure eye movements and patterns in how the eyes shift when one is reading or processing an alternative type of stimuli (Just and Carpenter 1976). These movements are captured by using eye tracking devices, with the benefit of modern devices being that very precise eye movements can be recorded in milliseconds. During eye tracking, specific measurements of interest are points where the eyes fixate (i.e., *fixations*), quick movements or shifts in the eye (i.e., *saccades*), and areas where the eyes go backward and focus on previously encountered information (i.e., *regressions*) (see Rayner 1998). Results from studies using eye tracking methodology have assisted researchers in various ways, specifically by providing more insight into how the emo-

tional content of a word influences processing speed during reading. In general, an emotion *advantage* is often reported during reading, as positive and negative emotion words appear to be processed faster than neutral words. Interestingly, these effects often emerged during the earliest of eye movements, which is important because it suggests that qualities of emotional language (i.e., arousal and valence) are activated very early during word processing (Knickerbocker et al. 2014; Scott, O'Donnell, and Sereno 2012; Sheikh and Titone 2013). Furthermore, when eye movements during reading have been explored in bilingual populations, the emotion word advantage persisted for positive words in the bilingual's L2, but not for negative words in the L2. This led the authors to suggest that "negative words are at risk of emotional disengagement during L2 reading, perhaps because of a positivity bias in L2 experiences" (Sheikh and Titone 2016: 488). This is an important distinction, as it supports studies that have used methodologies other than eye tracking, but which suggest that emotion (particularly negative emotion) is more strongly encoded and activated in a bilingual's L1 (see Dewaele 2008; Caldwell-Harris 2015).

Finally, methodologies that use brain imaging to explore the relationship between emotion and language processing have also been utilized, with an advantage of these methods being that they provide a noninvasive way of measuring brain activity. Functional magnetic resonance imaging (fMRI) has increasingly been used as a tool to investigate the neural mechanisms of emotion word processing, specifically as it relates to activation of the amygdala (i.e., a region of the brain located in the temporal lobe, known to play a pivotal role in the processing of emotional content). Using this methodology, oxygen content (i.e., measured by blood flow) is measured, providing a moment by moment picture of activity in the brain (Kolb and Whishaw 2015). In the growing body of research surrounding the psychological constructionist view of emotion, research indicates that there is a cognitive effect of emotion words in the brain, aiding the brain in predicting the effect the outside stimuli will have on the body, helping to assess whether the person is safe, and preparing for a response. Using fMRI, studies on emotional processing in monolingual participants revealed increased activation in several brain regions (e.g., left amygdala, left and right cingulate cortex, orbitofrontal cortex) for negative words as compared to neutral words. For positive words, increased activation was evident in several of the same regions observed for negative words. Furthermore, a meta-analysis that explored imaging outcomes for emotion words (e.g., *anger, fear*) compared to more "general affect words" (e.g., *pleasant, unpleasant*) showed that across 386 studies, differences emerged depending on whether emotion words were present. Specifically, in the absence of emotion words, more activity in the amygdala was reported, whereas when emotion words were present, greater activation in regions devoted to semantic processing appeared. This finding is pertinent with the hypothesis that the amygdala plays a key role in the processing of uncertain stimuli, which requires the brain to make further assessments over the impact of the stimuli for the person (Brooks et al. 2017).

For bilingual populations, researchers have used fMRI to investigate whether processing emotion words in a person's L1 activates more brain regions, and/or whether stronger activation in the L1 emerges in brain areas that are associated with the processing of more general emotion (i.e., amygdala). In fMRI studies focused on bilinguals, Chen et al. (2015) concluded that relative to neutral words, the processing of emotional language activates

brain regions related to emotion processing and emotional experiences. In their study, Chinese-English bilinguals completed a lexical decision task while brain activation was simultaneously recorded. Their results indicated a significant difference in emotional valence in both the L1 and the L2, with positive words showing faster and more accurate responses as compared to negative and neutral words in the L1. For the fMRI results, the left superior frontal gyrus (frontal lobe area of the brain involved in higher order cognitive functions) showed stronger activation for negative words as compared to neutral words, a finding that is consistent with studies conducted on monolinguals. When fMRI results for the L1 and L2 were compared, the data revealed weaker activation for L1 emotion words in the left cerebellum, but increased activation in this area for emotion words in the L2. Chen et al. (2015) interpreted this pattern as being due to L1 emotion activation that relies on more early level automatic processing, while L2 emotion activation requires the engagement of more semantic driven levels of processing.

Finally, a rather unique fMRI study explored neurological processing and emotionality differences in L1 and L2 for proficient bilinguals using popular everyday written text as compared to single word processing (Hsu, Jacobs, and Conrad 2015). The researchers aimed to address two main research questions: (i) do fMRI patterns differ when one reads in their L1 versus their L2, and (ii) do patterns differ when reading emotion-laden text in three different categories (fear-happy-neutral)? Initially, the authors hypothesized that areas known to be engaged during emotion processing (e.g., amygdala, prefrontal cortex, and the pons) would be activated by emotionality in the text, but that the amygdala would be less sensitive to emotional passages presented in the L2. During the experiment, German-English bilinguals read passages from the popular Harry Potter novels that ranged in emotionality from the *fear* condition, the *happy* condition, or from a more neutral condition. Participants were presented with text for 14 seconds while they were in the fMRI scanner, which was then followed by emotion-unrelated, context-specific yes or no comprehension questions that the participants answered using a button press. The researchers used the neutral condition as a baseline comparison to the other two conditions (*fear* and *happy*). The results revealed differences for each language in the amygdala, with higher activation in that region for L1 text that contained *happy* emotional content as compared to the L2. Although this study could not conclusively show that one's L2 is emotionally distant from this task alone, the results from this study are an important indicator that positive emotions are processed in the brain differently in the L1, as compared to the L2 (Hsu et al. 2015).

## **6 Conclusions, implications, and applied aspects of quantitative methodologies**

The study of emotion and language has gained considerable attention in recent years. With more than half of the world's population able to communicate in two or more languages (Ayçiçegi and Harris 2004), research investigating the processing of emotional content in those who know and use more than one language is increasingly important, especially because of the real-world implications that this has for our understanding of bilingualism

and multilingualism. Nelson Mandela once said “*If you talk to a man in a language he understands, that goes to his head. If you talk to him in his language, that goes to his heart*” (Ivaz, Costa, and Dunabeitia 2016: 489, original emphasis). This quote illustrates the powerful relationship between emotion and language, in that emotionality differences across languages can influence everyday life through what we understand, the choices we make, and how we learn. As Caldwell-Harris (2015) describes, there are real-world implications for this in relationships, as individuals are likely to have spouses, romantic partners, and friends that do not speak the same first language, an area of communication which has the ability to affect emotional connections with others (see also Itzhak et al. [2017] for a review). Moreover, differences in emotion representation for a person’s two languages have also been thought to potentially influence forensic investigations (e.g., through the language in which a polygraph test is administered – L1 vs. L2, see Caldwell-Harris [2015]), advertising (Micu and Coulter 2010), and clinical/psychotherapy settings (Rolland, Dewaele, and Costa 2017). Specifically, lie effects emerged (as measured through physiological outputs) when a person lied in their L1 as compared to their L2, indicating that emotional content in one’s L1 is more strongly encoded and/or activated. In the same vein, implications for clinical work exist in that bilinguals have been shown to switch to their less dominant language when they want to discuss a more traumatic event, further supporting the finding of emotion being more strongly embedded in the L1 (see Altarriba and Santiago-Rivera 1994).

In the current chapter, the goal was to examine the methodologies used in quantitative research on emotion, with an emphasis on those tasks that have gained the most attention from researchers in recent years. It is evident that many of the core cognitive and neurological tasks that were once developed to explore more general language processing have been adapted to include the study of emotion. This pattern only emphasizes the increased interest and importance in better understanding the processes surrounding emotion, as well as highlighting some general trends in the overall study of cognition. As a result of modifying these methodologies, knowledge concerning how emotion words are stored and retrieved from memory, how emotion is activated and processed during visual word recognition and reading, as well as how emotion is activated at a neurological level have all contributed to a better understanding of the role emotion plays in communication. Cognitive behavioral paradigms focused on memory recall and recognition, priming, and Stroop tasks have all contributed a tremendous amount to what is currently known about the automatic processes surrounding emotion and how these concepts are represented in memory. Methodologies focused on physiological qualities of emotion processing, like eye tracking and brain imaging studies, have contributed to our understanding of emotion by revealing the time course involved in emotion processing, as well as some of the physical areas that are engaged when emotions are activated. Based on the outcomes from the methodologies examined, several conclusions emerged across studies. Specifically, valence differences examined across various tasks reveal that early levels of processing lead to greater positive emotion word activation, while negative emotion items are more likely to be activated at later stages of processing. Interestingly, for memory tasks that are not typically as dependent on speed, but rather emphasize accuracy rates during recall and allow for greater processing time across all items, valence differences appear to disappear (e.g., false memory paradigm). In addition, a clear pattern has emerged for monolinguals versus multilinguals, as a plethora

of studies have consistently revealed that emotion is encoded more strongly in one's L1 as compared to their L2.

Although the focus of this chapter is to explore the methodologies surrounding emotional *language* processing, many of these same methodologies have been extended to the exploration of emotion processing in nonlinguistic stimuli such as faces and pictures (Haas, Constable, and Canli 2009; Tsang 2016). As a result, future directions within the study of emotion are filled with opportunities to continue our understanding of emotion using novel quantitative experimental designs, as well as for unique populations. At a more basic level, future studies could adapt the general priming paradigm to include *masked* stimuli, as a current review of the literature reveals that very few studies have implemented masking, a simple design alteration that could enhance our understanding of emotion processing at unconscious levels. Remarkably, several research paradigms have also been extended to the study of emotion and language in clinical populations, in an effort to better understand the cognitive functions surrounding those who may process emotion differently. For example, memory recognition tasks (comparing emotion and neutral words) have been used with Alzheimer's patients in order to see whether there is a benefit to studying items with emotional content, and whether doing so can assist in creating stronger memories (Kalenzga, Piolino, and Clarys 2015). In other clinical populations, the emotion Stroop task has been used to assist in the detection of suicidal tendencies and risk in certain situations (Chung and Jelgic 2016), while fMRI has been used to study how negative emotional stimuli are processed in those with major depressive disorder (Frodl et al. 2009). Finally, eye tracking and measures of brain activity have been used to explore emotion word processing in autistic individuals (Lartseva et al. 2014; Tsang 2016). All of these situations provide interesting examples of how quantitative methodologies using emotion word processing can be used to advance our understanding of emotion in the areas of developmental disorders and mental health domains, areas that are certainly going to lay a foundation for future directions in bettering our understanding of emotion.

In summary, when discussing multicultural competency, looking at the interaction of emotional processing and language is a key component to ensuring fair and evidence-based practices and services for a wide range of people. Today more people travel and live in new places where they interact with people from different cultures and who speak different languages, making the need to understand emotional processing and language more important than ever before.

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## 10 Quantitative and physiological measures

- 1 Introduction
- 2 Speech science measures
- 3 Psychophysiological measures
- 4 Electrocortical and neuroimaging measures
- 5 Conclusion
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**Abstract:** The quantitative measures discussed in this chapter offer objective, numeric-score data for addressing research questions regarding relations between language and emotion. We provide some initial coverage of acoustic measures of sonic parameters of speech (duration, frequency, intensity, and timbre), but the main category of quantitative measures we discuss consists of physiological responses within various linguistic and emotional processing conditions. This chapter discusses the basic uses of these measures, defines each measure, briefly outlines how each measure can be employed in investigations of language and emotion and delineates advantages and limitations when using these measures. Suggestions on how to incorporate these measures in research are listed in the table in the chapter.

## 1 Introduction

The quantitative measures discussed in this chapter offer objective, numeric-score data for addressing research questions regarding relations between language and emotion. We provide some initial coverage of acoustic measures of sonic parameters of speech (duration, frequency, intensity, and timbre), but the main category of quantitative measures we discuss consists of physiological responses within various linguistic and emotional processing conditions. Response measures of this type rely on the notion that emotional states have physical-bodily, cognitive-psychological, and overt-behavioral components. Physiological measures can track an individual's brain and bodily reactions during emotional processing and indicate how these reactions impact cognitive and behavioral elements of language. In addition, they can be used to quantify specific aspects of language expression, in the form of parameters of speech that vary with emotional states. As such, and for purposes of clarity, linguistic expression in this chapter is referred to (in simplified terms) as 'language' when considering cognitive aspects of emotion, and as 'speech' when addressing behavioral aspects of emotion.

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This chapter focuses on the measures themselves by introducing the science and assumptions associated with each, the aspects of language about which they provide information, advantages and disadvantages to their use, the populations typically studied using each measure, and the disciplines that typically employ them. In addition, some sections make reference to examples of published studies that have used the measure under discussion to investigate questions about language and emotion. Given the large corpus of research in this area, this chapter does not seek to review the literature on qualitative measures of language and emotion.

## 2 Speech science measures

Speech is the outward, motoric-behavioral expression of cognitive- and affective-linguistic processes. Although not all internal language-related processes are expressed in overt form, our apprehension of an individual's thoughts and feelings occurs through expressive language, which includes vocal and written forms of linguistic communication. Measures of speech often reflect more basic levels of language – at the phonological and morphological levels – and require researchers to infer how these more basic levels of language may be utilized to index cognitive and affective processes. This section focuses on how speech measures can capture emotional processes in an individual, what aspects of the speech signal are worth examining, and how these measures can inform aspects of affective-linguistic expression.

### 2.1 Acoustic measures

#### 2.1.1 Definition

Acoustic measures are recorded to quantify small pressure differences created by sound traveling through the air. Sound (or air pressure) waves are created by the disturbing of air particles. In speech, this disturbance can either be continuous, as observed in vocal fold vibrations, or transient, as seen in plosive consonants. Such disturbances can also be periodic, as with the regular repeating fluctuations of air pressure created by vocal fold vibrations, or aperiodic, as occurs when airflow is constricted through a small opening – such as in the production of sibilant ('hissing') sounds.

Acoustic measures are well-suited for the study of expressive language in the form of speech/language (Banse and Scherer 1996; Patel et al. 2011; Scherer 2003; Sobin and Alpert 1999; Sundberg et al. 2011) or vegetative vocalizations (Anikin, Bååth, and Persson 2017; Arnal et al. 2015; Bachorowski and Owren 2001; Bachorowski, Smoski, and Owren 2001; Lima et al. 2014). Because acoustic measures capture the final output of expressive language (i.e., speech), they reflect a combination of the physiological systems that create speech – namely, the speech respiratory system, the phonatory system, and the resonatory/articulatory system (Zemlin 1988). Simple acoustic signals rarely differentiate these systems.

Sophisticated recording instrumentation and complex signal processing algorithms are required to separate the relative contributions of each system to the final output of acoustic stimuli (e.g., speech sounds). However, because the interaction of these physiological systems yields the most interesting information, protocols for capturing acoustic signals generally require advanced recording instruments with constrained speech output.

There are four basic components of an acoustic signal: duration, frequency, intensity, and timbre (Titze 2000). Duration, usually measured in milliseconds (ms), captures the length of a particular component of speech/language. For example, Voice Onset Time (VOT), the duration of phonation at the beginning of a voiced consonant, is an important linguistic feature that separates speech sounds from one another. For example, the difference in the phonemes /p/ and /b/ in English depends on the VOT of each consonant. The VOT of a vowel following the phoneme /b/ has an earlier occurring and longer lasting VOT than when it follows /p/ (Ladefoged 2019). Disruptions in VOT may reflect an inability to control the vocal mechanism because of a neurological disease (Richardson et al. 2014), or may occur within heightened states of emotional arousal where the phonatory and respiratory system may be affected differently (van Mersbergen and Delany 2014).

Frequency is the number of cycles per second of vocal fold vibration and is measured in units of Hertz (Hz). Fundamental frequency ( $F_0$ ), perceived as vocal pitch, is dependent on the balance of vocal fold muscles and respiratory drive. In emotional states such as excitement or anger, increases in  $F_0$  are frequently observed (Banse and Scherer 1996). These changes in frequency can affect the prosodic structure of language, causing variations in how statements are made in different situations (van Mersbergen, Lyons, and Reigler 2017).

Intensity refers to the energy in a speech sound and is perceived as loudness or stress. Measured in decibels (dB), intensity is dependent on the muscular engagement of the vocal folds and speech articulators, and interacts heavily with the respiratory system. Intensity has been known to vary in emotional states such as depression, in which low-arousal emotions such as sadness result in reduced intensity of speech output (Banse and Scherer 1996).

Finally, timbre, or the quality of the sound, is a measure that combines frequency, intensity, and duration with aspects of the periodicity of the sound wave. Timbre is quantified using complex signal processing algorithms to yield different parameters, ranging from the relative separation of specific speech formants (vocal tract resonances) to signal-to-noise ratios in a vocal sound.

### 2.1.2 Relation to features of language and emotion

Because acoustic measures capture the final output of speech, they relate directly to changes in the way an individual produces speech or language under different emotional conditions. As stated earlier, frequency and intensity are often associated with increased physiological arousal associated with emotional activation (Protopapas and Lieberman 1997). Thus, one can infer that increases in vocal frequency and intensity in certain linguistic environments operate as markers of emotional speech. In contrast to identifying emo-

tional states with acoustic measures, they can also be used to confirm emotion inductions. Indeed, the number of acoustic parameters that have been studied in relation to emotion and other psychological processes is enormous; detailed information on specific measures and what they purport to index can be found in reference texts on phonetics (Ladefoged 2019) and voice production (Titze 2000).

Along with expressive language (in the form of speech output), receptive language – specifically speech perception – can also be studied using acoustic measures. The field of psychoacoustics studies how the brain interprets acoustic information that reaches the tympanic membrane and travels to the cochlea and up the cortical pathways to the temporal lobe. Acoustic parameters may be processed differently depending on an individual's emotional state, allowing the same signal to have alternative interpretations (Morris, Scott, and Dolan 1999; Niedenthal, Setterlund, and Halberstadt 1997; Péron et al. 2010; Schröder, Nikolova, and Dengler 2010; Vakoch and Wurm 1997; Wurm et al. 2001). In contrast, researchers can quantify individuals' perceptions of emotional states through use of different acoustic parameters. This can provide information regarding universal signals that are associated with emotions (e.g., crying, laughing), or about more subtle signals or emotional speech elements (Wurm et al. 2001).

### **2.1.3 Advantages and limitations of these measures**

Acoustic measures are inherently non-invasive and relatively inexpensive, which makes them accessible to most researchers (Baken and Orlikoff 2000). A high-quality digital recorder with a substantial sampling rate (usually over 48 kHz) and good bit-depth resolution (16–24 bits) is easily obtainable. Condenser microphones that are unidirectional or cardioid in directional response with a frequency response between 20 and 20,000 Hz and a relatively flat frequency response curve are the only other purchase required (Hunter et al. 2007). High-quality signal processing programs are frequently inexpensive, or in some cases open-source (Boersma and Weenink 2018). The optimal environment for recording is a sound-insulated booth, but as space of this type is often unavailable to researchers, a quiet room with noise levels at a minimum of 10 dB (set at A weighting on the sound level meter) below the lowest speech sample produced is recommended (Baken and Orlikoff 2000). A consistent microphone-to-mouth distance is imperative for any measure that includes intensity. Headset microphones are best suited for this purpose. In addition, speech perception research also uses high-quality headphones or speakers (set at specific distances and intensity levels) for presenting auditory stimuli to research participants.

Because acoustic measures are indirect indices of affective-physiological response, strong conclusions about physiological changes being indicative of emotional states should be treated with skepticism. In addition, the wide range of quantifiable acoustic parameters can inflate Type 1 error in quantitative research. Likewise, the use of an inappropriate measure can cause an individual to miss an important acoustic indicator in emotional speech. Therefore, judicial use of acoustic measures is imperative, and collaboration with a speech or hearing scientist is highly advisable in undertaking research of this type. Please refer to Table 10.1 for additional information about these measures.

### 2.1.4 Characteristic study using acoustic measures

In a study investigating the relative contribution of fundamental frequency to prosodic and emotional constraints, researchers exposed participants to vignettes of differing emotions, after which they made a statement following each vignette. Statements were either questions or statements pertaining to the vignette. These statements contained words in the initial, middle, and end positions that highlighted differences in word stress in various linguistic context. The authors recorded these statements and measured the average fundamental frequency and frequency range as well as the duration of the vowels of these words within the context of the unique prosodic features of interrogatives and declarative statements. They found that fundamental frequency profiles followed linguistic context more strongly than emotional context and concluded that in normal conversation emotional speech varies within linguistic context and does not override it (Pell 2001).

## 2.2 Aerodynamic measures

### 2.2.1 Definition

In contrast to acoustic measures, which focus on speech after it has left the speaker's mouth, aerodynamic measures capture the speaker's physiology while producing speech (Titze 2000). Aerodynamic measures reflect the interaction of the respiratory system and the phonatory system. These measures allow for closer examination of how the speaker's physiology within an emotional state can interfere with expressive language in the form of speech. Although there are many aerodynamic measures that may be of interest to the emotion researcher, all are based on three main physical parameters: air flow, air pressure, and the resistance to air flow created by the vocal folds or speech articulators. These signal parameters are typically assessed using a pneumotachometer attached to a face mask, with a known resistance imbedded in the device. From the known resistance and the rate of air flow, air pressure measurements can be calculated. Additionally, air pressure measures can be captured through pressure transducers attached to small tubes that are placed in the mouth between the lips and above the tongue. These pressure transducers index the air pressure inside the mouth. In certain phonetic contexts, air pressure below the vocal folds (subglottic air pressure) can be estimated from the air pressure inside the mouth. This subglottic pressure provides important information regarding how much air is required to initiate vocalization and can reflect physiological changes due to emotional states (Dietrich, Bean, and Page 2015).

Aerodynamic measures are primarily used to quantify characteristics of vocal fold vibration. Increased subglottic air pressure can indicate vocal fold resistance to vibrate. This increased resistance can occur due to vocal fold tissue stiffness because of increased muscular engagement observed in increased emotional arousal. It can also reflect tissue dryness, which can occur as a function of reduced salivary output arising from autonomic nervous system activation (van Mersbergen, Lyons, and Reigler 2017). In controlled situations, airflow changes can indicate a disruption in the coordination between vocal fold

vibration and respiration. Increased airflow can indicate an inability for the vocal folds to completely close off during phonation. This situation can occur if the respiratory system is driving the phonatory system too hard, as is observed in increased states of arousal. This results in a ‘breathy’, or out-of-breath vocal quality (Titze 2000). On the other hand, a decrease in airflow can indicate insufficient airflow during speech/language, as is observed for example when an individual is holding in breath as a result of increased autonomic arousal. This results in a strained vocal quality (Titze 2000). Lastly, laryngeal resistance is a measure that captures the relationship of airflow and air pressure; it can serve as a measure of increased general arousal during phonation.

### **2.2.2 Relation to features of language and emotion**

Aerodynamic measures are a composite of the amount of acoustic and respiratory activity involved in speech, particularly voicing. As such, the interpretation of these measures should remain broad. Nonetheless, we know they can capture the timing of airflow and vocalization, which can be disrupted in linguistic contexts and in emotional situations. In addition to reflecting the coordination of speech systems, aerodynamic measures are indicative of the degree of laryngeal tension activated during speech, which has been known to vary in emotional situations (van Mersbergen and Delany 2014; van Mersbergen, Lyons, and Reigler 2017).

Increased muscular tension occurs during negative emotional states, and excessive use of laryngeal muscles may lead to voice disorders that affect expressive language use (Dietrich and Abbott 2014; Dietrich and Verdolini Abbott 2012).

### **2.2.3 Advantages and limitations of aerodynamic measures**

One benefit of employing aerodynamic measures in research is that one can draw more direct inferences about speech physiology than with acoustic measures. Because aerodynamic measures directly reflect respiration and phonation, interpretations can focus on these two specific systems. In addition, information about the coordination of these two systems can be of greater interest to the researcher than either system in isolation. Because of the complex nature of both speech and emotion, it may be more ecologically valid to measure the effects associated with the interaction of the two systems. Moreover, aerodynamic measures are non-invasive, requiring only the use of a face mask and small tube, both of which can be easily removed at any time during testing to allow the participant to rest (Ding et al. 2002; Rothenberg and Mahshie 1988). However, mask fit may pose challenges, particularly with individuals who have unusual facial morphology or facial hair, and in some situations, participants may feel claustrophobic when breathing and speaking into a mask. In addition, the equipment for aerodynamic measurement is highly specialized and expensive, requiring technical training and practice to establish the competence needed to gather valid data. Thus, collaboration with experienced professionals is highly recommended.

Another concern is the interference the face mask presents with normal articulation; constraints are placed on linguistic output. Because of this, research using this measurement approach has largely been limited to studying isolated phonatory variables such as syllable strings or vowels. Nonetheless, within an ongoing program of research, aerodynamic measures can be informative regarding the relative involvement of the respiratory/phonatory complex in emotional speech. See Table 10.1 for additional information about these measures.

## 2.3 Speech-specific physiological measures

Two main types of speech-specific physiological measures are frequently employed in language and emotion research: surface electromyography and electroglottography. Although other speech-specific measures exist that may be of value for indexing physiological aspects of emotional state and their effects on speech, such measures are infrequently used outside of speech production research. One type consists of physiological indices of respiration, acquired through spirometry (measurement of lung volumes), pneumotachography (measurement of air pressures), or respiratory inductance plethysmography (measurement of chest wall movements). Another involves visual measures of voicing, recorded using methods like videoendoscopy and high-speed video imaging (viewing of the vocal folds via oral or nasal cameras). Other speech-specific measures include: nasometry (measures of velar movements); palatography and fluoroscopy (measures of tongue movement); and indices of global articulatory function acquired using methods such as real-time MRI.

### 2.3.1 Surface electromyography

#### 2.3.1.1 Definition

Electromyography (EMG) involves measuring the electrical voltage difference between sensors positioned within or above a target muscle group; for example, musculature associated with speech-related activity. Subcutaneous EMG directly measures the electrical activity arising from contraction of muscle fibers, through a needle electrode inserted directly into the muscle of interest (Ding et al. 2002; Helou et al. 2013). Surface EMG (sEMG) involves measurement of electrical activity of muscles from electrode sensors positioned on the surface of the skin overlying the muscle. Any muscle of speech that interfaces with the skin surface can be measured using sEMG; frequent targets for this approach include facial muscles responsible for lip and jaw movements (Larson and Sapir 1995), tongue muscles that rest directly under the chin (Ding et al. 2002), and extrinsic laryngeal muscles on the neck (Dietrich and Verdolini Abbott 2012). The non-invasive property of sEMG allows this measure to be used in non-clinical settings, such as basic research laboratories, without the monitoring of a trained technician or physician.

#### 2.3.1.2 Relation to features of language and emotion

One quantifiable parameter of the raw sEMG signal is tonic activity, quantified as average activity across an interval of time, which provides an index of arousal or muscle-priming.

Tonic sEMG can be measured during a resting interval, to provide a baseline index of muscle activation, or during a task or stimulus manipulation. For example, increases in tonic level of tongue activity (relative to baseline) can be seen when individuals imagine being in positive, neutral, or aversive situations (van Mersbergen, Patrick, and Glaze 2008). Another sEMG parameter is muscular activation during speech vocalization, which can reflect increased tension in the system as a result of task-related arousal or speech dysfunction. For example, increased muscular activity of the laryngeal depressors (muscles responsible for vocal stability) occurs more strongly in introverted individuals than extroverted individuals when exposed to social stressors (Dietrich and Verdolini Abbott 2012). One further parameter, recovery time following muscle use, can be used to index muscular response to change, with slower response recovery time reflecting increased negative affect, muscular dyscoordination, or arousal. For example, introverted individuals take longer to recover laryngeal muscle activity following a stressful social interaction task than extroverted individuals (Helou et al. 2013).

### **2.3.1.3 Advantages and limitations of electromyographic measures**

Disadvantages to speech-muscle sEMG include the fact that it is not necessarily specific to one muscle group, and that only activity in superficial muscles can be indexed. However, these disadvantages are mitigated by the fact that many speech, tongue, and extrinsic laryngeal musculatures are relatively superficial and close to the skin surface, making subcutaneous measures tractable. These muscles are often frequently employed in concert with one another, and rarely utilized in isolation in expressive speech, which may limit the ability to draw inferences for a specific muscle group. However, given the complex nature of speech production, there is generally greater interest in how groups of muscles operate in a synergistic manner to produce speech in emotional contexts.

Difficulty in proper placement of the surface electrodes and the expense of the recording equipment may pose challenges to employing these measures. In addition, appropriate quantification and analysis of the sEMG signal is essential to interpreting speech musculature responses in emotional situations. Please refer to Table 10.1 for additional information about these measures.

## **2.3.2 Electroglossography**

### **2.3.2.1 Definition**

Whereas sEMG indexes extrinsic speech and laryngeal musculature, electroglossography (EGG) taps activity of intrinsic laryngeal musculature and provides information about glottic contact area (degree of muscular bulking of the vocal fold) and laryngeal adduction (degree to which the vocal muscles resist the airway during vibration) (Rothenberg and Mahshie 1988). Specifically, EGG measures the fluctuating change in electrical resistance of laryngeal tissue that occurs during vocal fold oscillation by measuring resistance to a high frequency, low voltage current imposed across the neck, on either side of the thyroid cartilage. When the vocal folds move together during vibration, the electrical resistance is lowered due to the aqueous nature of body tissue; when the vocal folds are separated, the

electrical resistance is higher because air conducts electricity poorly. As such, EGG is a phonatory measure, and thus its use is limited to aspects of speech that involve phonation.

### **2.3.2.2 Relation to features of language and emotion**

One major measurement parameter that can be derived from the raw EGG signal is vocal fold contact area, which provides an index of muscular activity of the vocal folds as they resist the airflow passing through them. Increased vocal fold contact area has been known to increase when individuals experience unpleasant emotions compared to pleasurable emotions (van Mersbergen and Delany 2014; Waaramaa and Kankare 2013). EGG can also be used to index vocal fold response to airflow, in terms of acceleration of vocal fold closure, with greater acceleration reflecting increased elasticity and response to Bernoulli forces (forces that assist in vocal fold vibration) – which in turn can reflect degree of muscular activation in a healthy larynx. Positive emotional states tend to enhance vocal fold flexibility, whereas negative emotion states tend to impair flexibility (van Mersbergen, Lyons, and Reigler 2017). Another EGG measurement parameter is Open Quotient or conversely, Closed Quotient, which quantifies how long the vocal folds stay closed compared to when they are open, and serves to index laryngeal resistance and muscular activity (Herbst and Ternström 2006). Many other parameters can be derived from this signal but the aforementioned are used in emotion research.

### **2.3.2.3 Advantages and limitations of electroglottographic measures**

EGG is non-invasive and can be employed as a complement to acoustic, aerodynamic measures, and EMG. This measure's specific relevance to the phonatory system can be helpful for delineating the relative contributions of the phonatory system when combined with other measures. Although the equipment for recording EGG is expensive, it is readily available and easy to operate with limited training. See Table 10.1 for additional information about these measures.

### **2.3.2.4 Example study using electroglottography measures**

Because EGG strictly measures voice production, linguistic contexts are significantly limited to distinctive features relating to voicing. A few studies employing EGG in emotion research exposed participants to pictures of affective content and asked them to vocalize a vowel ( van Mersbergen and Delany 2014; van Mersbergen, Lyons, and Reigler 2017). They measured EGG contact quotient and found that individuals in negative mood states show increased vocal pressing (constriction), suggesting that emotion state affects vocal output, which may in turn affect other aspects of resonatory and articulatory function (van Mersbergen and Delany 2014; van Mersbergen, Lyons, and Reigler 2017). They suggested that when individuals experience an emotion, their voicing behaviors change, which may in turn affect other aspects of their speech.

### 3 Psychophysiological measures

#### 3.1 Autonomic measures

##### 3.1.1 Definition

The autonomic nervous system (ANS) is the physiological system responsible for unconscious control of our body's regulatory functions including cardiac functioning, respiratory control, temperature control, digestion, and hormonal regulation. The ANS facilitates the body's readiness for action, reaction, or relaxation through its two main branches: the sympathetic nervous system, which mediates responses colloquially known as 'Fight or Flight' reactions, and the parasympathetic nervous system, which has been termed the 'Rest and Digest' system. Activation of the ANS has long been thought to be a critical element of the experience of emotion (see, e.g., James 1884). Despite differing opinions as to whether emotional experience causes autonomic activation, or instead derives from the brain's interpretation of autonomic changes, there is little doubt from the numerous studies employing ANS measures that a strong relationship exists between emotion and the ANS (Friedman 2010; Kreibig 2010; Quigley and Barrett 2014; Sadtis and Kreiman 2012). Insights into emotional experience, classification of affective states, and characteristics of physiological activation associated with each have been derived from studies employing measurement of autonomic activity (Izard 1977; Levenson 1992).

Although there are many different measures of autonomic functioning, the most popular measures employed in emotion research are cardiac reactivity and peripheral sweat-gland (electrodermal) response. Heart rate is the most widely used index of cardiac functioning, and is generally measured by placing electrodes on opposite sides of the body, usually the arms, but in some cases the front or back of the torso. Measurement of electrical activity between two sites on either side of the heart, measured in volts or millivolts, yields a characteristic recurring waveform reflecting the heart's contractions. Recorded in this manner, heart rate is typically quantified in beats per minute based on the average time between successive positive deflections of the cardiac waveform (R-spike), over a designated interval. Changes in heart rate from baseline can be immediate and transitory (phasic), as occurs upon presentation of a novel stimulus, for example, or ongoing across an extended period of time (tonic). Increased heart rate in response to emotional stimuli, such as words with aversive connotations, is presumed to be indicative of sympathetic activation (Bradley and Lang 2000a).

The average duration of inter-beat intervals across a time period, on the other hand, provides an index of the degree of synchronization between the cardiac and respiratory systems, associated with parasympathetic activation. High degrees of cardiac-respiratory synchronization may reflect temperamental style more than discrete responses to emotional stimuli. However, examination of cardiac inter-beat intervals can allow a researcher to better interpret other cardiac responses in particular individuals.

Electrodermal response, commonly referred to as skin conductance change, reflects the level of moisture in sweat glands associated with activation of the sympathetic nervous system. Sensors are typically placed on the palm or fingers of one hand, and changes in

skin conductivity are measured either in relation to presentations of discrete stimuli, or across intervals of interest.

Elevations in skin conductance (associated with greater moisture in sweat glands) are indicative of increased sympathetic arousal, and as such, provide an effective means for monitoring arousal responses to emotional stimuli. For example, during periods when individuals are viewing pleasurable or aversive pictures, or imagining pleasurable or aversive scenes, skin conductance increases relative to that observed during viewing or imaging of neutral scenes (Greenwald, Edwin, and Lang 1989).

In addition, other autonomic measures are used to varying degrees in studies of emotion, including blood pressure, respiratory activity, pupillary response, and gastric activity. Certain parameters of responding within these systems may be more informative than others. For example, an investigator may measure respiration rate to index the degree of sympathetic activation.

However, this measure may not be as informative as tidal volume (the volume of air inspired and expired in one normal breath cycle) because tidal volume reflects the individual's response to ventilatory demands more directly than respiration rate.

### **3.1.2 Relation to features of language and emotion**

Because autonomic measures reflect the degree of sympathetic (and, for some cardiac measures, parasympathetic) activation within an individual, they are useful for quantifying the level of arousal associated with evoked emotional states. Although the jury is still out on whether autonomic measures can differentiate specific emotional states in themselves (Friedman 2010; Kreibig 2010; Lindquist et al. 2012; Quigley and Barrett 2014), they are useful for assessing not only differences in the intensity of affective responding across individuals, but also the potency of a given emotional stimulus. Quantifying the degree of emotional activation can assist in the development of language-based emotion induction measures (that is, words or scripts). It may also assist in determining the degree to which certain language stimuli may affect some individuals compared to others. Vocabulary pertaining to specific phobias (e.g., snakes) or past experiences (traumatic events) may be useful in determining how language affects certain people emotionally (those who have phobias) compared to others (those who do not; van den Hout, de Jong, and Kindt 2000; Wikström et al. 2004).

### **3.1.3 Advantages and limitations of these measures**

Due to the non-invasive nature of autonomic measures (i.e., involving no insertion of recording media or sensors into the body), most individuals tolerate these measures well. Those with skin sensitivities to adhesives or conductive paste might require alternative equipment. Additionally, participants with cardiac, respiratory, or other peripheral nervous system dysfunctions, or who take medications that affect autonomic activity and responding, may require specialized consideration during data processing and analysis. In most cases, it may

be prudent to treat these individuals as a separate group for analysis, or exclude them altogether from study analyses.

Of particular note, inter-beat intervals and respiratory variables may not be appropriate measures for studying expressive language production (Berntson et al. 1997). These measures rely on the assumption of vegetative, tidal breathing (the normal pattern of inhalation and exhalation), which does not hold during speech because breathing for speech involves a completely different respiratory pattern, characterized by shortened inhalation time and elongated exhalation time. Table 10.1 presents additional information regarding these measures.

### **3.1.4 Sample articles using these measures**

It has long been known that individuals with phobias respond with increased electrodermal activity when exposed to pictures representing their phobia (e.g., snakes), even under conditions that limited conscious processing (e.g., backward masking). Researchers have endeavored to determine whether this holds true for words relating to the phobia and not just pictures. They presented neutral, general threat, and spider-related words to those with arachnophobia and a healthy control group. There were two conditions, masked (where the word was presented too quickly to consciously recognize) and unmasked (where the participant could consciously recognize; van den Hout, de Jong, and Kindt 2000). They measured electrodermal responses and found that those with spider-phobia responded with greater skin conductance responses to consciously recognizable phobic words but did not for unconscious phobic word recognition. However, they did respond similarly to healthy controls viewing general threat words with higher autonomic activation and neutral words with lower activation. Because those with phobias only responded differently in the conscious presentation of phobic words, the authors concluded that specific phobias may reflect higher cognitive-linguistic processing rather than sub-conscious processing (van den Hout, de Jong, and Kindt 2000).

## **3.2 Facial expression measures**

### **3.2.1 Definition**

This section focuses on measurement of facial expression as a parameter of affective-behavioral response that can be assessed physiologically, through use of sEMG. This section differs from Section 2.3.1, which covers muscle movements of the face as related to speech production. This section's focus is on how muscles of the face reflect emotional states.

Emotions energize motoric behaviors and activate basic tendencies to attend to, and move either toward or away from, motivational situations or stimuli, depending on prospects for reward or punishment, respectively. In addition, our social nature inclines us to communicate our emotional reactions to one another in the form of emotionally expressive behaviors. Of the social-affective response measures employed in emotion research,

indices of facial and vocal expression appear to be the most feasible and widely used (Derbyberry and Reed 1994). As previously discussed in Section 2, vocal expression is most frequently assessed using acoustic measures. By contrast, facial expression is typically assessed using EMG to quantify muscular activity in different regions of the face. The two main muscles examined in studies of affective facial expression are the zygomaticus major and corrugator supercilii. The zygomaticus major, commonly known as the ‘smile’ muscle, is situated below the upper cheeks and lifts the corners of the lips up and back (Bradley and Lang 2000; Lane et al. 2000). Its movements can be effectively assessed with surface electromyography (sEMG, see Section 2.3.1). Known as the muscle that indexes positive affect, zygomaticus activity can be measured as change from baseline, either in relation to phasic emotional stimuli, or as tonic activation across a sustained period of time (Bradley and Lang 2000).

Conversely, activity of the corrugator supercilii (or ‘frown’) muscle, which is situated over the eyes and draws the brows down and toward each other, is known to index negative affect. Like the zygomaticus major muscle, sEMG activity of the corrugator supercilii can be quantified as overall change from baseline or as tonic activity relative to baseline activity. Two other facial muscles used to index emotional activation are the orbicularis oculi (‘eyeblink’) muscle and the levator labii ‘grimace’ muscle, used to index, respectively, the valence (pleasantness) of affective activation and the emotion of disgust (Lang, Bradley, and Cuthbert 1990; Whitton et al. 2014).

### 3.2.2 Relation to features of language and emotion

Muscle activity associated with facial expression can serve as a primary dependent measure in research investigating emotional responses to language stimuli that may have distinct personal or semantic significance for individuals. That is, certain words may be emotionally charged for some individuals but not others. Measurement of facial expressive activity through use of EMG may be helpful for evaluating this. Facial muscles involved in emotional expression can have direct effects on speech by altering the features of the vocal tract. This is particularly true of muscles such as the zygomaticus and levator labii, which affect positioning of the mouth/lips and produce changes in formant frequencies during speech (Cacioppo et al. 1986; Dimberg 1990). Further systematic research is needed to delineate the effects of different emotional states, and facial movements associated with those states, on speech output.

### 3.2.3 Advantages and limitations of these measures

Advantages and disadvantages of facial EMG measurement to index emotions are similar to those of sEMG for speech musculature discussed in Section 2.3.1. Facial EMG recording is non-invasive and relatively easy to implement. Potential obstacles to use of this approach include the expense of the recording equipment and the need for specialized training in data collection, processing, and analysis. Placement of sensors is less of an issue

because facial muscles such as zygomatic and corrugator are easily accessible and relatively large. Please refer to Table 10.1 for further information about these measures.

### **3.2.4 Example studies using facial EMG**

Investigators tested whether or not the degree of semantic concreteness (abstract vs. concrete) elicits emotional experience (Künecke et al. 2015). They exposed participants to emotion words of varying degrees of abstractness and measured facial EMG from the corrugator supercilium. They found that only concrete words elicited EMG activity and concluded that concrete words facilitated emotional experience, suggesting that during mental imagery (embodiment) concrete rather than abstract concepts are employed (Künecke et al. 2015).

## **4 Electrocortical and neuroimaging measures**

### **4.1 Electrocortical measures**

#### **4.1.1 Definition**

The most commonly used electrocortical measurement technique is electroencephalography (EEG). Similar to how sEMG detects subcutaneous muscle activity, EEG uses surface electrodes to measure activity of cortical neurons in terms of voltage oscillations at different locations on the scalp. Two broad types of EEG measures can be taken: (a) EEG activity at rest (i.e., while sitting quietly, with eyes open or closed), where signal energy is quantified as activity within different oscillatory ranges, or ‘frequency bands’ (i.e., delta, theta, alpha, beta, gamma), and (b) event-related potential (ERP) responses, where cortical reactivity is measured in relation to discrete stimuli or behavioral acts. ERPs within a task procedure are quantified as peak or mean activity during periods of interest (e.g., successive intervals following a stimulus event) relative to mean activity during baseline periods of the task, and reflect average change in signal voltage (across all frequency bands) relative to baseline voltage. ERP measurement thus requires averaging of multiple trials to yield aggregate positive or negative deflections that occur systematically in relation to events of interest.

Averaged positive- or negative-going peaks – known as “components” – are labeled “P” or “N”, respectively, and are numbered to reflect their order of occurrence (e.g., N1, P2) or approximate time of peak amplitude in milliseconds (e.g., P300, N400) (Kappenman and Luck 2016). Earlier ERP components are interpreted as indexing more “automatic” processes associated with perceptual registration of an event, whereas later components are interpreted as reflecting post-perceptual elaborative processing of events.

One widely used ERP response measure in studies of emotion, including some work on affect and language, is the P300 (or P3) response, which is thought to index post-perceptual processes including affective-evaluative and cognitive-associative processing (Cacioppo et al. 1994; Schupp et al. 2000). The evaluative component to the P300 has made it useful

for studying cortical aspects of emotional processing. An ERP component that has been used more extensively in language processing studies is the N400 response, which has been shown to index semantic relatedness versus incongruity (Kutas and Federmeier 2011). As such, the N400 has proven useful in cognitively oriented studies of language, and also in studies of language and emotion. Another ERP response employed in auditory research, Mismatch Negativity or MMN, reflects earlier perceptual processing, within a period of 150–200 ms following onset of a stimulus. The MMN appears to reflect the early cortical recognition of sounds (not necessarily vocal in nature) that are different than expected. The auditory MMN contrasts with even earlier-occurring auditory ERP responses that reflect basic sensory processes (e.g., auditory brainstem responses; Norrix and Velenovsky 2017); these responses, which occur within the first 50 ms of acoustic stimulation and originate in the brainstem, track the brain's processing of the acoustic signal as it travels from the cochlea to brainstem structures via the auditory nerve.

Like EEG/ERP measurement, magnetoencephalography (MEG) records brain electrical activity emanating from the cortex. However, it accomplishes this by measuring perturbations in a magnetic field surrounding the head resulting from endogenous electrical activity within the brain. While offering the same fine-grained spatial resolution as EEG/ERP measurement, MEG is advantageous in that it provides clearer information about the specific sources of neural activity within certain regions the brain – including those important for hearing, speech production, and language comprehension. Limitations of MEG include the fact that it is cumbersome to use (requiring measurement inside an enclosed, heavily shielded chamber) and lack of source localization capability for deep brain structures, including limbic-emotional structures (e.g., amygdala, nucleus accumbens) and subcortical measures integrating speech, language, and cognition (e.g., insula, Heschl's gyrus).

#### **4.1.2 Relationship to features of language and emotion**

As stated earlier, ERP measures have been extensively used in studies of language and emotion. In particular, the N400 has been used to measure lexical and semantic processes known to occur in affect-eliciting conditions, sometimes in conjunction with other physiological measures of affect (Chwilla, Virgillito, and Vissers 2011; Kanske, Plischko, and Kotz 2011). The value of disambiguating lexical-semantic processing from emotional processing can be observed in research on language-emotion interactions in patients with neurological or psychological impairments (Dara, Monetta, and Pell 2008; Fujimaki et al. 2010; Ihara et al. 2012; Lewis and Bastiaansen 2015). Further research of this kind can help to inform treatment planning and administration by clarifying the role of linguistic versus affective processing anomalies observed in speech and language problems.

#### **4.1.3 Advantages and limitations of these measures**

One notable advantage of EEG and MEG as neural measures is their non-invasive nature, although MEG is comparatively more invasive with respect to the constraints on the partici-

part in the MEG chamber. Another important advantage is the fast temporal resolution of these measures. Because they index continuous changes in voltage arising from neuronal firing, both EEG and MEG provide millisecond-by-millisecond information about brain activity, which allows for fine-grained inferences about the causal relationship between stimuli and brain response. However, a significant limitation of these measures is the poor spatial resolution they provide – for identifying sources of brain activity generally in the case of EEG/ERP, and deep-brain sources in the case of MEG – which constrains inferences regarding neural circuits underlying observed effects. Other limitations include the specialized training required to employ such measures in a research laboratory and the expense of the equipment, particularly for MEG recording. See Table 10.1 for additional information regarding these measures.

## 4.2 Neuroimaging measures

### 4.2.1 Definition and introductions

Some human research has used invasive measures of neural imaging, such as intracranial electroencephalography, in which electrodes are implanted into structures of the brain and electrical activity is measured directly from the neural tissue. This measurement approach, which is used mainly in operating room environments under the supervision of medical specialists (neurosurgeons, anesthesiologists), is relatively uncommon and limited almost entirely to patient populations.

Functional neuroimaging methods involving indirect rather than direct measurement of neural activity have been much more widely used. The dominant neuroimaging method currently in use, functional magnetic resonance imaging (fMRI), quantifies neural activity in specific brain regions based on variations in oxygenated blood flow to those regions at rest and during performance of behavioral tasks. Functional MRI measurement requires placing the participant in a tube-like chamber that imposes a strong magnetic field around the head. As such, fMRI measurement shares limitations with MEG in terms of its claustrophobic element and need to exclude individuals with metallic implants. Along with MRI, there are older imaging techniques that involve injecting the participant with radioactive isotopes that bind to glucose. The uptake of these radioactive glucose molecules can be visualized in areas of the brain that consume more glucose, yielding an index of energy utilization by – and, by extension, neuronal firing in – those regions.

Two techniques that employ this technology are single photon emission computerized tomography (SPECT) and positron emission tomography (PET). While possessing some advantages, these techniques have fallen greatly in popularity relative to MRI given their reliance on injection of a foreign substance that is absorbed into the brain.

Neuroimaging methods also exist for quantifying variations in the anatomic structure of the brain. The most common in use today are magnetic resonance (MR) based. Structural MRI, which indexes the positioning of gray matter tissue based on shifts in the alignment of subatomic particles within the MR field, is used to quantify the volume and relative location of structures within the brain. Another MR-based technique known as diffusion

tensor imaging (DTI) can be used to map the thickness and spatial positioning of white-matter fiber tracts within the cortex, and thereby quantify variations in the integrity and connectedness of myelinated cortical neurons. Structural imaging techniques of these types can provide information about aspects of brain anatomy (ranging from decreased volume or connectivity of particular structures, to lesions) that may help to account for clinical symptomatology and affiliated neurological deviations.

Relative to electrocortical measures, functional neuroimaging methods provide distinct, complementary types of information about brain function. The most widely used functional imaging method, fMRI, is advantageous because it provides fine-grained spatial resolution, allowing for localization of neural activity to specific brain regions. However, the temporal resolution of fMRI is limited by the gradual nature of blood-oxygenation changes. By contrast, EEG/ERP measures provide fine-grained time resolution as well as oscillatory frequency information, but the spatial resolution of these measures is limited because activity is recorded from the scalp surface.

A more comprehensive discussion of neuroimaging methods as related to language and emotion is not possible given the extensive use of these techniques in investigations of language (following from that speech) and emotion over the past two decades. Needless to say, the exciting possibilities afforded by direct measurement of brain activity are of critical importance to the field and provide many exciting avenues for future research. The brief overview we provide here is designed to orient the reader to these techniques and their strengths and limitations as investigative tools.

Along with their strengths, some notable limitations of these measures must also be acknowledged. Because of their expense, physical limitations, and temporal constraints, neuroimaging techniques are restricted to investigations that are narrow in scope and ecological validity. Neuroimaging techniques have enlightened investigators on where in the brain specific processes occur and have provided valuable information on where language and emotion intersect. However, how and in what way language and emotion processes interact has yet to be answered using imaging techniques alone. So, despite their dominance in the current literature, these techniques depend on the aforementioned techniques in this chapter as well as other techniques such as self-report and behavioral observation to provide a more comprehensive understanding of language and emotion interactions.

## 5 Conclusion

Quantitative and physiological measures offer a means to investigate specific, defined, and measurable aspects of language, emotion, and their interaction. They provide the researcher with the tools to weigh the relative contributions of language and emotion processes within this interaction and can clarify how individuals perceive and express themselves in emotional situations. These capabilities prove useful in untangling and dissecting the complicated relationship between emotions and language. However, these measures do not and cannot completely address all the questions relating to language/emotion interactions; rather, they complement and refine already existing avenues of inquiry discussed in this book, providing a lens to focus on the measurable and observable interactions between

language and emotion. Quantitative and physiological are not the only measures that provide this tool to scholars of this topic. Behavioral measures (response time and accuracy) and self-report measures (surveys and inventories) also provide quantitative information and can assist in directing the interpretations of the measures discussed in this chapter. Although the use of quantitative and physiological measures is new in comparison with other disciplines addressing these topics, its reliance on and use of technology will continue to provide new insights into human communication patterns and the importance of these patterns to individual behavior and societal developments.

**Tab. 10.1:** Various quantitative measures and descriptions of disciplines that employ such measures, aspects of language best studied using these measures, and additional note recording the technique of recording these measures.

Measure	Applicable populations	Disciplines that employ these measures	Aspects of language best studied
<b>Acoustic measures</b>	<p>Individuals with stable speech and language functioning</p> <p>Persons with speech and language disorders, when used as their own controls (i.e., with measurements taken at baseline as well as under test conditions)</p> <p>Agreeable to being recorded</p> <p>Due to the logarithmic nature of <math>F_0</math>, these measures are difficult to compare across biological sex and should be translated into a linear value such as semitones.</p> <p>Likewise, given the non-linear relationship between biological sex and intensity, analysis between biological males and females should remain separate for most measures that include intensity.</p>	<p>Speech science Speech language pathology/ logopedics vocology Hearing science</p> <p>Psychoacoustics Speech perception Linguistics Speech recognition Engineering</p>	<p>Simple or constrained linguistic parameters</p> <p>Interplay between emotional states and speech output</p> <p>Distinctive aspects of phonology, morphology, and prosody</p> <p>Conversational dyads dealing with emotional situations</p> <p>Less useful for language sampling and qualitative analysis of spontaneous speech, which create excessive variability in acoustic signals and render quantitative analysis challenging (though possible)</p>

**Tab. 10.1 (continued)**

<b>Measure</b>	<b>Applicable populations</b>	<b>Disciplines that employ these measures</b>	<b>Aspects of language best studied</b>
<b>Aerodynamic measures</b>	Individuals with stable speech and language functioning  Persons with speech and language disorders, when used as their own controls (i.e., with measurements taken at baseline as well as under test conditions)  Able to tolerate wearing a mask over the mouth  Unusual facial morphology or hair may rule out this measurement approach	Speech science Speech language pathology/ logopedics vocology	Syllabic and phonemic levels of language expression
<b>Measures of speech physiology/EMG</b>	Individuals with stable speech and language functioning  Persons with speech and language disorders, when used as their own controls (i.e., with measurements taken at baseline as well as under test conditions)  Able to tolerate adhesive tape	Speech science Speech language pathology/ logopedics vocology	Simple or constrained linguistic parameters  Interplay between emotional states and speech output  Distinctive aspects of phonology, morphology, and prosody
<b>Measures of speech physiology/EGG</b>	Individuals with stable speech and language functioning  Those with speech and language disorders may be employed if they are used as their own control (i.e., with	Speech science Speech language pathology/ logopedics vocology Linguistics Engineering	Sustained vowels

**Tab. 10.1** (continued)

<b>Measure</b>	<b>Applicable populations</b>	<b>Disciplines that employ these measures</b>	<b>Aspects of language best studied</b>
	measurements taken at baseline as well as under test conditions)		
	Should tolerate neck straps		
	Larger neck circumferences may not be amenable to this type of measurement		
<b>Autonomic measures: heart rate (HR)</b>	Individuals with stable speech and language functioning  Persons with speech and language disorders, when used as their own controls (i.e., with measurements taken at baseline as well as under test conditions)	Psychophysiology Psychobiology Psychiatry Physiology  Speech science Hearing science Ergonomic engineering	All aspects of <i>receptive</i> language are appropriate for these measures
	Able to tolerate adhesive tape		
<b>Autonomic measures: skin conductance (SC)</b>	Individuals with stable speech and language functioning  Persons with speech and language disorders, when used as their own controls (i.e., with measurements taken at baseline as well as under test conditions)	Psychophysiology Psychobiology Psychiatry Physiology  Speech science Hearing science Ergonomic engineering	All aspects of <i>receptive</i> language are appropriate for these measures
	Able to tolerate adhesive tape		
<b>Electrocortical measures: EEG/ERP</b>	Appropriate for use with both healthy and clinical populations	Cognitive/affective/behavioral neuroscience Kinesiology Physiology	Semantic processing and other cognitive aspects of language

**Tab. 10.1 (continued)**

<b>Measure</b>	<b>Applicable populations</b>	<b>Disciplines that employ these measures</b>	<b>Aspects of language best studied</b>
	In clinical samples, caution is warranted in interpreting data, particularly for groups who have not been well-researched using these measures	Neurology Radiology Psychiatry Speech science Hearing science Linguistics Clinical psychology Neuroscience-oriented subdisciplines of fields such as Economics, Political Science, Law, and Philosophy	Most aspects of receptive language, auditory and visual processing, language-cognitive interactions.
	Should tolerate a cap on the scalp and electrode paste		Motor speech coordination, under conditions of cognitive or emotional load
	MEG may be problematic for younger-aged samples or clinical samples with anxiety problems due to the claustrophobic nature of the recording chamber		
	Individuals who have metal implants may need to be excluded from MEG testing due to hazards posed by the magnetic field or implant-related signal artifacts that render signal data uninterpretable		

## Acknowledgements

Support for effort devoted by the second author (C. J. P.) to this chapter was provided by grant W911NF-14-1-0018 from the US Army. The content of the chapter is solely the responsibility of the authors and does not necessarily represent the official views of the US Government, Department of Defense, Department of the Army, Department of Veterans Affairs, or US Recruiting Command.

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# 11 Linguistic data resources for computational emotion sensing and modeling

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- 2 Capture of emotional language corpora
- 3 Theorizing emotion for corpus construction
- 4 Annotating emotional language corpora
- 5 Linguistic emotion signals
- 6 Analysis with emotional language corpora
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**Abstract:** Emotional experiences are integral to human interaction and for enabling successful interactions between humans and computational systems. This chapter focuses on how emotional language datasets can be collected and annotated, and also on how such resources can be used for analyzing and modeling emotional language. Perception and interpretation of affect states and behaviors usually rely on a variety of linguistic cues, and linguistic information can combine with other human modalities to provide multifaceted, interpretable insights into emotional states. Emotion in language is also characterized by complexity and variation, and its expression, perception, and interpretation involve subjective preferences, which brings interesting challenges in computational contexts.

## 1 Introduction

Central to interpersonal and human-machine communication is the expression, perception, or interpretation of affect and emotional states. Language and speech technology applications are gaining momentum in homes, at work, and in leisure settings. There is also merit in analyzing emotion in language – spoken, signed, written, transcribed – for advancing the state of knowledge in the scientific study of language. This chapter focuses on the capture of data resources involving emotion in language as well as theoretical concepts from the affective sciences and computing that guide the design of processes for eliciting emotional language and for enriching language resources with affect information. Such resources can be used for scientific and applied analysis of emotional language and for developing systems performing automated human-like emotion processing. Linguistic emotion cues include prosodic, lexical, syntactic, or pragmatic signals, and emotion is also conveyed multimodally through *language + X*, where X is a placeholder for one or more

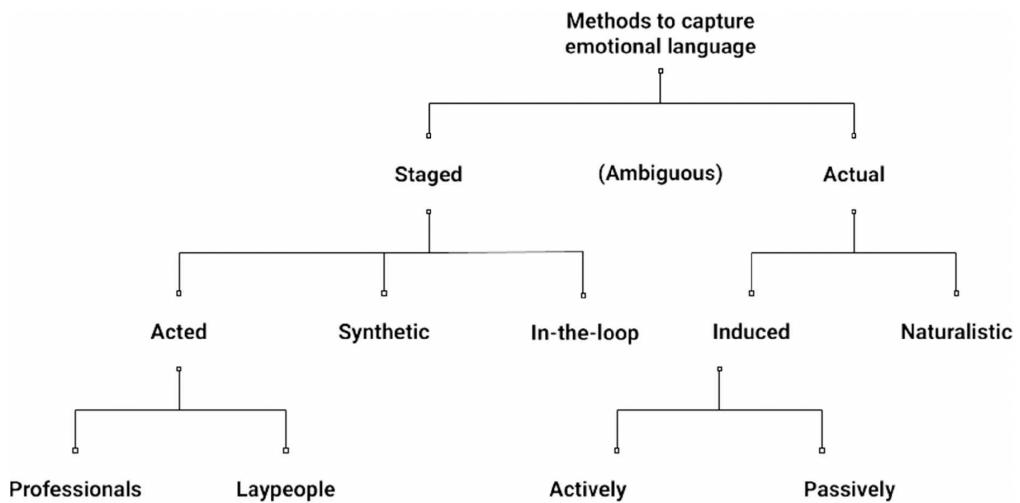
other human-generated modalities. Multimodal cues can disambiguate, as the linguistic rendering may vary and perception of emotion in language is subjective.

The development of language technologies in affective computing relies on emotional language resources, especially *corpora* – linguistic datasets – enriched with *annotations* such as labels or tags for emotion categories or ratings indicating affective valence and intensity. The annotations are typically linked to *linguistic units* such as words, phrases, sentences, utterances, dialogue turns, or larger passages in texts, speech or A/V recordings, or transcribed spoken language and dialogue. The combination of corpora and computational techniques for processing and modeling emotional language can increase our knowledge of how emotion is conveyed or perceived in language. These resources can also enable systems to automatically learn to identify, classify, or generate emotional language behaviors. In addition, emotional language resources can make language technologies more robust to affect-related variation, or result in computational systems that identify, categorize, and rank text by relevance, as well as applications such as expressive text-to-speech synthesis, automated transcription of emotional speech, and emotion-attuned dialogue systems and virtual assistants. Investigating emotion in language can improve human-computer interaction, allow humans and machines to collaborate effectively, and enhance intelligent systems used in *affective computing*, the scholarly field launched by Picard (1997).

## 2 Capture of emotional language corpora

Figure 11.1 is a diagram that categorizes how emotional language data can be captured to create and build emotional language corpora. The main distinction is between *staged* and *actual* emotional reactions. These notions can then be subdivided (e.g., actual into naturalistic or induced, with the latter then further split into actively vs. passively induced). The ontological diagram is a useful overview; however, even the seemly clear-cut dichotomy between actual and staged emotional reactions has ambiguity since actual emotions are also scripted by socio-cultural conventions and expectations on interlocutors' emotional behaviors. As an example, Xiao and Su (2014) imply that unexpectedly displaying an emotional reaction can become uncomfortable – such as the awkwardness of intense cheerfulness in a serious meeting, a clinical appointment, or an educational lecture. The diagram illustrates this by including *ambiguous* cases between the extremes. Examples that illustrate this point are performative political or social speeches, which are often scripted and rehearsed, yet delivered to genuine audiences.

In Figure 11.1 under the branch of staged emotional language data, first, there is *acted* data, one of the common emotional corpus types (Forman et al. 2020). Acted data is elicited from either *professional* actors or *laypeople* performing emotional language. Several well-known corpora are acted, but an issue with acted emotion data is the limited *ecological validity* (Kory and D'Mello 2015). For example, language technology models trained to predict affect states from acted data may perform well on similarly acted test data but not generalize to real-world, more nuanced emotional language input characterized by variation in intensity or increased sociolinguistic variation. Yet, there are data collection scenari-



**Fig. 11.1:** Overview of how emotion language data can be captured to build emotional language corpora.

os when other forms of data capture can be highly impractical. For example, when language data is acquired during the use of invasive sensing devices, such as magnetic resonance imaging or electromagnetic articulography for examining the articulatory process in emotional speech, Lee et al. (2015) indicate that acted data plays an important role. A second less frequent way of creating staged emotional language corpora is to create *synthetic* data, using rules or data-driven language generation techniques. An advantage of synthetic data is that it protects privacy while addressing the data hunger of AI systems. The synthetic approach can also augment corpora whose proportions are imbalanced for emotion classes, by incrementing an existing dataset with synthetically created examples absent in them. A third type of potentially staged data is human *in-the-loop* data collection or augmentation. Using interactive computational approaches, an AI system can query human contributors on the fly, given a predetermined schedule, or by using another strategy either to produce emotional language instances (sentences, utterances, etc.) or to annotate existing linguistic examples with missing emotional labels. A human in-the-loop method can also elicit actual emotional language data, depending on the human task.

The branch for actual emotional language in Figure 11.1 features another form of common affect data. *Induced* data represents reactions elicited through tasks which intend to evoke one or more emotional responses. Intentional emotional language elicitation can be done *actively*. In a study on frustration and facial expressions, people interacted with a malfunctioning web-based tool (Hoque, McDuff, and Picard 2012). To elicit language, tasks that evoke emotion can require interactive discussion. Elicitation can also involve inducing emotional expression *passively*, such as when viewing a video which triggers amusement or frustration, resulting in verbalized laughter and smiles (Forman et al. 2020; Saraf et al. 2019). Active elicitation often centers on lab-based studies, while passive elicitation can use remote platforms, including online crowdsourcing, to collect data at scale. Kory and D'Mello (2015) related passive approaches to stimuli, which induce emotional expression or perception, and active approaches to engaging people in behavioral activities that result

in emotional experiences. They suggested that an active approach could yield more generalizable reactions, while passive elicitation using image inspection may elicit less intense reactions and avoid a stressful experience. In addition, *naturalistic* capture of emotional language data stems from regular environments outside of experimental tasks. For example, Devillers and Vidrascu (2007) explored emergency call data. Naturalistic public social media texts have also been regularly studied, though one should keep in mind that social media texts may be self-regulated, deceptive in terms of who the writer is, and subject to community-based or other moderation rules.

Capturing emotional language or annotating it raises questions including what equipment, environment, and software to use (e.g., equipment quality, setup, and selection of annotation tools) as well as decisions on which *tasks* to use to elicit language data and the theoretical grounding of the elicitation methods. Example methods include the modified *Master-Apprentice* paradigm which can be adapted to emotional language elicitation (Alm 2016; Beyer and Holtzblatt 1997), *Wizard of Oz* methodology (Batliner, Steidl, and Nöth 2008; Frommer et al. 2012), *visual or audio-visual description* (Gangji et al. 2017; Haduong et al. 2018), *game-based* tasks (Shea, Alm, and Bailey 2018), *consensus or joint reasoning dialogues* (Kvist et al. 2020), and *Games with a Purpose* (Ahn 2006),

Co-capture of multiple data modalities including language is feasible yet nontrivial. For example, simultaneous *multimodal* collection of speech and eye gaze data is quite straightforward (Haduong et al. 2018; Vaidyanathan et al. 2018). In contrast, when speaking, facial expressions are impacted by the articulatory movements (Bethamcherla et al. 2015; Gangji et al. 2017). Skin response signals tend to rely on keeping the hand still, incompatible with writing or typing. Sensitive wearable sensors can present data collection obstacles or decrease expressiveness (Edwards et al. 2017).

Fully *remote* capture offers less control than lab-based data collection, making it potentially more challenging to avoid data loss, address data quality issues, and ensure no one experiences adverse affective reactions. For example, data noise may be introduced by variable microphone quality or meagre lighting for A/V data. Similarly, ensuring people's attention in the process of enriching data with annotations is also important. Variation in emotion data may represent such noise. To counteract this, validity testing may involve distinct individuals than those who produced the data or annotations. To ensure quality in an emotion annotation task with text, Strapparava and Mihalcea (2015) discussed incorporation of a random control question that asked for a fixed annotation for all emotion categories. Annotators who did not pass this test or those whose annotations were below a threshold when correlated against others were excluded.

There are also drawbacks when discarding annotators or data instances based on mutual agreement requirements. A false sense of “ground truth” might result since emotion rendering and perception is subject to variation (Afzal and Robinson 2015; Alm 2009, 2011). Emotional language corpora and their annotations rather represent *reference* or *gold standard* data. Less canonical annotation instances are valuable as they give insight into the diversity of emotion perception. Variation may even mirror how adults moderate, regulate, and control emotional reactions based on what interlocutors assess as situationally acceptable or expected, while their internally experienced emotion may differ (Afzal and Robinson 2015; Alm 2012). Additionally, in data elicitation, the emotional reaction intended may differ from what individuals perceived (Saraf et al. 2019), and emotions also readily vary

in their intensity as well as blend or co-occur (Alm 2009). Variation can impact performance of predictive models trained on the data, whereas overly curated data for removing variation can result in bias and disregard of less common opinions.

### 3 Theorizing emotion for corpus construction

At the heart of conceptualizing emotion in language is categorical, dimensional, and appraisal-focused theoretical frameworks. Most corpora have been collected and annotated based on the initial two, or their combination. In a survey of emotion scientists, a majority supported the notion of universal emotion facets, categorical as well as dimensional descriptions, and voice (or face) cues (Ekman 2016). Although there is controversy surrounding *categorical* emotions, discrete emotion labels have often been applied in emotional corpus construction. Associated with Ekman, emotion categories may commonly involve anger, disgust, joy, fear, sadness, and surprise. Plutchick envisioned eight central categories as well as paired representations such as surprise/anticipation (Imbir 2017). Other categories may also be included such as irony and threat (Sini et al. 2018) or contempt and pride. More nuanced labels include combinatory, secondarily derived emotions such as relief or shame. Martin (2014) describes shame as a combination of being afraid and angry, with self-directed anger. Ekman has also suggested that an *emotion family* spans similar emotional facets. Consider the example of grieving, sad, depressed, and down, or on the positive side, the range of enjoyment-related emotions (Hofmann, Platt, and Ruch 2017). Nonetheless, the subtler distinctions within emotion families have so far not really nurtured their integration in corpus construction.

Additionally, *neutral* language absent of emotion can be regarded as a baseline from which to compare categorical emotional productions. Collecting neutral language may be accomplished before emotional tasks begin in an experiment. Resetting back to the baseline during tasks can also be important. For example, in studies involving verbal laughter, Forman et al. (2020) and Saraf et al. (2019) used an *emotional palate cleanser* task between stimuli which aimed to revert subjects' emotional state to a baseline. Alm (2010) noted that annotation of emotion is subject to disagreement across annotators precisely for discrete neutral versus emotion categories, since individuals distinctly assess the presence of emotion if less intense. Annotating an emotional corpus tends to involve a clearer emotional *core* versus a subtler *periphery* that conveys emotional language less obviously and where emotion becomes subject to increased disagreement. Relatedly, Tillman and Louwerse (2018) noted that corpus frequency of mentioned emotional experiences impacted reaction time in a reading task. Readers' perception of emotion in language could potentially change with time because language changes or socio-cultural pressures and expectations are intertwined with emotion perception.

Alternatively, scholars such as Russell (1980) and ideas stretching back to the late 19th century (Ekman 2016) posit emotions as *dimensional*. Common dimensions such as *valence/pleasure/polarity*, *arousal/activation/intensity*, and *dominance/control* (abbreviated PAD or VAD) can be elicited with *Self-Assessment Manikin* (SAM) ratings (Bradley and Lang 1999). Other constructs include degree of thumbs-up versus thumbs-down (*approval*). This repre-

sentation brings to mind the *semantic differential* (Osgood 1969) and perspectives of affective meaning as involving being situated in *multidimensional space* (Calvo and Kim 2013). Valence and intensity are frequently used for describing emotional prosody and also for written text in so-called sentiment analysis tasks in computational linguistics. Buechel et al. (2016) focused on valence and dominance in business versus sustainability reporting of organizations. They found higher positive valence and dominance for the latter, and also that valence and dominance scores for the sustainability category approximated affective media reporting (e.g., sports). Dimensional ratings allow avoiding references to emotions but result in blurring boundaries between states, such as the active negative emotions (Afzal and Robinson 2015).

Valence further links to *appraisal*, the assessment of situations or things, which integrates rational outcomes and objectives with respect to stakeholders or events. Appraisal reasoning adds encoding complexity and is considered less often in emotional language corpora and computational modeling. Santos and Maia (2018) summarize this perspective as follows: “Oatley and Johnson-Laird [1987] propose that emotions occur at the junctures of our plans, in an otherwise plan-steered rational-driven behaviour: we feel emotions when the plan attains its end, or when it is interrupted. In other words, emotions appear when the conscious or unconscious evaluation of the likely success of a plan changes” (Santos and Maia 2018: 3). Annotation of emotional language resources can provide an opportunity to explore appraisal concepts such as emotion *source*, *target* (e.g., self, other), and *trigger* (Mohammad and Alm 2015). Other theoretical accounts, including cognitive semantics, address emotional language use through cognitive frames, metaphors, and the emotion lexicon (Alm 2009; Santos and Maia 2018). Moreover, *action tendencies*, including behaviors commonly associated with emotions (fleeing, attacking, dancing, etc.), are considered in the Emotion Markup Language, EmotionML (Schröder et al. 2015), which can be used to enrich data with metadata and annotations for *corpus interoperability* in XML or JSON formats.

## 4 Annotating emotional language corpora

Metadata and annotations represent data that emotional language corpora are enriched with. Metadata may involve speaker demographics or intended emotion targets for acted data. Annotations intend to capture emotional information expressed in or perceived from the language. The annotation scheme may involve *coarse-grained* or more *fine-grained* labels. For supervised machine learning, used for developing natural language and speech processing technologies, there is a need for annotated emotional language corpora since algorithms can learn computational models from such labeled data.

The challenges of annotating emotion apply to designing what to annotate in the corpus, designing the annotation task, and accommodating valid *subjectivity* without trivializing variation just to arrive at annotation consensus. Subjectivity can be exacerbated by task (Schuller 2015) and extra-linguistic factors such as mood and fatigue (Alm 2009). The eventual application of a corpus, if aimed for development of language or speech technologies, can help decide on which theoretical frameworks to ground annotation in

and which emotion phenomenon to model. Still, an implication of application-centered data or annotation is a potential lack of generalizability to other tasks than first envisioned (Afzal and Robinson 2015).

An initial question for designing emotion annotation is which linguistic representation and which *linguistic unit* to annotate: words, phrases, clauses, utterances or sentences, paragraph-length texts, or larger units of discourse. Several units could also be annotated with distinct information. Quan and Ren's (2010) annotation of Chinese blog texts considered document, paragraph, and sentence. In addition, how annotation questions are asked may impact annotation outcomes. For example, Mohammad and Turney (2013) noted higher agreement when the annotation question used *associated with* than *evokes*.

A second, additional inquiry in designing an emotion annotation task is what amount of context to provide and what temporal granularity to use in annotation. *Emotional sequencing* or an *emotional trajectory* may characterize emotional language data, such as unfolding narratives, interactive dialogues, forum threads, and other text types (Alm 2009; Alm and Sproat 2005; Tornblad et al. 2018). Accordingly, both randomization and retention of the sequential order of linguistic units being annotated require careful thought. Temporal trends such as time of day or seasons may impact valence as noted for microblogs or reviews (Liu et al. 2016; Santos and Maia 2018). Jiménez-Ortega et al. (2012) provide some evidence that the valence of preceding material may impact syntactic processing. Quan and Ren (2010) explored how emotions changed in Chinese blogs, finding an adjacency effect and some emotions being likely to follow others including love transferring into joy, and anxiety preceding sorrow. Without reference to language, Cacioppo and Gardner (1999) noted that emotion perception may be influenced by a strongly adjacent negative experience or by envisioning another outcome. This effect might also impact a linguistic annotation event.

A third consideration is who performs the emotional language annotation. In *self-annotation* people self-reflectively assign labels, often in conjunction with rating their felt emotion for stimuli. Self-reporting makes the assumption that people can introspect (Kapoor 2015), and a complication is that self-assessment has a time delay that can impact self-reporting (Kory and D'Mello 2015). Since emotions are evolving rather than discrete, *continuous rating/self-rating* measuring may address this dilemma (Kory and D'Mello 2015; Lee et al. 2015). Dimensional annotation can be carried out at regular intervals; such data can be processed in aggregate as means over spans of time or over linguistic units (Kaushik et al. 2021; Schuller 2015). Less intentional self-labeling of text could include emotional hashtags or emoticons. In *other-annotation*, a third party with training in the annotation scheme interprets others' emotional states to mark up data generated by others. Other-annotation is common for linguistic corpus construction and makes the assumption that individuals are able to interpret others' emotional states or performed emotions. A form of other-annotation is *intent-based* annotation, an approach employed by Shea, Alm, and Bailey (2018) where a facilitator, rather than the subject, annotated in real-time the intention to induce surprise in the subject instead of querying the subjects to self-report or interpret their emotional reactions after the fact.

A fourth question is whose *emotional perspective* is annotated (Alm 2009; Santos and Maia 2018; Sayeed 2013; Wiebe, Wilson, and Cardie 2005). For example, it could be the

speaker's or the writer's, i.e., the emotion of the person generating the language, or of each dialogue interlocutor. It could also be text-internal emotion projected by the written, spoken, or signed content, such as the emotion of characters in a narrative story or referenced agents in news reporting. Alternatively, it could be the reader's, listener's, or other recipient's emotion evoked by the emotional language instance. Annotations could also account for two or more perspectives. A complex case of emotion attribution is multiparty dialogues with numerous interlocutors and asynchronous interaction.

A fifth question, especially in the case of other-annotation, involves the *training background* and whether annotators are laypeople, novices, professionals in training, or experts. For example, an attending clinical psychologist or a trained linguist may be an expert depending on the study context. If no expert annotation is required, layperson annotation may suffice with intuitive judgment based on language and world knowledge. Layperson annotation can readily involve more individuals. But expert annotation may be required for clinical data or for corpora enriched with linguistic structures such as automated speech to text transcription, prosodic or voice inflection markup, syntactic or semantic parses, etc. Such linguistic mark-up can be semi-manual with a first pass by an automated system, followed by manual post-correction if the measured error of the automated system's output exceeds a tolerable threshold.

These are some of the important considerations for an emotional corpus annotation project. Determining how detailed the annotation process is must also be balanced with annotator fatigue since annotation tends to be monotonous, as well as the annotation budget, the number of available annotators, etc. Decisions may rest on motivations grounded in study objectives, research questions, applications, theoretical frameworks, and recommendations from prior relevant research. In addition, to gain insights into *annotation strategies* used in subjective annotation, surveys can be interspersed in the annotation task (Hochberg et al. 2014). The design of corpus collection should also consider *ethical* issues such as privacy and whether being confronted with emotional language may impact annotator well-being (Tornblad et al. 2018).

Given the ambiguity, multimodal co-collected data may also strengthen the language annotation process. Other human-generated affect signals are present in eye movements, posture, facial expressions, biophysical measurements, etc. Examining multimodal reactions may aid annotating the linguistic data.

Once collected using at least two and often more annotators, resulting in multiple judgments, it is standard to assess *inter-annotator* (between annotators) and *intra-annotator* (annotators' relabeling) reliability using measures that consider if annotation data is categorical, continuous, or ordinal (e.g., Cohen's or Fleiss' kappa, Krippendorff's alpha, correlation, or Kendall's coefficient). The agreement may differ substantially across emotional language annotation tasks and corpora (cf. Hsu et al. 2018; Kadiri et al. 2014; Lee and Wang 2015; Liew, Turtle, and Liddy 2016; Phan, Shindu, and Matsumoto 2016; Quan and Ren 2010; Vijay et al. 2018). Agreement may increase with fewer emotion classes (Liew, Turtle, and Liddy 2016) or less class imbalance. Recommended for ambiguous tasks, such as emotion annotation, is the pairing of annotations with *confidence judgments* (Bullard et al. 2014; Kadiri et al. 2014; Womack et al. 2013).

Data without target labels may still be analyzed using unsupervised techniques such as clustering, while interactive or active machine learning or machine teaching can collect

input on the fly in a machine learning or an evolutionary machine-inference process (Alm 2009; Alm and Llorà 2006; Kapoor 2015; Schuller 2015).

## 5 Linguistic emotion signals

Many linguistic features can convey emotion (Alm 2012; Besnier 1990; Reilly and Seibert 2003; Schuller and Batliner 2013). For instance, examining *lexical and structural features* in sentences from fairy tales that human annotators highly agreed on how to annotate for fundamental affect labels, Alm (2009) noted the presence of lexical items directly naming an affective state (*anger, cross, vex, fearful, frightened, happy, delighted, sad, miserable, surprised, alarmed, astonished*), lexicon of relevant or dissimilar affect states (*relief, shame, dull*), words or expressions that convey behaviors, etc., that relate to affect (*cry, embrace, rude, kiss, laugh at, shudder, trembling*), and valanced words and expressions (*splendid, treasure*; though not to be confused with polarity of sentences which depends on more than individual words or their composition). Analysis should consider that there are multiple lexical meanings (e.g., *cry* may refer to weeping associated with either happiness or negative emotion, and also is used in the sense of *yell*), negation (e.g., negating adverbs or negating affixes) and collocational patterns (*a good meal* vs. *a good beating*; an example from Kim, Valitutti, and Calvo [2010] considering a fairy tale sentence) or figurative or idiomatic expressions. Additional sentence-level observations included the importance of human knowledge and experiences, direct speech such as interjections or short utterances, and fine-grained speech acts conveying emotional pragmatics (threatening, accusing, blaming, insulting), and mixed emotions (Alm 2009). Using a more coarse-grained dichotomy, Strapparava and Mihalcea (2015) differentiated lexicon naming emotions from lexicon interpreted contextually as referring to emotional experiences. As summarized by Alm (2012), there are potential other features including orthographic (emoticons, nonstandard spellings, capitalization usage, font choices), morphological (affixes such as diminutives, modal verbs and hedges, politeness or evidentiality indicators), expressive syntactic constructions, nonstandard language choices, rhetorical-poetic linguistic tools such as repetitions, and conversational features such as dialogue acts (Stolcke et al. 2000), turn-taking, and repair behaviors.

The subsequent *processing* of collected emotional language data may include several steps. To exemplify, for microblog texts this may involve removal of URLs, user mentions, etc. (Vijay et al. 2018). To address privacy, Hsu et al. (2018) applied a method to de-identify texts. Software identified names of entities and replaced them with generic entity labels, followed by manual inspection, and lastly, replacement of response messages with freshly crafted ones.

Speech is a primary vehicle for humans to express emotion (Alm 2009; Lee et al. 2015; Scherer 2003). Schuller et al. (2010) described normalization for speakers and corpora for speech emotion recognition in several languages. *Emotional speech features* include voice quality, fundamental frequency or perceived pitch, pitch range, acoustic intensity, jitter, shimmer, speech rates of linguistic units, mel frequency cepstral coefficients, etc. Features may be aggregated using descriptive statistical measures or measure change (Alm 2009;

Lee et al. 2015; Schuller et al. 2010; Sebastian and Pierucci 2019; Shea, Alm, and Bailey 2018). Pausing and silence might be indicators of affective response as can verbalizations such as laughing, sighing, crying, etc. Alm (2009) and Alm and Llorà (2006) reported on perceptual search for prosodic parameters of emotional voices using an interactive evolutionary method, noting a distinction between an angry and a sad voice especially for acoustic intensity (higher for angry) and speech duration (longer for sad). The distinction between anger and disgust can be ambiguous, especially in English given multiple word senses for the lexical item disgust. Sini et al. (2018), using the resource OpenSMILE (Eyben, Wöllmer, and Schuller 2010; Eyben et al. 2013), found that capturing how features change could aid distinguishing anger from disgust for the same speaker. Another example tool for processing speech is Praat (Boersma 2001).

Additionally, Lee et al. (2015) noted that the acoustic source and supralaryngeal filter and its articulators participate in emotional speech production. Martin (2014) suggested that bodily experiences impact speech production, in line with the James-Lange view that emotions correspond to physiological changes (Coleman and Snarey 2011). The arousal dimension comes across clearly in the speech signal, and Fagel (2006) used this observation to explain responses to incongruent face-voice emotional stimuli. Voices can also be influenced by other behaviors such as shaking or jumping, and gender and age can impact acoustic features such as fundamental frequency.

For *emotional speech perception*, Morton and Trehub (2001) suggested that it takes time for children to develop skills to perceive others' emotion from their speech. The study examined the impact of how something was said (prosody or voice inflection) and what was said (verbal content) on children's and adults' decisions to interpret the message conveyed as either of two opposite emotions. When the verbal content and voice inflection were incongruent, adults centered on the prosody but children on the verbal content, resulting in different interpretations. Still, children responded more slowly to the incongruent stimuli, indicating that they indeed processed the speech signal's emotion. They also used voice-based information when the verbal content was eliminated with manipulation such as through speech filtering or if the speaker used another language. Aguert et al. (2013) also found that young children did not deduce emotion from prosody and that voice-based emotion perception is a skill that takes time to acquire, with participants at the age of 13 relying on prosody more than younger children yet less than adults.

A complication when studying linguistic emotion features is that characteristics of language that convey *linguistic functions* also convey affect, so teasing the emotional function apart is difficult. For example, prominence and fluctuation in pitch, duration, and intensity also help communicate contrast, repair, and basic pragmatic functions such as commands and questions. Elliott and Jacobs (2013) pointed out that in sign language raised eyebrows, associated with seeking more information (surprise), serve a grammatical function. This affirms the importance of context for emotion interpretation.

Bimodal data such as speech and text minimally require *temporal synchronization* (Schuller 2015) but may also require *semantic alignment* (Gangji et al. 2017; Haduong et al. 2018; Vaidyanathan et al. 2015; Vaidyanathan et al. 2018) since signals such as gaze and verbal mention may not time-align meaningfully. Also, sometimes language is not even produced. In affective video recommendation (Diaz et al. 2018; Soni, Alm, and Bailey 2019), language is largely irrelevant since people mostly do not talk when they watch videos.

## 6 Analysis with emotional language corpora

This section discusses examples of analysis of emotional language corpora, presenting selected examples that involve emotion categories or emotional dimensions (see Section 3).

Troiano, Padó, and Klinger (2019) adopted a two-part collection process of an emotional language corpus gathered with crowdsourcing in two languages, based on the process used for a prior dataset. First, writers completed sentences with prompts with the word for a target emotion by recalling a situation where they felt so, in addition to self-annotated metadata about the emotional event such as the recollection time (how far back), the length of the emotion, emotional prominence (how intense), and participant demographics (gender). A cross-linguistic analysis revealed that events where respondents reported feeling anger were most extensive (in averaged count of tokens), while sad events were least extensive. Later, readers reviewed randomly sampled descriptions stripped of their emotion word to validate the descriptions. For around half, annotators agreed and agreement was particularly high for joy but low for shame, which was often mistaken for guilt. Analysis found confusion in English between anger and disgust and noted that fear pointed somewhat more toward something anticipated, while guilt and sadness mostly impacted others.

Hsu et al. (2018) provided examples of how the one-word utterance *Okay* encoded different affective states in scripted TV dialogues, highlighting a basic challenge in predicting utterance emotion merely from text, as an utterance could be rendered in various emotions (Alm 2009). Similarly, Xiao and Su (2014) focused on the distribution of the word *angry* in the British National Corpus. A pattern discussed was anger mentions that were preceded by a mention of who felt the emotion and followed by an emotion initiator. Their analysis suggested that behavioral actions often initiated anger.

Social media, including microblogs, can enable one-to-many or many-to-many interactions. Schuff et al. (2017) discussed a corpus collected for stance analysis and annotated again for emotion categories. They observed that annotation agreement levels did not mandate predictive machine learning performance, but class prominence mattered – anger was most common and better predicted. Pointing to figurative meaning dimensions such as ironic text, the authors noted that texts conveying enjoyment could be negative, suggesting that emotion categories can occur with different polarity. Yet, emotions and expected polarity were linked; e.g., trust tended to have positive valence, anger was largely negative, whereas surprise leaned in the negative direction in this dataset and was difficult to computationally model.

A sociolinguistic, pragmatic, and interactive phenomenon that can occur in parallel with emotional expression is *code-switching* or code-mixing, in which bilingual or multilingual language users combine two or more linguistic codes in a process going beyond lexical borrowing. It can occur across or within sentences in so-called *inter-sentential* versus *intra-sentential* code-switching. Lee and Wang (2015) discussed an emotional language corpus with Chinese and English code-switching. Their annotation scheme considered the language used to express the emotion, and in their data, happiness was most frequent and especially prominent with English. Most posts did not contain multiple emotions, valence did not tend to change. They also found that negative words appeared more acceptable in

English. In another study, Vijay et al. (2018) discussed emotional instances from code-mixed Hindi and English microblogs.

Other human-generated *modalities* studied in the broader emotion literature include heart rate, which can also be estimated from the face (Diaz et al. 2018), skin response, respiration, temperature, posture, eye gaze, electrocardiogram, or electroencephalography data. Cowie et al. (2011) and Schuller et al. (2010) provided listings of speech and multimodal datasets. Busso et al. (2008) reported on a multimodal resource with language from actor dyads plus recordings of face and hand gestures. Another well-known resource was collected using a Wizard of Oz environment and children interacting with a robot (Batliner, Steidl, and Nöth 2008). Audio-visual emotion corpora are quite common (see listing by Schuller 2015), and Poria et al. (2017) also reported on multimodal datasets used in emotion modeling.

New resources on emotion phenomena stimulate new explorations. For example, Kadirri et al. (2014) reported on emotion annotation of a corpus with A/V segments which also included confused, excited, interested, relaxed, sarcastic, and worried affect categories. In addition, reading aloud is an expressive performance where a speaker creates a compelling story. Sini et al. (2018) reported on an in-progress multi-genre storytelling speech corpus of audiobook readings by a French speaker with a set of perceived prosody-based patterns such as nuance, question, resolution, and suspense. Annotations identified emotions, intensity levels, as well as intro- and extroversion categories. Analysis suggested that happiness took on two shapes, and surprise aligned prominently with an attention-preserving emphatic pattern.

Emotional valence has been studied in *dialogues* in tutoring situations by Forbes-Riley and Litman (2004). Craggs and Wood (2003) initiated discussion of emotion and its annotation in dialogues. They reaffirmed that interlocutors differ in default speech behaviors and proposed that task-focused, more structured dialogues oriented toward achieving an objective can be less emotional than conversational dialogue interactions. They also hypothesized an inverse link between formality level and expressiveness.

## 7 Machine modeling with emotional language corpora

*Machine learning* approaches are used to process emotional language and create mappings between emotion target concepts and words or other language-based *features*, for example those discussed in Section 5. Computational *classification* of emotional language uses annotations such as labels of emotion categories or intensity ratings that corpus data has been enriched with. Regression can learn continuous concepts such as affect dimensions. The model seeks to learn to recognize the emotional target concepts automatically based on input text, speech, or other modalities. A supervised model is trained to identify emotions in language corpora by using linguistic input (e.g., text) and labels from the reference data. Adjudication or voting are example ways to settle on one label if annotators disagreed. Alternatively, labels could be represented as distributions (Liu et al. 2019).

Emotional language corpora can provide recommended *data splits* that consider the emotional data distributions for training, validating, and testing computational models

(Schuller 2015). *Benchmark* corpora can be used by language technology developers to compare performance across systems. Emotional language resources have also been used in *shared tasks* (Mohammad and Bravo-Marquez 2017; Schuller, Steidl, and Batliner 2009; Strapparava and Mihalcea 2007), which are challenges where systems compete and are evaluated for their performance.

Poria et al. (2017) listed industrial products for sentiment classification including for text and speech, yet selecting one product to apply to a corpus can be difficult since tools trained to identify valence or emotions in domain data may yield less reasonable results for data from other contexts. Several *lexical semantic or semantic-ontological resources* encode emotional information such as the General Inquirer (Stone et al. 1966), SentiWordNet (Esuli and Sebastiani 2006), WordNet Affect (Strapparava and Valitutti 2004), Affective Norms for English Words (Bradley and Lang 1999), and Linguistic Inquiry and Word Count (Pennebaker et al. 2015) which is a lexicon-based resource regularly used in computational social science and related disciplines. Mohammad and colleagues have developed various emotion lexicons (Mohammad 2018a, 2018b; Mohammad and Kiritchenko 2015; Mohammad and Turney 2010, 2013). Buechel et al. (2016) reported on a large emotion word lexicon by Warriner, Kuperman, and Brysbaert (2013). Alm, Meyers, and Prud'hommeaux (2017) and Alm and Hedges (2021) discussed an application visualizing computational models' output including the valence of sentences (sentiment analysis).

Wiebe et al. (2004) comprehensively discussed the study of *subjective language*. In computational linguistics, *sentiment analysis* is a task that aims to identify whether a text's valence is positive, negative, or neutral, or an approval such as liking (Santos and Maia 2018; Wilson, Wiebe, and Hoffman 2005; Zhang and Liu 2017). *Opinion mining* is used near synonymously or for related tasks although opinions may omit polarity (Kim and Hovy 2004; Menezero et al. 2014). *Emotion recognition* involves automatically identifying emotions and tagging them, mostly on the basis of machine learning techniques that learn mappings from linguistic units or features to emotional target labels based on training with emotion-annotated corpora.

*Text-based emotion prediction, text-based affect detection, emotion or affect sensing in text, and emotion classification in text* refer to the creation of computational models, typically machine learning-based, that take text as input, process it, and identify and automatically tag or annotate emotional constructs in text. For example, using standard techniques to predict emotions in text data, Calvo and Kim (2013) explored this task, applying different algorithms to various annotated corpora. The task may also involve locating the span of emotional language in text data.

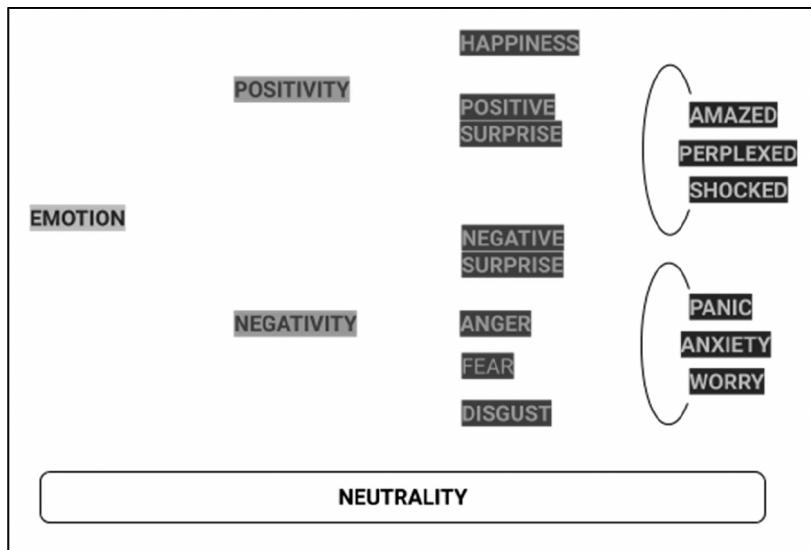
Studies have explored emotion recognition in a range of *languages, text types*, and with a variety of *computational approaches* ranging from lexicon-based, rule-based, to statistical techniques, and using traditional to deep machine learning techniques (Alm 2012; Aman and Szpakowicz 2007; Bandhakavi et al. 2017; Bao et al. 2012; Bellegarda 2013; Chatterjee et al. 2019; Chaumartin 2007; Kozareva et al. 2007; Li and Xu 2014; Liu, Lieberman, and Selker 2003; Öhman 2021; Perikos and Hatzilygeroudis 2016; Poria et al. 2017; Strapparava and Mihalcea 2015). Kratzwald et al. (2018) contrasted the use of traditional machine learning versus deep learning methods, which benefit from large data resources, for the emotion classification task. Transfer learning and fine-tuning approaches can adapt existing models

when training data is modest and not broadly available, and Kratzwald and colleagues reported improvement with deep neural networks and transfer machine learning architectures that leveraged a sentiment analysis model, adapting it by further training to emotion classes. This body of work can be seen as situated at the intersection of computational linguistics – natural language processing and speech processing – and affective computing (Picard 1997).

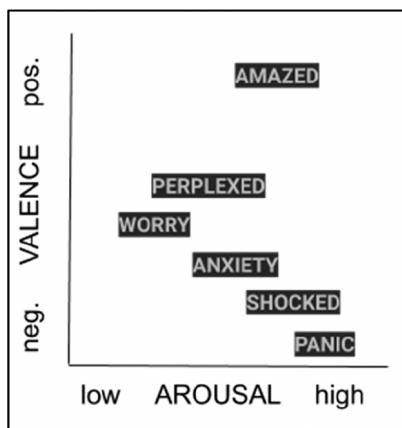
Spoken language conveys both emotional content in transcribed spoken language and the speech signal, and this means both transcription-based and speech-based data can aid, for example, conversational dialogue modeling, including with non-linguistic modalities. For an overview of automated processing of emotion across multiple human modalities, see Calvo and D'Mello (2010). When there are multiple data sources involved, a question also arises how to integrate and combine them through data *fusion*. There are a range of fusion techniques (Poria et al. 2017). For example, in *late fusion* modality-specific models are combined to make a decision (prediction) based on their individual decision – an advantage here is that it can help interpretability about the contribution of individual modalities. Other fusion methods have their benefits, and fusion can also take place at the *featural* stage or using a combined, *hybrid* approach. For example, Sebastian and Pierucci (2019) explored forms of fusion and found the late fusion approach beneficial for making associations across modalities. It can also be relevant to fuse evidence across languages. Lee and Wang (2015) applied late fusion that integrated classifiers for Chinese and English, finding slight system improvement when leveraging both languages.

There are a range of associated practical applications ranging from using customer data for insights into how content customers are (Ren and Quan 2012), via improving human-computer interaction, to therapeutical applications and more expressive speech technologies (Alm 2009). Applied uses may also include, for example, brand monitoring and recognizing hate speech on the web or analyzing social network interactions (Kratzwald et al. 2018), or avatars, music-text analysis, inventive tasks, and humor or sarcasm (Strapparava and Mihalcea 2015). Additional relevant uses include generating text with emotional content (Oak et al. 2016), and processing and analyzing texts that involve themes with emotional topics (Calderwood et al. 2017; Liu et al. 2016; Terkik et al. 2016). A critical issue impacting language technologies is human bias (Caliskan, Bryson, and Narayanan 2017; Gonen and Goldberg 2019; Kessler, Alm, and Bailey 2019). Bias may come from the training data or decisions made by the model developer. It is important to promote fairness and trustworthiness and address the presence of bias in emotional language technologies. Future study can also explore how emotional language insights and technologies can assist in making a new generation of computational systems more ethical.

Compatible with theory about emotions (Cacioppo and Gardner 1999), the classification-based emotion recognition and labeling task can be framed as involving coarse-grained to fine-grained task granularity, as illustrated in a *four-level problem hierarchy* conceptualized in Figure 11.2. It begins with the binary classification problem of identifying emotional versus neutral language, followed by a valence-based recognition problem comprising for instance neutral, positive, and negative classes (sentiment analysis). This leads to the issue of categorizing language into *n*-ary fundamental emotion categories, and finally, fine-grained hyponymic distinctions of emotion families associated with such classes as



**Fig. 11.2:** Hierarchical view of emotion modeling tasks. The diagrammed levels can apply equally to the recognition or generation of emotional language from text or speech. The absence of emotion remains a target concept at each tier. The rightmost groupings are examples of constellations of emotion families.



**Fig. 11.3:** A 2D view of dimensional emotion modeling where the aim is to place or search for instances along dimensions, with an example subset of fine-grained emotions categories situated in the 2D space.

panic, anxiety, worry for fear; or rage, exasperation, frustration for anger; or amazement, perplexion, shock for surprise; and so on. This hierarchy can be a useful conceptual tool, either for modeling the task at a particular layer or a subset of a layer, or for envisioning an ensemble system of computational emotion classifiers applied sequentially to address parts of the problem, adopting predictions made with confidence at lower levels or alternatively backing off to upper levels. This task can also be cast as a regression or ordinal rating problem with valence and/or arousal dimensions as linguistic representations, as

hypothetically diagrammed in 2D in Figure 11.3 with fine-grained emotion classes inserted for conceptual demonstration.

In addition, while much work on computational emotion analysis and recognition has involved emotions that are well-recognized or dimensions, to differentiate among the more clearly distinctive, fundamental emotion categories, there is also interest in modeling complex emotions and *emotional nuance* to capture subtle or within-emotion variation such as nuances of surprise (Shea, Alm, and Bailey 2018), confusion (Kaushik et al. 2021), or frustration (Kapoor 2015). Additionally, Santos and Maia (2018) note that “Picard suggests that it might be easier to understand and model specific emotions (connected to a language) first, instead of aiming at a general model that includes all emotions” (Santos and Maia 2018: 8). Other important topics to study include *emotion and events* (Lee, Li, and Huang 2014), *emotion topics*, *emotional intensities*, *perceptual certainty*, and insights into less canonical emotion phenomena in language.

## 8 Conclusion

This chapter has discussed the design, collection, annotation, and utilization of resources for studying or developing computational models and applications that tap into emotions in language. When used in computational linguistics and affective computing, emotional language corpora can help develop emotion sensing or generation systems. The chapter has discussed select emotional language resources, linguistic features associated with affect, computational tasks, and empirical studies. Further, it touched upon a trend to pool linguistic signals with other modalities to make intelligent systems more capable of responding to users’ emotional reactions. The research literature on emotional language resources and their applications is growing substantially, resulting in intriguing new knowledge and an intellectual wealth and richness that goes beyond the present discussion. The future holds tremendous potential to extend work on emotional language resources in exciting new directions with impactful outcomes.

## Acknowledgment

This material is based upon work partially supported by the National Science Foundation under Award No. DGE-2125362. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author and do not necessarily reflect the views of the National Science Foundation.

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**B Perspectives in Semiotics, Linguistics,  
and Communication Theory**



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## 12 A survey of language-based approaches and their relation to emotions

- 1 Introduction
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**Abstract:** This chapter presents the broad field of language-based approaches and their relation to emotions in three major parts, beginning with theoretical principles and selected research developments. The first part addresses why both historical and systematic dimensions of emotion semiotics are of utmost relevance for the study of language and emotion. The second part examines studies of emotion within the discipline of linguistics. Specifically, it reviews research on emotion across various linguistic levels, ranging from smaller (e.g., sound) to larger (e.g., discourse) units, and discusses their contributions to the understanding of emotion. The final part focuses on psycholinguistic research and discusses the ways in which emotional language is examined in monolingual and bilingual speakers, with an emphasis on the interaction between language, emotion, culture, and pragmatics. The three parts are not meant to be comprehensive but they present a snapshot of key language-based approaches to date.

### 1 Introduction

Typically, when we think about the field of emotion research, the issue of language does not automatically come to mind, as the bulk of the research on emotion stems from the field of psychology and most of us think of emotion as an inner state. However, language, as an observable behavior, whether in speech or writing, is a repository of a rich array of information on how emotion is processed and regulated. Over the years, this focus of study has received an increasing level of attention from scholars who have a strong interest in language. This chapter of the handbook presents a team of scholars who use language as a primary lens to study emotion. Given the depth and the breath of this area of research, it is not possible to have comprehensive representations from the field. This chapter aims to present a general overview of language-based approach from three main approaches: semiotics, linguistics and psycholinguistics. The goal is to provide a synthesis of central

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themes including research that is not covered in this handbook for readers interested in language-based research.

## 2 Theoretical foundations and research developments in emotion semiotics

The field of semiotics is perhaps one of the most crucial lenses through which emotion can be studied and further understood. Even before the field of emotion semiotics was formally coined and established, semioticians had already worked on emotion and emotion-related areas, such as the emotive functions of language and affective expressivity. This is unsurprising as the study of signs often leads one to address the link between a sign and the feelings invoked by it. Apart from more traditional cognitivist approaches, semiotics has also approached emotion from a more systematic perspective, which attempts to describe and account for the multimodality of emotional expression beyond verbal communication.

Although a history of semiotic emotion theories or emotion-relevant semiotics has yet to be written, an examination of the historical foundations and development of semiotics remains invaluable and sheds light on how semioticians have traditionally attempted to study and understand emotion. By tracing the involvement of semiotics in the study of emotion, we can obtain deeper insights into the ways in which emotion manifests through language, and how language, or even specific aspects of language, can signal certain emotions. The first half of this details the history of emotion-related research in semiotics, while the second half covers the systematic dimensions of emotion semiotics.

### 2.1 Historical dimensions of emotion semiotics

We can start tracing the history of emotion semiotics by looking at language and epistemology from the 17th and 18th centuries, which is a theory considered to have significant importance. At the end of the 17th century, English philosopher John Locke repopularized the term *semiotics* from antiquity in his major work *An Essay Concerning Human Understanding*, published in 1690. According to tradition, Locke calls semiotics (Greek *semeiotike*) the “science of signs”, and he considers words to be the most important of all signs. Swiss-French-German philosopher, mathematician, and natural scientist Johann Heinrich Lambert dedicated one of four main parts to semiotics in his major work *Neues Organon oder Gedanken über die Erforschung und Bezeichnung des Wahren und dessen Unterscheidung vom Irrthum und Schein*, published in 1764. With his theory of the metaphor, among other things, which are further developed in the third volume of the *New Organon* with the title *Semiotik oder Lehre von der Bezeichnung der Gedanken und Dinge*, Lambert laid the foundations for the consideration of human sensory perception in his theory of language and epistemology. Since metaphors are an essential instrument of verbal communication of emotions, Lambert also established references between emotions, language, and cognition (cf. Schiewer 2020).

At this point, a brief digression is necessary: research is largely unanimous in agreeing that a particular feature of the metaphor is that it expresses complex semantics in a concise form. Lakoff and Johnson's well-known metaphor theory also emphasizes this feature and explains it using the basics of Gestalt theory. These Gestalt theoretical foundations, which emerged in various schools in German-speaking philosophy in the 19th century, were described by Austrian phenomenologist Edmund Husserl around 1900. Gestalt theory, for the most part, has been of great importance for research in the fields of emotion, language, and semiotics until today. Within semiotics, emotions were previously assumed to play no role in semiotic approaches. It was only with renewed examination of Edmund Husserl's phenomenology and Gestalt theory that references to the topic of emotions in semiotics were recognized. This concerns the semiotics of Charles Sanders Peirce and Ferdinand de Saussure, among others (cf. Hénault 2002: 587–589).

One of the semioticians most frequently quoted to this day is American philosopher Charles Sanders Peirce, who was born in the 19th century (1839–1914). Although he is not usually associated with emotion semiotics, his theory on emotion has been described as coherent, complete, and stimulating (cf. Savan 2002: 682 ff.). In a nutshell, Peirce took a cognitivist approach. Firstly, this means that a person cannot feel anxious, for example, if they do not know what it means to be anxious. This implies that an emotion is a sign or representation, i.e., an external sign form (as opposed to the object or object to which the sign refers and the interpreter, i.e., the meaning of the sign). Thirdly, each emotion is attributed to an object, i.e., an object or reference object to which the sign refers. For example, when a person is angry, they think something is outrageous. Peirce referred to emotions as *constitutional words*. Like any sign, emotions are linked to an object for an interpreter. According to Peirce's distinction of the three types of interpretants, three theoretical aspects – immediate hypotheses, dynamic affect, and final norms – are applied to the study of emotions. Peirce compared emotions as hypotheses with words that indiscriminately seep into a language from below to simplify any complexity perceived in our means of expression. Another approach relates to dynamic affect, which is the variation in the intensity of excitement that manifests itself both in involuntary physiological changes and in more extensive approach and withdrawal movements. A person who experiences sudden changes in affect is considered emotional, an aspect also described by Wilhelm Wundt. It should also be noted that Peirce's interest in affect as a cognitivist was focused on the theory of doubt and belief, which he examined in terms of their roles in the context of logic (cf. Savan 2002: 693–694). Finally, regarding final norms, like most cognitivists, Peirce was very aware of the normative aspect of emotions. Thus, he recognized the importance of norms not only for the appropriateness of emotions, but also for moral action and logical reasoning (cf. Savan 2002: 696–697). This was by no means an insignificant result, as it is remarkable that even logic cannot be separated from emotions.

The great European counterpart to Peirce is Ferdinand de Saussure, whose approach strongly influenced the study of linguistics in the 20th century. Although de Saussure himself did not develop emotion semiotics, he influenced an entire generation of scholars who incorporated the study of affect and emotion in corresponding approaches following de Saussure's studies in semiotics. For example, Charles Bally (1865–1947), a student of de Saussure, examined linguistic and affective expressivity in his own writings and incorpo-

rated it into his stylistics. Another example is psychologist Karl Bühler, who developed his own approach to language theory with reference to works by de Saussure, among others. Bühler described the emotive or expressive function of language in his 1933 book *Ausdruckstheorie* and developed the organon model, which demarcated the different communicative functions of language. The famous linguist Roman Ossipowitsch Jakobson (1896–1982) similarly followed Karl Bühler and described emotive language function in his even more elaborate functional model of language. Roland Barthes (1915–1980), too, was strongly influenced by de Saussure, but also discovered emotion semiotics for himself. In his work *Fragments d'un discours amoureux*, published in 1977, he paid special attention to the language of love. The Lithuanian-born semiotician Algirdas Julien Greimas (1917–1992), who was also very familiar with de Saussure's writings, finally wrote a complex semiotics of emotion, titled *Sémiose des passions. Des états de choses aux états d'âme*, which was published in 1992 together with Jacques Fontanille (1948–) (cf. Schiewer 2014: 43). All in all, it must be reiterated that even an explicitly reductionist approach such as that of de Saussure can and obviously must be enriched by emotional components as soon as the use of language comes into view.

Besides Peirce and de Saussure, another important thinker in this field is cultural philosopher Ernst Cassirer (1874–1945). Cassirer's research also started from the question of how language, reason, and emotion relate to each other. In doing so, however, he took an anthropological point of view (Cassirer 1944):

Language has often been identified with reason, or with the very source of reason. But it is easy to see that this definition fails to cover the whole field. It is a *pars pro toto*; it offers us a part for the whole. For side by side with conceptual language there is an emotional language; side by side with logical or scientific language there is a language of poetic imagination. Primarily language does not express thoughts or ideas, but feelings and affections. [...] Reason is a very inadequate term with which to comprehend the forms of man's cultural life in all their richness and variety. But all these forms are symbolic forms. Hence, instead of defining man as an *animal rationale*, we should define him as an *animal symbolicum*. (Cassirer 1944: 25)

Cassirer explained the use of semiotic signs as the central anthropological characteristic of man, the “animal symbolicum”. With Cassirer's approach, the semiotic description of emotional and conceptual use of signs gained the status of an all-embracing basic science.

## 2.2 Systematic dimensions of emotion semiotics

In addition to the historical dimensions of emotion semiotics, more recent approaches can be described as systematic. Specifically, the spectrum of relevant and describable levels become of interest. The interaction of different channels (acoustic, gustative, olfactory, tactile, visual, vocal-auditive etc.), media (e.g., spoken and written language), and codes (e.g., gestural, pictorial, numerical, proxemic, linguistic) is examined. The reason for focusing on a diversity of mediums is that so-called nonverbal communication manifests itself in gestures, kinesics, facial expressions, gaze behavior, tactile communication, and the like. One speaks of multimodality and intersemiotic relations, or multichannel semiosis, which

contribute to subtlety and ambiguity, but also to the expressiveness and intensity of emotional processes (cf. Jewitt 2009).

There is no doubt that certain aspects of multimodality are particularly important for fields of investigation in art, literature, and media studies. For example, semiotic channels and codes of individual art forms can be examined, poetic language forms can be described with their emotional-semiotic peculiarities, and media can be analyzed with regard to the interplay of language, image, and sound.

Special attention is given to the concept of linguistic and communicative emotion coding. Emotion coding generally refers to the way in which emotions are signaled and communicated. The investigation is based on anthropological, semiotic, and action-related (pragmatic) approaches (cf. Rothenhöfer 2018: 488). In semiotic descriptions of linguistic and communicative emotion coding, reference is often made to Karl Bühler's organon model, mentioned above. The final aim is to integrate the different levels of description (cf. Oller and Wiltshire 1997):

Rarely, for example, have linguists and psychologists talked about the remarkable coordination of affective indicators in speech as related to segmental phonology, lexicon, syntax, semantics, and pragmatics, and even more rarely still has research looked systematically toward gestural and other visible manifestations of affect. The crying need, it seems, is for a theory that will embrace the full spectrum of semiotic phenomena and also take on the essential task of examining the incorporation of affect into all those semiotic systems. (Oller and Wiltshire 1997: 35)

Even more than 20 years later, this desideratum has still not been fulfilled; at least, not completely. A rough and abbreviated sketch can look like this (cf. Schiewer 2014: 90, 2007, 2008):

## 1. Expression and thematization of emotions

The first fundamental distinction is between expressing and thematizing emotions.

Expressions of the emotional are not explicitly thematizing forms, such as para-verbal and prosodic phenomena, physiological reactions, facial expressions and gaze behavior, gestures, body postures, exclamations, interjections, speech acts such as accusations, insults, threats, etc.

Thematizations of emotions are, for example, the verbal naming and description of events and facts relevant to the experience, and above all the concrete verbal description of the experience itself. The corresponding emotional vocabulary of a language plays an important role in this context.

## 2. Hot emotion and the sign as symptom

Current personal experience in the sense of hot emotion is explicitly addressed or expressed in another form and accompanied by strong emotionalization and a tendency to lose control. Charles Sanders Peirce speaks of an indexical relationship between emotion and manifestation (cf. Rellstab 2006).

### 2.1. Thematization of emotions as a symptom

A currently experienced hot emotion can be thematized, for example, by a speech act that expresses the subjective perception in question, e.g., *I am angry!*. These are speech acts which belong to the class of emotives and whose characteristic feature is that they name the psychological state of the speaker.

### 2.2. Expression of emotions as a symptom

The peculiarity of expressing emotions as a symptom is that a hot emotion “happens”, for example, through vocalization or involuntary mimicry. A communicative effect occurs when one of the communication partners interprets the expression (cf. Fiehler 1990: 102).

### 3. Cold emotion and the sign as symbol

In the case of cold emotion, there is currently no given emotionalization (hot emotion) for either speaker or writer. It is a matter-of-factly oriented expression of emotion that takes place in a controlled manner.

#### 3.1. Thematization of emotions as a symbol

Emotive speech acts and all forms of explicit verbalization of emotions can also be used in the state of cold emotion to talk about feelings, be they personal or foreign, past or future. The emotional vocabulary of a language is also an important repertoire in this context.

#### 3.2. Expression of emotions as symbol

Expressive speech acts such as compliments, congratulations, and expressions of gratitude can also be expressed without current emotionalization and are, to a large extent, subject to the conventions of a community. Under certain circumstances, they serve more the intention of the effect, to take into account the emotions of the recipient, than the expression of the speaker or writer.

All in all, it can be said that many of the best known and most valued approaches to semiotics and language as a sign system address the relationship between language and emotion in one way or another. This is true even of some of those approaches that were long thought to focus exclusively on the use of signs as instruments of human logic and rationality. In the next section, we turn to the discussion of how the field of linguistics intersects with the study of emotion.

## 3 Linguistic studies of emotion

Even though emotion has been extensively studied, linguists only began paying close attention to emotion in the late 1990s and early 2000s. Work in this area has very much been influenced and guided by scholars from other disciplines. On the whole, the scholarly discourse can be delineated into two broad areas – those who argue for a more universalist stance, and those who take on a more cultural-relativist approach. In recent years, the revival of the Whorfian paradigm has resulted in the increased presence of the cultural-relativist approach in language and emotion research, generating an interesting addition to earlier studies. Several articles in this volume tackle this issue (see, for example, Chapters 16–18). The following sections will track the development and key ideas in linguistic analyses of emotion.

A review by Majid (2012) highlighted the interaction between emotion and the various levels of language structure, ranging from sound patterns to larger units such as conversation. In this section, we will also discuss contributions from existing studies on the various levels of language, starting from the level of sounds (phonetics, phonology, and prosody),

before moving to that of words (vocabulary and lexicon), structure (syntax), and, finally, to conversation analysis and discourse. On top of that, we will draw attention to other applied areas of studies in linguistics such as intercultural studies, child language, multilingualism, and selected areas of computational linguistics.

### 3.1 Sounds

As pointed out by Wilce (2009), almost every level of every language's structure holds the potential to encode emotion. In the area of phonology, generally, linguists have traditionally taken the argument made by Hockett (1960), which makes the case for an arbitrary relationship between sound and word. However, more recent work in this area has provided evidence for a possible emotional link between sound and word, as researchers have increasingly found substantial evidence for *emotional sound symbolism* in languages. Sound symbolism describes a phenomenon whereby a language uses particular phonemes to signal particular emotions in a systematic manner. Most of these studies have focused on whether emotions are signaled by specific phonemes in poems. An early example of such studies is Fónagy's (1961) investigation of emotional sound symbolism in Hungarian poems. Comparing aggressive and tender poems written by the Hungarian poet Petöfi, Fónagy found that some sounds (/t/, /k/, and /r/) occurred more frequently in aggressive poems, while other sounds (/l/, /m/, and /n/) were more common in tender poems. This observation is supported by Wiseman and van Peer (2003) and Albers (2008), who found clear connections between plosives and positive feelings (e.g., happiness), and nasals and negative feelings (e.g., sadness). The crosslinguistic validity of such arguments has been tested with different languages such as German, Russian, Ukrainian, and Chinese (Auracher et al. 2010). In general, happy and active feelings are associated with plosives, whereas sad and passive feelings are associated with nasals. Speed is also significant, as phonemes for negative emotions are articulated more quickly than positive ones (Adelman et al. 2018). Prima facie, it appears that the bulk of existing studies on emotion and phonology mostly takes a universalist stance, providing evidence that emotional sound symbolism is common throughout all, if not most, languages. However, these studies only focus on a small subset of the languages in the world, and most of these languages are typologically close to each other. Moreover, counter-evidence also comes from studies on interjections (see Section 3.3), which are sometimes perceived to be related to sound symbolism (e.g., Ameka 1992; Lee 2017).

### 3.2 Prosody

Building on the Darwinian idea of emotional expression, studies on emotion and prosody have shown that the acoustic qualities of speech sounds (e.g., loudness, pitch, duration, length, and vocal qualities) serve crucial functions in the human expression of emotion, and even suggest that there is universality in the existence of particular emotional prosodic cues common across different languages. By presenting listeners with sentences in another

language, they stripped the stimuli of linguistic cues and Pell et al. (2009) showed that listeners were indeed able to recognize and decode anger, disgust, fear, sadness, joy, and neutrality in foreign languages based on affective prosody alone.

Research on infant-directed speech has also provided evidence for the universality of affective prosody. Fernald (1989) investigated the power of intonation to express a speaker's communicative intent and reported that participants were able to identify the communicative intents more accurately in infant-directed speech (IDS) recordings than adult-directed speech (ADS) recordings because IDS contains prosodic patterns which are more informative than ADS, providing infants with cues to perceive the speaker's communicative intent more easily. This study affirmed the case for the universality of affective prosody, as it suggests that infants, who have yet to acquire lexical knowledge, use affective prosody as cues for meaning. Although the findings were only supportive of reliable prosodic cues in IDS, they do show that there are affective elements in language that are carried by prosody alone, and that newborn infants are sensitive to these cues.

Acoustic analyses between child-directed speech (CDS) and ADS as well as comparisons between the two have described CDS to be more emotional than ADS, due to how it often exhibits pronounced prosodic features such as raised pitch and exaggerated intonation patterns. What is significant is that studies on IDS and CDS show impact that persists beyond one generation. A study by Spinelli et al. (2016) found a correlation between the childhood emotional experience of mothers and the affective quality of the CDS. Mothers who experienced a greater level of warmth and acceptance from their own parents were better able to attune their speech to suit the linguistic needs of their children by using linguistically stimulating speech, via a higher degree of lexical and syntactical complexity, in the communication of positive emotions to children. However, mothers who experienced high levels of overprotection and low levels of care fared more poorly in adjusting their speech to suit their children's linguistic needs, using less linguistically stimulating speech as well as less positive and affective vocal expressions. These studies typically point to such children experiencing difficulties in paying attention to their mothers' behavior, culminating in a lower degree of dyadic synchrony (Stern et al. 1982), which may hamper children's linguistic growth. Overall, this study highlighted the key role that the emotional properties of child-directed speech play in child language acquisition.

As much as studies on prosodic features of IDS and CDS have focused on English, more recent work has sought to test out the cross-cultural reliability of the claims. Broesch and Bryant (2015) examined the acoustic properties of IDS in Fijians, Kenyans, and North Americans. Their findings indicate the same differences in speech rate, range of variability, and pitch. Overall, the current evidence makes a case for the universality of prosodic cues in IDS, though we need more data to draw a firm conclusion on the role of affect and prosody in cross-cultural contexts.

The findings on the universality of affective cues in ADS present a mixed picture. Anolli et al. (2008) compared the acoustic attributes of Chinese and Italian in the vocal expression of emotions in reading of short stories focusing on emotions such as joy, sadness, anger, fear, contempt, pride, guilt, and shame. They found significant cultural differences, as Chinese participants expressed emotion in a more restrained style compared to their Italian counterparts, and they also showed less variation in pitch. The authors attributed this

greater emotional restraint to the Chinese cultural emphasis on relational harmony, which is defined as the need for individuals to stay in their proper place in society and to refrain from taking up too much space in social relationships (Mesquita and Walker 2003). Another significant difference they found was that positive emotions (e.g., joy) and negative emotions (e.g., fear) were amplified in the Italian participants' vocal performances but reduced in those of the Chinese participants. The authors attributed this to the tendency of Western cultures to not inhibit the expression of positive emotions. Asian cultures tend to interpret expressions of positive emotions as possibly disruptive and impolite to others who may not be in a positive state themselves.

In fact, several studies have shown that Asian cultures may even value negative or ambivalent emotions, as seen, for instance, from the Japanese appreciation for ambivalent sadness in their concept of *mono no aware* 'the appreciation for the short-lived nature of life', which expresses an emotional state combining sadness with a gratitude for the transience of life (Lomas 2017). Schimmack et al. (2002) compared the influences of different cultures on perceptions of the relationship between positive and negative emotions and found that certain Asian cultures, specifically those which practice Asian dialectic philosophies (ADP), perceive positive emotions (e.g., happy) and negative emotions (e.g., sad) as being compatible with each other. This is in contrast with non-Asian cultures (e.g., American culture), which tend to perceive positive and negative emotions as being in conflict with each other. Comparing recollections of positive and negative emotion experience between the non-ADP nations and the ADP nations, the authors found that the correlations between the negative and the positive emotions were less negative in the ADP nations than in the non-ADP nations. The authors provide two possible explanations for their findings. Firstly, ADP cultures may influence the actual emotional experience, causing a mix of pleasant and unpleasant feelings to be experienced simultaneously. Secondly, ADP cultures may influence the way emotion memories are encoded, maintaining both the pleasant and the unpleasant aspects of any emotional experience, unlike Western styles of thinking which are likelier to resolve the conflict one way or another by encoding the experience as either pleasant or unpleasant. Altogether, these findings suggest that Asian cultures which practice ADP are less likely to subscribe to extremes.

Generally, emotion research focusing on phonology and prosody has argued for a close association between sound and emotion. Though these correlations may not be universal across languages, they can be systematically predicted within languages. With the surge in the use of machine-mediated conversations, this knowledge is significant and facilitative for artificial intelligence (AI).

### 3.3 Words

The first thorny and essential question here is: What exactly is an emotion word? And how is it different from any other word? Many of these issues are addressed in Chapters 28 to 32 of the current volume. Traditionally, psycholinguists have identified two categories of words in the mental lexicon – concrete and abstract words. Concrete words are mostly differentiated by how they are more readily recognized, recalled, imagined, and contextual-

ized as compared to abstract words (Bleasdale 1987; De Groot 1993; Schwanenflugel, Harnishfeger, and Stowe 1988). While the traditional psycholinguistic view usually places emotion words in the category of abstract words, Pavlenko (2008) argued that emotion words should be classified as a category of words that are separate from abstract and concrete words in the mental lexicon (see also Altarriba 2003). This is based on the growing body of literature providing evidence that such words differ from abstract and concrete words in terms of their mental representation. She identified three types of emotion words in the emotion lexicon. Firstly, she described what she terms *emotion words*, which refer directly to specific affective states (e.g., *happy, angry*) or processes (e.g., *to worry, to rage*), functioning to describe or express these states (e.g., *she is sad, I feel sad*) (Pavlenko 2008: 148). She differentiated these from *emotion-related words*, which refer to behaviors caused by specific emotions without naming the emotions themselves (e.g., *tears, tantrum, to scream*) (Pavlenko 2008: 148). She also identified a third type of emotion word, *emotion-laden words*, which express (e.g., *jerk, loser*) or elicit (e.g., *cancer, malignancy*) emotions without making direct reference to them (Pavlenko 2008: 148).

Pavlenko's (2008) work holds great potential for application to corpus studies on the emotion lexicon, as it presents a more systematic approach. Previously, corpus linguists compiled corpora of emotion words using existing wordlists, such as Soares et al. (2012), who adapted the original Affective Norms for English Words (ANEW; Bradley and Lang 1999) dataset to European Portuguese, before comparing the results with the American (see Bradley and Lang 1999) and Spanish (see Redondo et al. 2007) results. While these studies were effective in creating semantic maps of emotion words across different languages, they did not have a clear definition regarding what an emotion word is, and, as a result, were hampered by inconsistencies in the compilation of their wordlists; which, in turn, jeopardizes the reliability of the comparisons made (Ng, Cui, and Cavallaro 2019). Ng and colleagues (2019) adopted Pavlenko's framework to compile an emotion corpus. Based on the semantic categories identified by Pavlenko (2008), Ng, Cui, and Cavallaro (2019) first extracted Chinese emotion words from the *Xiandai Hanyu Cidian* 'Modern Chinese Dictionary' before sorting them into emotion words, emotion-laden words, and emotion-related words, and tagged these words for their respective frequencies of use, valency, intensity, and parts of speech. They then applied corpus data analysis methods on the data collected to study patterns of emotion expressions in Mandarin Chinese. By conducting valence ratings on each of the three emotion word categories, the study found that these three emotion word categories differ in terms of the distribution of valence types, hence affirming Pavlenko's argument that these three categories must be separated due to their differing semantic profiles (an argument also posed by Altarriba [2003, 2008]). On top of that, the study found particular characteristics of the lexicon that are unique to Chinese, noting in particular that there is a general preponderance of verbs used to express emotions in Chinese. The study is currently ongoing to build emotion corpora for English, Malay, and Indonesian.

Previously, Pavlenko (2008) observed that, unlike individualistic societies which tend to express emotions as an internal state (e.g., English, which uses a predominance of adjectives to describe emotion states), collectivistic cultures such as Russian or Polish tend to express emotions in terms of personal or interpersonal processes. Ng et al. (2021) suggest that the same observations may explain the prevalence of verbs found in the Mandarin

Chinese emotion lexicon, given that Chinese culture is also often described as collectivistic. These findings affirm previous findings that different languages have different ways of talking about emotions, which results in the formation of different cultural schema, and highlights different characteristics of different societies (Pavlenko 2002; Wierzbicka 1994, 2004).

Other than corpora research, other lexically based studies focus on crosslinguistic studies of culture-specific emotion words. Several studies used the Natural Semantic Metalanguage (NSM) framework first conceptualized by Wierzbicka (1986). Wierzbicka argued that some emotions are untranslatable and unique to the speakers of particular languages. She proposed that such culture-specific emotions cannot be translated in terms of human languages such as English, as this would risk tainting the analysis with an English cultural perspective, and thus proposed the use of a culture-independent and language-dependent semantic metalanguage that can explain these emotion words, using words she describes as lexical universals capable of representing concepts present in all languages and cultures, such as *say*, *want*, *good*, and *bad* (Wierzbicka 1986: 585). One example of such a culture-specific emotion word she cited is the Polish *tgsknota/tgsknic*, which has no exact equivalent in English, although it is often translated into English as *homesick* (Wierzbicka 1986: 586). Wierzbicka pointed out that the English translation of *homesick* falls short of capturing the full emotional meaning of *tgsknota/tgsknic*. Overall, Wierzbicka's work is an important departure point for other NSM scholars to apply her semantic framework to the crosslinguistic study of other languages' emotion words, seen for instance in Harkins and Wierzbicka's (2010) compilation of NSM studies that analyze culture-specific emotion terms in a large range of languages across a variety of language families, including Amharic, Mbula, German, Lao, and Malay. NSM framework argues for the culture-specificity of emotion words by highlighting their untranslatability in human languages.

One specific type of emotion word often seen to be untranslatable across languages and cultures is interjections. These are expressive utterances that mostly stand alone as direct expressions of emotions instead of combining to form a construction with other classes of words (Ameka 1992). Darwin (1871) was one of the first to identify the human tendency to vocalize emotions using guttural sounds such as *ach* or *ugh* to express disgust, which he perceived to be a highly effective means of expressing emotion.

Scholars, particularly those working within the NSM framework, argue that interjections are culture-specific. Wierzbicka (1992) investigated the disgust interjections of Polish and Russian and showed that the Polish *tfu* and the Russian *t'fu* are interjections that symbolize the action of spitting and are articulated similarly and, hence, are seemingly identical. She then conducted explications in the NSM to highlight nuanced differences between the two, arguing that spitting is a culture-specific action with different symbolic meanings in different cultures; spitting expresses the emotion of contemptuous indifference in Russian but conveys the emotions of contempt and moral disgust in Polish (1992). Goddard (2014) built on Wierzbicka's ideas in his examination of the disgust interjections in English (*yuck!* and *ugh!*) and Polish (*fu!* and *tfu!*), outlining a few key differences between the two groups.

The first difference recognized was the place of articulation, with English sounds being pronounced at the back of the mouth and Polish sounds at the front of the mouth. Second-

ly, the interjections also make references to different body parts, with English referring only to the mouth, but Polish referring to both the mouth and the nose (for *fuf!*). He also observed that these interjections refer to different physical reactions, with English interjections mostly linked to the physical act of retching, and Polish interjections linked to the physical acts of blowing (for *fuf!*) and spitting (for *tuf!*). He hypothesized that these differences have a cultural basis; seeing how retching and vomiting are physical involuntary reactions, while blowing away and spitting are voluntary human actions, he suggested that Polish disgust interjections are related to more active emotional responses compared to English disgust. Overall, his crosslinguistic explications on disgust interjections serve as exemplifications showing how none of these interjections have translation equivalents in other languages that match their semantic features perfectly, hence making the case for the untranslatability of interjections as a special class of culture-specific emotion words.

### 3.4 Grammar

In some languages, emotions are grammatically expressed via morphological encoding; that is, via the use of bound morphemes or affixes (see Chapters 25, 26 and 27 in this volume). Huang's (2002) study of the Tsou language spoken by a Taiwanese minority group found that, unlike most languages which encode emotion in terms of supra-lexical structures such as metaphors or metonyms, Tsou encodes emotion using grammatical prefixation, whereby morphologized prefixes describing bodily actions are encoded as part of lexicalized verbal expressions, referring to either antecedent events that trigger emotion or the behavioral consequences of the emotions triggered. According to Huang, the first type of such prefixes involves perceptual (sensory) triggers for emotion, such as the *buh-* prefix, in which the emotion of sadness is triggered by a perceptual event, such as in the following example:

- (1) *Mita buh-nac'o ta mo eobai 'e Pasuya.*  
 Aux-3rd.sg see-sad Obl Aux fight Nom PN  
 'Pasuya feels sad as he sees the people fighting.' (Literally: 'Pasuya see-sad people fighting.')  
 (Huang 2002: 175)

The second type of such prefixes involves bodily actions that either trigger emotion or accompany emotional experiences, such as the *tma-* prefix, in which the emotion of happiness is triggered and accompanied by an action, for instance:

- (2) *Mita ausuhcu tma-ka-kaebU tmopsu 'e Mo'o.*  
 Aux-3rd.sg gradually write-Rdp-happy word Nom PN  
 'Mo'o got happier and happier as he wrote.'  
 (Huang 2002: 178)

The third and final type of prefix involves thinking and feeling, in which increasingly intense emotions are triggered because of the experiencer thinking more and more about

what had triggered the emotions in the first place. This may be exemplified by the *ma-* prefix, which describes the emotion of intense anger triggered by the act of thinking, as seen for instance in the following extract:

- (3) *Mi'o ma'-sUsU'no ta Pasuya.*  
 Aux-1st.sg think-angry Obl PN  
 'I am really mad at Pasuya (when I think about what he did).'  
 (Huang 2002: 178)

Huang hypothesized that due to their preference for encoding emotion via grammatical prefixation, Tsou speakers have a higher sensitivity to the co-existence of emotion and action as they not only experience emotion as an internal mental process or state, but are also used to being ready to respond to these emotions via external actions, resulting in the emotional basis behind the prefixes they use for describing bodily actions.

Other than Tsou, other languages have also been found to utilize morphological means to express emotion, using forms such as evaluative morphology, i.e., the use of morphological constructions to express the speaker's subjective evaluation. Ponsonnet (2018) presented a typology of emotional connotations in two types of evaluative morphology – diminutives and augmentatives. Her findings revealed that diminutives and augmentatives can carry different types of emotional connotations. Diminutives favor positive emotions (e.g., compassion, love, and admiration), but can also express negative emotions (e.g., contempt). Augmentatives, on the other hand, have fewer emotional extensions, but sometimes express mixed positive and negative emotional connotations including contempt and repulsion, admiration and respect, as well as endearment and compassion.

### 3.5 Discourse and pragmatics

This aspect of language-based research is the focus of various scholars in this handbook (see for example, Chapters 38, 43, 44 and 45 of this volume). Studying emotion in the context of everyday conversation can uncover many fascinating insights, as emotional expression is inseparable from everyday conversation, which serves as an ideal platform for evaluating claims about emotion and how it functions in daily life (Majid 2012). In particular, researchers have paid close attention to the management of affectivity, otherwise known as emotive involvement, in conversations. Selting's (2010) analysis of displays of anger or indignation in complaint stories demonstrated that in English conversations, speakers and recipients manage the expression of anger and indignation using similar strategies and systems. In conversational storytelling, i.e., where speakers recall past incidents to the recipient, speakers sometimes display anger or indignation regarding the story they are telling, and, in response, listeners will attempt to show agreement and support by responding in an affiliative manner. Selting demonstrated this using an extract where a listener, Hajo, attempted to converge with the affectivity of the storyteller, Carina. As Hajo listened to Carina's story, he responded fully empathetically to her reconstructed past anger and indignation, timing his responses of agreement to correspondingly suit her story cli-

max. His affiliative display of affect allowed Carina to comfortably continue her storytelling and was hence appropriate for the situation. This example demonstrated how speakers and listeners closely monitor one another in order to manage their displays of affectivity throughout the conversation in a process which Selting calls the *negotiation and management of affectivity*.

Apart from anger and indignation, conversation analysts have also paid attention to the management of other emotions in conversation. Wilkinson and Kitzinger's (2006) study on the expression of surprise in English conversations suggests that when a speaker relays a surprising piece of information to a recipient, the emotional display of surprise is not something purely displayed by the recipient but is instead accomplished by both speaker and recipient. Based on their analysis of a recorded English corpus containing around 600 instances (at the time of the study) of surprise reaction tokens, the authors demonstrate that surprise tokens are not spontaneous outbursts of emotion, but rather are pre-planned performances. This is shown by how recipients do not express the surprise at the moment that they experience the surprise; rather, they tend to delay and withhold the surprise token until their relevant turns in the conversation. Overall, their main finding is that surprise is performed in an interactionally organized manner by both the speaker and the recipient. A key implication of this finding is that it is important to separate the psychological experience of surprise from its actual social expression. In a nutshell, these works on the systematic display of emotions in conversation have demonstrated the ways in which speakers carefully and elegantly manage their emotional displays and timing (Majid 2012), enriching the field of emotion studies with interesting new insights gleaned from the intricate examination of each conversational turn.

Couper-Kuhlen (2011) compared the expression of emotions between German and English requests and found that the conversational trajectories of both languages parallel each other in terms of the emotions displayed. For both German and English requests, the person being asked the request often displays the emotion of annoyance, and upon rejection of their request, the requester often displays the emotion of disappointment. Both cultures display similar emotional responses to rejection involving similar types of affect in conjunction with the finalization of rejection (i.e., disappointment and annoyance). However, structural differences between German and English resulted in differing lexical and prosodic resources via which these types of affect are displayed. Overall, Couper-Kuhlen's study highlights that people from different cultures experience and display similar emotions but express them differently.

In general, the perspective taken by the discipline of conversation analysis with regards to emotion appears to lean towards cultural relativism. This is due in part to the field's emphasis on context – the fact that every single conversation is influenced by different cultural and contextual factors makes it difficult to posit universality in the expression of emotions. In order to examine the validity of Grice's (supposedly universal) conversational maxims and notion of conversational implicature, Keenan (1976) analyzed the Malagasy language spoken in Madagascar. Her findings revealed that the Gricean maxims do not always hold in the Malagasy society. In particular, she notes that Malagasy speakers often transgress the maxim of quantity, i.e., to be informative and provide as much information as is required to one's fellow interlocutor. Grice originally postulated that interlocutors typically meet their

fellow interlocutors' informational needs and requests by providing the relevant information, and to not provide such information would generate a conversational implicature. However, it appears that for Malagasy speakers, this rule is regularly transgressed as it is not a cultural norm for Malagasy speakers to fulfill the informational needs of their fellow interlocutors in the first place. Keenan argued that whether or not they are followed by speakers varies situationally as well as cross-culturally. Other scholars have made similar arguments regarding the importance of culture in conversation analysis. In the opening chapter of his book, Moerman (2010) observed that it is only when conversation analysis is coupled with ethnography that we can delineate the social organization of speech. This is because ethnography helps to inform the analysis using the contextual and cultural factors surrounding each speech situation.

The study of face-to-face (F2F) conversations has uncovered fascinating insights into language and emotion. Researchers have been especially intrigued by new modalities arising from the advent of technology and their potential for creating new modes of emotional expression. Particularly interesting is computer-mediated discourse (CMD), because with this new mode of communication, new modes of emotional expression, such as emoticons and emoji, have also been born. In order to fully capture CMD's potential for emotional expression, linguists must first uncover what it is that makes CMD so unique. Notably, researchers have made comparisons between traditional F2F communication and CMD. Derks et al. (2008) reviewed existing empirical evidence to compare the communication of emotion in CMD versus F2F communication and they concluded that CMD and F2F communication are equally rich in terms of their capacities for expressing emotion, contrary to popular perception, which has often assumed CMD to be an impersonal medium incapable of expressing emotion. The authors note that while CMD does impose particular restrictions that seem to jeopardize the richness of emotional expression (e.g., reduced social presence and reduced physical visibility), speakers have adapted to the new medium by using emoticons, or verbalizing emotions more explicitly. However, a key drawback of CMD they identified that differentiates it from F2F communication is the lack of emotional embodiment. This refers to how the lack of shared physical context de-intensifies the emotional experience, and correspondingly results in CMD emotional experiences having lower intensity and duration than F2F communication. Another difference between the two discourse types is that CMD affords a greater controllability with regards to one's emotional reactions.

While emotions have been traditionally perceived as uncontrollable, CMD has circumvented this partially due to the time-lag between messages. This gives speakers some agency over the extent to which they wish to reveal their emotions to their interaction partners. This effect is enhanced even further by the physical invisibility of themselves to their interaction partner, which removes any risk of the other seeing the nonverbal emotional expressions they may have subconsciously revealed. In another study, Riordan and Kreuz's (2010) analysis of free response data from surveys asking participants about their use and perceptions of CMD and F2F communication failed to identify a preferred mode. Instead, it showed that different communicative modes were preferred in different communicative contexts.

Overall, the most common reason for choosing F2F over CMD was the ability to use more nonverbal emotional cues, such as vocal cues or physical cues, which can help to express emotions less ambiguously compared to CMD. On the other hand, the ability to

shield oneself from the possible negative backlash that the message recipient may respond with, especially when expressing negative emotions, favors CMD. These studies highlight the unique characteristics of CMD that make it such a special mode of emotional expression, affirming CMD's rich potential for expressing emotions and paving the way for future studies to engage further with this new and rapidly evolving mode of discourse.

These discourse studies highlight the interactivity and joint construction of emotion in meaning, as well as the multimodality of emotion research. Emotion is not only encoded at the discourse level, but is also co-constructed across interlocutors and expressed in both verbal and nonverbal channels.

One of the few studies exploring the relationship between pragmatic context and emotion was by Sabini and Silver (2005), who argued that since different pragmatic contexts surround emotion words every time they are used, emotion words carry pragmatic implications about the experiences of the person experiencing emotions, as well as the mental states of speakers using the words in that context. As a result, emotion words have no neat one-to-one relationships with emotional experiences. Contrary to the common assumption that each lexicalized term for emotion names a particular mental/experiential state, the authors argued that the relationships between mental states and emotion words are more complicated than they seem. This is because while there are fewer mental states than there seem to be, these few mental states are related to language in more complex ways than emotion theorists had previously thought.

They referred to their earlier study (Silver and Sabini 1978a, 1978b) on envy and indignation, in which they filmed two vignettes of a young man being rejected from medical school. In the first, a young man wrongly accuses his friend of bragging about getting accepted by medical school; in the second, the same young man correctly accuses his friend who did brag about himself getting accepted by medical school. They then showed the vignettes to participants, asking them to attribute an emotion to the young man. The results showed that the participants tended to attribute the emotion of envy to the version of the young man who wrongly accused his friend, but they tended to attribute the emotion of indignation to the version of the young man who correctly accused his friend. Envy and indignation refer to the same mental state but are labelled differently according to their causal histories. Envy is when the mental state arises due to the belief that one does not have others' accomplishments, whereas indignation occurs when the same mental state arises from the belief that others had transgressed their personal dignity.

Similarly, they argued that regret may encompass multiple mental states, including shame, guilt, and sadness (Sabini and Perez 1996). They found that regret was felt intensely not only in the regret scenarios, but also in the shame/guilt and sadness scenarios, hence showing a strong correlation to these other emotions. The authors posited a blended emotions view, suggesting that a mix of more than one emotion is experienced in these scenarios. Thus, not all regrets feel similar, and many mental states can be described by the emotion word regret, as long as they involve some feeling of aversion combined with a wish to redo the action that caused the regret.

These studies indicate there is no one-to-one mapping between emotion terms and mental states. Rather, the exact meanings of emotion terms vary depending on the pragmatic contexts surrounding each speech situation. This work is important for highlighting the importance of context in the use of emotion words because emotion words themselves

are unable to capture the pragmatic meanings arising from the exact contextual factors surrounding each utterance. Overall, their work is crucial for informing current emotion research that the meanings of emotion words are not just shaped by semantics, but also by pragmatics.

In this section, we outlined how scholars with an interest in language have approached the discussion of emotion. From sounds, to words, to sentences and discourse, emotion is a productive area of enquiry for scholars. Given the interdisciplinarity of linguistics, it naturally follows that the questions raised in these areas are also relevant to child language, computer language, cultural and language studies, multilingual studies, and other related areas. Many of these studies are represented in this handbook in greater detail. The discussion presented here provides a departure point and frames many of the questions that are asked by linguists working on emotion in this volume.

## 4 Psychological studies of emotion

A number of psycholinguistic variables affect language representation and the organization of languages in memory, and these variables should be included in any psychological theory that attempts to explain the relationship between language and emotion. In particular, psycholinguistic variables that address word type are of interest in monolingual and bilingual research on word representation (see e.g., Ballot, Mathey, and Robert 2021; Mor and Prior 2020). The discussion below reviews research that focuses on word characteristics and how they help to explain how emotion words are encoded, stored, and retrieved in memory, particularly by monolingual speakers. This discussion is followed by a brief overview of how bilingual speakers also process emotion-related language and what is known about the learning of new emotion words in a second language. Finally, as words are not processed devoid of context, a few final words refer to the importance of cultural contexts in facilitating or otherwise enhancing the use of emotional language in communication in applied contexts such as medical or therapeutic settings. Overall, perhaps the investigation of the interaction between language and emotion is only enhanced to a greater extent if it is understood within the bilingual or multilingual mind, as most of the world's inhabitants speak or know more than one language (Ramírez-Esparza, García-Sierra, and Jiang 2020).

### 4.1 Word characteristics

Quite a bit of work exists on the representation of concrete (e.g., *box*) and abstract words (e.g., *liberty*). It has been reported in the cognitive literature that concrete words are typically better remembered, recalled with greater frequency, and more easily lead to an image, as compared to abstract words (Altarriba, Bauer, and Benvenuto 1999). Concrete words have two modes of representation (i.e., a verbal label and an image) while abstract words generally have one (i.e., a word label). When retrieving these word classes from memory, it is possible to recall a concrete word by activating either its verbal label or its image, giving it the advantage of two routes over one, for retrieval (Paivio, Clark, and Lambert

1988). Kiran and Tuchtenhagen (2005) examined Spanish-English bilingual participants with aphasia and found that regardless of their language deficits, performance on linguistic tasks was significantly better for concrete words as compared to abstract words. Less has been written about the representation of emotion words from a cognitive, psycholinguistic perspective. However, emotional or affective language is an important aspect to examine in relation to aphasia and linguistic recovery from aphasia, for example, as patients or clients experience emotional trauma, as related to their symptoms, recovery, and daily functioning. Emotional or evaluative language usage might also be impacted by the “emotional load” that a person with aphasia may experience in dealing with linguistic difficulties concurrently with their loss of independence, status, identity, etc. (Armstrong 2005; Armstrong et al. 2012). Thus, on an applied level, in order to provide treatment programs or modes of intervention as related to linguistic features of recovery for any language deficits, it is important to understand how these different types of words and the concepts they represent are encoded, stored, and retrieved from monolingual and bilingual memory.

## 4.2 Language and emotion in monolingual speakers

Altarriba and Bauer (2004) examined the representation of emotion words in monolingual speakers. The impetus for their work stemmed from the book authored by Goleman (1995), *Emotional Intelligence*. It has been reported that the ability for individuals to name their own emotions, and to recognize, name and understand emotions in others, is directly linked to a reduction in mental illness and a lower incidence of depression in both children and in adults. When a person with aphasia is in the process of recovering speech and individual words, some of those words may be affective or retain an emotional quality defined by valence and arousal that distinguished those words from neutral entries. Thus, learning how concrete words are recovered is as important as knowing how emotion words are recovered and can be recovered more easily, after a traumatic brain injury or lesion leading to aphasia.

Altarriba and colleagues reported some of the first evidence in psycholinguistic research that distinguished between and among concrete, abstract, and emotion words (see, e.g., Altarriba et al. 1999). Within their cognitive studies, they found that emotion words were better recalled than both concrete and abstract words in a test of free recall. Moreover, emotion words were found to be easier to imagine than abstract words (e.g., think of the image of a face depicting the emotion word “happy”). Emotion words often have a broader array of associations than do concrete or abstract words; that is, they are more highly interconnected in the mental network of words than other word types (Altarriba et al. 1999). Altarriba and Bauer (2004) found that while an emotion word can elicit an abstract word with great ease, the opposite is not true – emotion words do not seem to readily prime abstract words. Thus, these two word classes possess different qualities or features that make them distinguishable in terms of word class, thus making them worthy of separate study and investigation. Moreover, in the case of bilingual speakers, we know that context plays an important role in their mental representation of emotions in a first versus a second language. The next section will explore more closely the relationship between emotion and bilingual language processing.

### 4.3 Language and emotion in bilingual speakers

Regardless of proficiency in the second language, the first language has been reported as most closely tied to emotion and emotional arousal than the second language owing to the notion that emotional language is first learned in the context of emotional experiences in the native language (Altarriba 2003). That experience in the first language occurs in the presence of physiological responses that serve to “cement” those emotional words and concepts in memory, which helps to make them sturdy, durable, and long-lasting. This may not be true for concrete items (e.g., chair in English and *silla* in Spanish). If this word is acquired in say Spanish, as a second language, it might be learned quite easily and show high levels of recall due to its concreteness and high degree of imageability. It is unlikely that this word in English was learned with a heightened emotionality so as to cause a physiological reaction, release of hormones, and the like. Thus, both arousal and valence for emotional words when first learned serve to make those memories highly durable, implying a form of context-dependent memory (Godden and Baddeley 1975).

For bilingual speakers, models have focused on the ways in which more than one word is represented in terms of its lexical form and how those forms within and between languages are connected to their related concepts. The Revised Hierarchical Model formulated by Kroll and Stewart (1994) depicts a bilingual’s languages as being represented by two distinct mental lexicons or dictionaries of words, each connected to a shared conceptual store. Thus, the words *cat* and *gato*, its Spanish translation, would be connected to the concept for cat, including features such as shape, size, color, and perhaps a prototype for this concept. If English is the dominant language (L1), its mental store of words is larger than that for the second language (L2), say Spanish. The English word *cat* is connected to the conceptual store, and only after quite a bit of translation between the two words does a connection emerge directly between the newly learned or subordinate word and the concept. Thus, knowledge of the lexical representation of a second language word is said to precede the development of the conceptual or semantic knowledge of that word.

While this model has stimulated quite a bit of research to date, it is not without its limitations. Altarriba and Mathis (1997) found that after a single training session in a second language, one that emphasized the semantic and conceptual attributes of a newly acquired word, participants demonstrated conceptual knowledge of that word, indicating that semantic correlates across languages, at least for concrete words, can be developed rather quickly, more so than the model might predict. It is also the case that this model does not address the differences in processing different word types such as concrete, abstract, emotion, and emotion-laden. Over time, models that emphasize a distributed features approach to bilingual word representation were found to be more flexible and better explained a broader set of findings for bilingual processing, compared to more rigid information processing approaches to bilingual memory. De Groot (1993) inspired a whole other category of models of language representation that focused on the distribution of word attributes and the overlap or uniqueness of those attributes across languages. For example, if we conceptualize the word *father* as entailing its lexical, orthographic, phonological, and semantic features, as well as its associations, connotations, and denotations, and then consider its Dutch translation *vader*, both words might overlap in terms of the many seman-

tic features we associate with *father* (e.g., male, a parent, older than a child, etc.). However, within each language, there may be distinct features that are unique to English and to Dutch respectively, such as pronunciation and spelling, contextual differences related to culture, holidays and traditions that involve one's father, etc. Thus, these kinds of models allow for overlap with translations and an appreciation of the distinction between these words that is driven by culture, experience, context, word type, and the like. Features are distributed across a number of dimensions for each word, and some of them overlap across languages while others do not. Abstract words and words that label emotion, for example, may only partially or semantically overlap. An abstract word like *idea* might possess culturally specific semantic attributes in English that do not overlap with its translation in a different language. Distributed models such as the one put forth by de Groot also more easily explain the situations wherein a word in one language does not have a distinct, one-word translation in another language; for example, the word *cariño* in Spanish is loosely translated into English as something between 'liking' and 'affection' (Altarriba 2003). In the case of words such as these, no features overlap between their respective sets of distributed features. Those words are simply unique entries within their respective lexicons.

#### **4.4 Culture, emotion, language, and pragmatics**

Culture and cultural pragmatics play important roles in the understanding of language learning and the use of language in day-to-day situations. Models that propose to explain how language and emotion interact must also consider the cultural context in which languages are learned and used, as mentioned previously. Thus, without a focus on the cultural aspects that accompany a language environment – including ethnicity, beliefs, traditions, religion – any model of language/emotion processing would be incomplete. Centeno (2007) proposed an “ethnopsycholinguistic (EPL) framework” when considering forms of communication in a given linguistic and cultural environment. This integrated framework would need to include sociolinguistic, psycholinguistic, psychoemotional, and cultural aspects of language (e.g., dialects, slang, metaphors, idioms, etc.) into models that are developed to explain the interaction between language and emotion.

For example, the Spanish that is spoken on a daily basis for Cuban-Americans in Miami may not be the same as that spoken by Dominican or Puerto-Rican Spanish speakers in New York City. This is not due to their current geographical place of residence alone, but rather, to the ways in which the Spanish language has evolved over time throughout the Caribbean and then in the United States, which subsequently created differences in terms of word choice and linguistic expression for these two groups. One might refer to a car in Spanish as *carro* but, for others, the more common term might be *auto*. In Mexican-American cultures, for example, one might say *ahorita*, which literally translates to 'later on', to actually mean 'right now' or 'this instant'. A Cuban-American using this very same term definitely means 'in a little while'. Additionally, as Centeno notes, "cultural or ethnic identity formation occurs gradually over time through the process of acculturation as an individual experiences changes in cultural practices and symbols, including language, values, beliefs, and overall lifestyle" (Centeno 2007: 198). This information is extremely useful in

applied contexts, such as within therapeutic or medically related situations. For example, Stiell and Gailey (2011) noted that emotionally focused therapy for couples who live with aphasia or other language deficits can lead to positive outcomes given that support from a spouse or a partner can be extremely important throughout recovery. However, that support is often threatened, as the symptoms of aphasia may interfere with communication and emotion-related communication between couples. Treating language as nested within these many variables might provide for a more integrative approach towards treatment. For example, if cultures seem to emphasize collectivist notions and notions of community involvement as compared to individualistic notions of cultural identity, then these factors should play a role in the overall treatment plan for an individual with aphasia, in addition to the linguistic variables that are included in the plan.

Basnight-Brown and Altarriba argued that “culture also affects the ways in which languages are used as a vehicle to express emotion” (Basnight-Brown and Altarriba 2018: 416). For example, as emotion terms appear to be coded quite differently in the two languages of a bilingual (Altarriba 2003, 2008), it may be the case that knowing more about the specific dialect that is being considered for treatment and how emotionality plays a role in the use of that language on a pragmatic level by the patient can be informative in terms of planning proposed avenues of treatment (Ansaldi, Saidi, and Ruiz 2010; Heredia and Altarriba 2001). In fact, knowing more about the linguistic and cultural background of a patient seeking assistance from therapists and counselors enhances the confidence of health care providers and their effectiveness at working with culturally diverse populations (Altarriba and Santiago-Rivera 1994; Dewaele and Costa 2018; Santiago-Rivera and Altarriba 2002; Santiago-Rivera et al. 2009). Clearly, these kinds of approaches can contribute in a positive manner to situations in which treatment is sought by bilingual and multilingual populations with language deficits.

In summary, the above section reviewed and interpreted research and practical applications in cases in which language, emotion, culture, and/or bilingualism play an important role in areas of language representation, communication, and psychological treatment. It is quite clear that a comprehensive approach informed by existing theory and data in this field calls for a close examination of issues such as age of acquisition, cultural context, pragmatic use, and the linguistic and cognitive contexts in which languages are learned and used, in order to understand the complexities that underlie the relationship between language and emotion (Altarriba 2008). Additionally, a framework that involves language, culture, emotion, and notions of the bilingual brain may provide the most comprehensive platform with which to develop newer approaches and tools that would well serve individuals with language deficits to recover language abilities in one or both of their known languages (Centeno 2018). Recommendations from this section indicate the use of frameworks, such as the one described above, that are more comprehensive in focus and in scope, as any one variable alone cannot account for how the mind processes emotion or labels that emotion in terms of one or more languages. Several of these fields of research are explored in greater depth in this part of the present handbook.

Overall, this overview has addressed the different disciplines that have been relevant, whether historically or in the present-day, to the study of language and emotion. The chapter began by tracing the history of emotion semiotics and affirming that studies of language

as a sign system ultimately address the relationship between language and emotion. Following that, a comprehensive review of linguistic studies on emotion was presented. By presenting research that addresses emotion across various linguistic levels, it was shown that the linguistic study of language and emotion generates interesting questions for scholars in other disciplines as well. Finally, the last section of this chapter addressed the psycholinguistic dimension of language and emotion. Specifically, the importance of accounting for other related aspects like pragmatic context and bilingualism/multilingualism is highlighted, along with the potential applications that the study of language and emotion might have in fields like language representation and psychological treatment.

## Acknowledgments

Part of this chapter is supported by the Ministry of Education, Singapore, under its Academic Research Fund Tier 1 (RG69/17). Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not reflect the views of the Ministry of Education, Singapore.

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### **III Language history and language change**



Şeyma Afacan

## 13 Historical aspects of linguistic and emotional changes

- 1 Introduction
- 2 Simple together: linguistic community formation in the late Ottoman Era
- 3 Contested emotions of the late Ottoman Empire
- 4 Contested languages and words of the early Republican era
- 5 Conclusion
- 6 References

**Abstract:** The history of emotions is a complicated field presenting a considerable diversity of views. The story of emotive words and the emotional impact of words in Turkish is further complicated by the lengthy and effective implementation of language planning in Turkey. Even though Turkish language reform is accepted as one of the longest, most famous, and successful implementations of language planning, we know little about how it affected cultural patterns and the emotional life of speakers. This chapter shows a degree of interplay between linguistic and emotional change in the case of Turkish, in particular Ottoman Turkish, at a discursive level. It argues that there was a degree of awareness about the role of language in the formation of a new emotional community in the late Ottoman Empire before the implementation of language planning by the Republican government, even though we don't know much about the implications of this awareness. This process began with the rising concerns about language simplification in the late Ottoman Empire. The formation of linguistic community fuelled a new discussion among the educated class about which emotions should be expressed, cultivated or suppressed. Emotional restraint surfaced as the most important social value of the new emotional community, participated in primarily by the literati and possibly by the readers. Speakers were motivated to unite emotionally in their concern for the common good of their society. In the early Republican period, the principle of monolingualism was implemented in order to speed up linguistic community formation.

Ultimately, the chapter leaves us with a picture of a long process of negotiation during which some languages, emotions and words were contested in a largely unsystematic way in order to achieve linguistic and ideological unity.

### 1 Introduction

“Emotion”, as a definition of how humans feel, is a modern category, not an old one. Conventional knowledge of emotions, far from being a static given, is a modern product with a fairly recent history of constant and continual transformation. Before the spread of bio-

medicine in the 19th century, various conceptualizations of human nature, such as passions of the soul, affections, and humours in different constellations and forms, were already available (Dixon 2003: 5). Much of this transformation was fuelled by a gradual departure from theological and traditional understandings of human psychology, which were already vast to begin with. As Ute Frevert shows, the Enlightenment brought a “comprehensive understanding of emotions” to Europe to some degree, but this understanding was “deeply ambivalent and fluctuating, varying according to contemporary experience and perspective” (Frevert 2014: 4). Such richness should further call for sensitivity to particularities in the historiography of the non-Western world, which was shaped by a variety of cultural and political contexts before the supremacy of universalized bio-medical models.

The journey of *duygu*, ‘emotion’ in modern Turkish, is further convoluted. It represents not only the surfacing of emotion as a modern product, but also the process of language planning in the late Ottoman Empire. This is revealed by its appearance in 1876 in *Lehçe-i Osmanî* (‘The Ottoman dialect’). *Lehçe-i Osmanî* was one of the first lexicons in Ottoman Turkish with a separate section devoted to “Turkish” and a clear agenda for language simplification. In this lexicon *duygu* (‘emotion’) appeared as a derivative of the old Turkish verb *-duy/-tuy* (‘to sense and hear’) (Ahmet Vefik Paşa [1876] 2000: 126; Tietze 2016, 1: 667). Since then modern Turkish has been through a series of linguistic reforms to such an extent that the old language today is called by a different name: Ottoman Turkish.

Turkish language reform is accepted as one of the longest, most famous, and successful implementations of language planning (Doğançay-Aktuna 2004: 7). Language planning is defined as “a body of ideas, laws and regulations (language policy), change rules, beliefs, and practices intended to achieve a planned change (or to stop change from happening) in the language use in one or more communities” (Kaplan and Baldauf 1997: 3). It often involves deliberate change undertaken by governments, yet may also be used by individuals and different non-governmental groups to shape the linguistic behaviour of a community for reasons such as community formation (Kaplan and Baldauf 1997: 5).

Intellectual interest in the debates about language policy dates back to the Tanzimat period. During the Tanzimat Period (1839–1876) the idea of language simplification gained currency in tandem with the growth of publishing activity (Doğançay-Aktuna 2004: 6). Soon after the foundation of the Republic of Turkey in 1923, the most effective language planning efforts were made by the state within the framework of the Turkish language reform with two major ventures: the adoption of the Latin alphabet in 1928 and the purification (i.e., *Özleştirme*, ‘authentication/Turkification’) of the lexicon and grammar borrowed from other languages, especially Arabic and Persian, in the 1930s and 1940s (Doğançay-Aktuna 2004: 7).

For such a fundamental change in the daily use of language, our knowledge of how language planning affected cultural patterns and the emotional expression of speakers to this day is limited. Language not only forms and constrains our perception of interactions, but also shapes the ways in which we interact with the social world with the help of linguistic tools such as the lexicon, phonology, morphology, syntax and discourse level structures (Wilce 2009: 40–45). It provides us with a toolbox to study the unsolidified field of human emotional experience and opens up a new venue for historicizing emotions. Unfortunately, literature on the history of emotions in the late Ottoman Empire is relatively scarce, even

though the subject has begun to attract some interest from researchers (Afacan 2016; Elias 2018; Esmer 2014; Suny 2004; Tuğ 2017). However, there is an extensive secondary literature on the process of language planning and national identity formation, which has already fleshed out how the Turkish language became a major factor in uniting the newly founded nation.

Linguistic reforms were part of an ideological project striving for the construction of a homogeneous Turkish national identity, resting on a single religious (*Sunni*), linguistic (Turkish), and cultural definition through systematic policies of assimilation and exclusion of others (Kadioğlu 2007: 285). In the two decades following the Second World War, social scientists presented Turkey as one of the most successful examples of “a universally defined modernisation process” (Bozdoğan and Kasaba 2000: 5). In doing so, they offered an essential perspective on the framework of national identity formation in Turkey with many “pitfalls and loose ends”, which historians and social scientists still rethink, reformulate and contest (Bozdoğan and Kasaba 2000: 5). Linguistic nationalism, i.e., the use of linguistics and literature for spreading nationalistic ideas, is an important part of this framework with serious literary repercussions concerning intelligibility, vocabulary, terminology, and language impoverishment.

There was a degree of awareness about the role of language in the formation of new communities in the late Ottoman Empire, even though knowledge about the implications of this awareness is limited. During this period, the way in which speakers experienced emotions and put them into words mattered significantly to the press and public intellectuals. In this new phase, speakers were encouraged to unite emotionally in their concern for the common good of their society. In detailing our understanding of how speakers were expected to unite emotionally, the chapter suggests using the framework of emotional communities developed by Barbara Rosenwein. Rosenwein (2006), in her seminal piece *Emotional Communities in the Early Middle Ages*, explores emotions in the early Middle Ages, a period long before the formation of nation states. She shows the role of affective styles in forming “emotional communities”, which she defines as “groups in which people adhere to the same norms of emotional expression and value – or devalue – the same or related emotions” (Rosenwein 2006: 2). A number of emotional communities could co-exist within an allegedly unified national community; any emotional community is in need of shared emotional norms to come together.

In visiting various phases of the relationship between language and emotions in the process of formation of a national identity, the chapter consists of three main sections, each with a distinct focus. Section 2 focuses on the emerging concerns about language simplification and linguistic community formation among a group of intellectuals in the late Ottoman Empire. Section 3 pays attention to literary debates and the use of literature for promoting emotional restraint as the most praised social value of a new emotional community participated in primarily by the literati, and possibly by the readers. Section 4 visits contested words and languages of the early Republican period and ends with a series of questions about the emotional impact of using neologisms or loanwords on speakers today and in the 1930s, in order to attract the attention of researchers interested in the relationship between language and emotions.

## 2 Simple together: linguistic community formation in the late Ottoman era

In the Tanzimat Era, Istanbul emerged as one of the most multilingual literary centres of the world in tandem with the growth of publishing activity. Towards the end of the 19th century, a group of intellectuals raised concerns about language simplification and linguistic community formation. Against the backdrop of the Ten Year War Period – i.e., Balkan Wars (1913–1914), the First World War (1914–1918), the occupation of Istanbul (1920–1923), and the Turkish War of Independence (1919–1923) – Turkish national consciousness developed gradually.

“Modern Turkish” (*Türkiye Türkçesi*), the language mainly used in the Republic of Turkey, is a significant member of the Turkic language family. It is grouped with the Altaic section of the Ural Altaic family of languages. The earliest attested forms of written Turkic (also East Old Turkic or Orkhon Turkic, Old Turkic) are found in Göktürk and Uygur inscriptions from the 7th century AD to the 13th century (Erdal 2004: 4–5). The Old Turkic language was spoken in the Tarim Basin and in the centre of the Mongol steppes and was written in the Old Turkic alphabet, known also as runiform. Following the Turkish conversion to Islam in the 11th century, the Arabic alphabet was adopted and Old Anatolian Turkish was introduced into Anatolia by the Seljuk Dynasty.

Despite the long historical roots of modern Turkish, dating back to the 7th century AD, it would be ahistorical to search for a clear and unchanging ethnic Turkish identity from the ancient past onwards. For centuries, the Ottoman Empire remained a “classic example of the plural society” which was “as diverse as any in history” for almost half a millennium (Braude and Lewis 1982, 1: 1). According to Şerif Mardin, daily usage of Turkish in the palace represents “a wider, latent but hegemonic influence of Turkish” even in the “classical” period of Ottoman history (Mardin 2002: 120–121). However, in the Ottoman Empire there were other signifiers for Turkish speakers; for example, Osmanlı was used often in an official capacity by the state, and Rumi used in common vernacular. Between the 13th and 17th centuries, it was the heyday of *Rumi* “as a socially and culturally meaningful category” (Kafadar 2007: 16). The lands of the *Rum* (*diyar-i Rum*) or simply *Rum* (‘the lands of Rome’, i.e., eastern Roman lands, Byzantium) as a designation of a physical and cultural geography remained in use even after the 18th century, when it was gradually replaced by Anatolia, *Anadolu*, the Turkicized form of the Greek word *Anatoli* (‘east’) (Kafadar 2007: 16). Complexity of ethnic, religious and linguistic identities in the Ottoman Empire went beyond the trinity of Muslims, Christians and Jews, and included different and mixed identities such as Yezidis, Turcomans and Karamanlis. Ottoman Turkish, *lisan-i Osmanî*, *Turkî*, *Osmanlica*, was a product of centuries of linguistic borrowings with a long list of loanwords borrowed primarily from Arabic and Persian but also from other languages of the Empire such as Armenian, Greek and Slavic (Korkmaz 2007: 499). From the late 18th century onwards, the *millet* (i.e., religious community) system emerged as an effort “of the Ottoman administration to take into account the organisation and culture of the various religious-ethnic groups it ruled” (Karpat 1982, 1: 141).

During the Tanzimat Period (1839–1876), the idea of language simplification gained currency in tandem with the growth of publishing activity (Doğançay-Aktuna 2004: 6). The

period of Tanzimat (1839–1876), meaning ‘ordering, setting in order, regulating’ was a distinct turning point due to the intensification of reforms in military, social, administrative, judicial, and bureaucratic spheres, and the establishment of the principle of equality of all subjects before the law by defining Ottoman citizenry (Davison 2012: 202). During this period, the centre of power shifted from the palace to the new actors (high bureaucracy and intelligentsia), fuelling fierce intellectual debates and cultural transformations (Findley 1992: 152). The *millets* were pushed to reform their internal governance system, including the schooling system (Bruce 2009: 383–384), which was reflected in the subsequent rise of vernacularization.

The second half of the 19th century witnessed the rise of one of the most multilingual literary centres of the world: the Imperial capital, Istanbul. In the wake of the “communications revolution”, i.e., technological innovations in communications and printing activities in the Ottoman lands in the second half of the 19th century (Findley 1989: 174–179), Istanbul emerged as a world-class literary centre (Strauss 2003: 40). While French attained the status of a semi-official language of the Empire, and became a medium of exchange between learned upper class Ottomans of different communities, Istanbul literary culture became a microcosm of multilingualism organized around and across the boundaries of the *millet* system.

Tietze’s discovery of *Akabi Hikayesi* (‘Akabi’s story’) in 1991, 140 years after its first publication, is a great contribution to Ottoman literary history in such a way as to show the multilingual nature of its origins, as well as the silencing of non-Turkish elements (Varданеан [1851] 1991). Written in Ottoman Turkish with Armenian characters by Hovsep Vartanian (1813–1879), *Akabi Hikayesi* tells the story of impossible love between two Armenians whose families are from different denominations: Catholic and Gregorian. As the recent turn in Ottoman literary historiography has shown, *Akabi Hikayesi* was followed by several works produced by various literary communities such as Kurdish, Armenian, Safarad, Karamanlı, and so on. Amidst such diversity, unusual examples of various script and verbal combinations such as Armenian in Ottoman script or Ottoman Turkish in Kurdish script were produced (Strauss 2003: 53) and silenced by one-sided nationalist accounts of official historiographies (Altuğ and Uslu 2014: VIII).

Towards the end of the Tanzimat era, the need for a systematic policy of language simplification for propaganda purposes was raised by the public intellectuals and the press. The introduction of new media technologies such as journals and magazines as well as new literary forms such as the novel (*roman*) and short stories (*hikaye*) brought with them questions of intelligibility and language simplification. The first examples of Turkish lexicons were published in this era, one notable example being *Lehçe-i Osmanî* (1876) by Ahmed Vefik Paşa and *Kamus-i Türkî* (1900) by Şemsettin Sami. *Lehçe-i Osmanî* is singled out by its emphasis on language simplification and a special section devoted to Anatolian Turkish. The need for a change in alphabet was often articulated by some influential Ottoman statesmen such as Münif Paşa and Ahmet Cevdet Paşa very early on in the 1860s (Levent 1960: 53). In the 1880s and 1890s, language emerged as one of the main ingredients in the mixture that holds a community together in the writings of leading intellectuals such as Şemsettin Sami and Ahmet Mithat, who advocated the policy of language simplification (Sadoğlu 2003: 107–120).

In the late 19th century, education and literacy were on the state agenda. The estimated literacy rate just before the First World War was at least between 10 % and 15 % and was estimated to have been much higher in the late 19th century (Georgeon 1995: 173). Relying on the 1894/95 census, Kemal Karpat gives the illiteracy rate as 46 % of the whole population in the districts counted, or 34.3 % excluding children under 10 years old (Karpat 1985: 221). For the latest figure before the alphabet change, Georgeon, relying on the 1927 census, estimates the literacy rate to be between 8.15 % and 10.6 % of a population of 13,660,000 (Georgeon 1995: 170). This shows that the literacy rate was on a considerable rise before the First World War, yet demographic, economic and social disruptions due to constant warfare caused a pause in educational improvement and the rise in literacy rates.

Before the implementation of linguistic policies in the early Republican period, a cohesive linguistic community had already begun to form in the late Ottoman Empire. The Ten Year War Period – i.e., Balkan Wars (1913–1914), the First World War (1914–1918), the occupation of Istanbul (1920–1923), and the Turkish War of Independence (1919–1923) – was formative in the development of a new linguistic community. As Benjamin Fortna aptly puts it, “there were many important late Ottoman precursors to the Republican ‘language revolution’”, in other words, “changes in text and inevitably in language were gradual and anticipated the nationalist turn, rather than being triggered by it” (Fortna 2011: 7). A new language, i.e., a new practice of Turkish based on the Istanbul vernacular, was used systematically as a means of propaganda. Poetry, short stories and fiction were effectively used to serve *Millî Edebiyat* ('the National Literature') by a group of writers spearheaded by Ömer Seyfettin, Ali Canip Yöntem, and Ziya Gökalp, who discussed simplifying the language and eliminating Arabic and Persian borrowings in *Genç Kalember*, the literary journal associated with the national literature movement (Adak 2018: 2). In this period, the name “Turk” acquired new positive connotations which inspired the official ideology of the Turkish Republic (Mardin 2002: 122).

The Balkan Wars (1913–1914) had significant psychological and demographic impact, leading to the development of Turkish nationalism. The trauma of being defeated by former Ottoman subjects in the Balkans started a period of “national emergence”, which ended ideological disputes in favour of the rise of Turkish nationalism (Zürcher 2010: 148). With the loss of the Balkan territories, about 2.5 million Muslim Turkish speaking people immigrated from the Balkans to Anatolia (Toprak 2002: 45–46). This ushered in a new cultural era in which a patriotic, nationalist, and anti-Western framework dominated intellectual products and was being used as a means of war propaganda. Propaganda in the beginning of this period still relied heavily on Islam, rather than Turkish nationalism. Even for the post-Balkan War period, “national culture” went through major fluctuations and transformations. Turkish nationalism with a secular tendency gained an upper hand after Arab revolts in 1917 (Köroğlu 2007: XI). During the occupation of Istanbul (1920–1923), the intelligentsia was in “a greatly intensified emotional state of mind” (Köroğlu 2007: 48), as reflected by the sentimental tone of articles, pertaining to politics, and Istanbul became a nest of rising protests and social movements. Linguistic community formation ran alongside with national propaganda and a discussion about new emotional rules, as we will see below.

### 3 Contested emotions of the late Ottoman Empire

In conventional understanding, the rise of nationalism goes hand in hand with emotionalization, and rightly so. In terms of propaganda, the intensification of collective sentiments such as love of the nation is a given in the process of formation of imaginary bonds between fellow citizens. Since the publication of *Treatise on the Origin of Language* in 1772 by Herder, language has been known to be “the organ of thought”, which shapes linguistic patterns and frameworks of how each linguistic community thinks and feels (Herder [1772] 2002: 110). His theory includes “a metaphysical assumption about the aesthetic operation of human thought and collective belonging” (Fox 2002: 237) through national communal feelings. In addition, Benedict Anderson’s concept of “imagined community” has been a useful and outstanding contribution to the field in showing the socially constructed nature of nationalism since 1983. Each nation constructs an imaginary community, given that “members of even the smallest nation will never know most of their fellow-members, meet them, or even hear of them, yet in the minds of each lives the image of their communion” (Anderson 1991: 6). In Rosenwein’s interpretation, “emotional communities are in some ways what Foucault called a common ‘discourse’: shared vocabularies and ways of thinking that have a controlling function, a disciplining function. Emotional communities are similar as well to Bourdieu’s notion of ‘habitus’: internalised norms that determine how we think and act and that may be different in different groups” (Rosenwein 2006: 25). The key in the creation of nationalistic propaganda is to have “a common stake, interests, values and goals” which can be shared through social relations as well as texts (Rosenwein 2006: 24).

Unfortunately, our understanding of late Ottoman emotional landscapes is limited to less than a handful of sources, such as Ronald G. Suny’s seminal piece on hatred as the basis of ethnic violence (Suny 2004) and Orhan Pamuk’s depiction of collective melancholy which started a lively academic discussion (Helvacıoğlu 2013; Işın 2010; Pamuk 2003). More research on the subject is necessary in order to go beyond commonsensical knowledge about collective feelings of belonging and national identity. What this chapter intends to highlight, however, is an anti-emotional side of a newly founded community’s emotional life. In this new regime, any emotional expression which did not serve a collective interest was perceived as a serious threat to the formation of a new emotional community and faced harsh criticisms. A certain anti-emotional rhetoric surfaced in literary representations and intellectual writings, which encouraged the value of emotional restraint. This rhetoric was based on a number of imaginary binaries, such as collective versus individual feelings, thoughts versus feelings, and reason versus emotions, all of which were considered to be mutually exclusive and in conflict with one another. Some emotions, such as passionate love (*aşk*), jealousy (*kıskançlık*) and sadness/melancholia (*hüzün*), were stigmatized and labelled as “selfish” or “shallow” feelings. To put it simply, emotional restraint was poised as the most exalted social value of the new emotional community.

The “positivistic” foundations of anti-emotional rhetoric derived from medical culture. The secondary literature on positivism, specifically Beşir Fuat’s involvement with the literary debate between realism (*hakikiyyun*) and romanticism, revealed how medical culture had become a hotbed of the problematization of emotions (Hanioglu 2005; Okay 1969).

Besir Fuat joined the discussion of realism and romanticism in 1885, with a biography of Victor Hugo and a commentary on the alleged bad influence and low quality of romanticism in comparison to Emile Zola and realism. Drawing on an alleged opposition between poetry and science, Besir Fuat stipulated that literature must be in accord with the “scientific realities” of his time, such as positivism, determinism, and physiology. In an effort to demystify emotions, he adopted the medical approach of an identified German scientist: the human heart was a bodily organ, rather than the reason why we “love, cry, hope, hate” (Besir Fuat 1300/1883: 401). Similarly, the secretion of tears was a function of brain physiology and therefore was to be approached as a medical phenomenon (Okay 1969: 113). Similar comments were made by medical doctor Şerafeddin Mağmumi, whose medical dictionary *Vücut-ı Beşer* ('Human Body') took a critical attitude to love-related (*aşkî*, 'pertaining to love') activity on the basis of being “a biological response caused by cerebral activity” (Mağmumi 1892: 258). Cerebral activity was “caused by constant thinking creating a thin fluid layer on the surface of the brain” and close to semi-madness (Mağmumi 1888: 22). In the Second Constitutional Era following in the footsteps of Besir Fuad, Bahâ Tevfik took over the task of criticizing poetry and romanticism, supplying a firmer underpinning fed by psychology. In *Edebiyat Katiyyen Muzirdir* ('Literature is absolutely harmful'), one of the most contested articles in his series against literature and romanticism, he made every effort to prove “scientifically” that literature was the outcome of a psychological illness: “Without hesitation, we should conclude that literature is nothing but an epidemic, a contagious brain disease” (Bahâ Tevfik 1910a: 106).

The succession between Şerafeddin Mağmumi, Besir Fuad, and Bahâ Tevfik in attacking literature and its effective power was brought to light by Şükru Hanioğlu within the framework of “the implications of Vulgärmaterialismus for literature” and “Ottoman materialism” (Hanioğlu 2005: 42–43). According to Hanioğlu, Ottoman materialism founded the basis of “the scientism of the Young Turks”, which then shaped Ataturk’s “attitudes and policies” to an extraordinary degree (Hanioğlu 2011: 48). Here, I see the anti-emotional aspect of Ottoman materialism as the starting point of a larger movement of bifurcating emotions with reason, which in the second Constitutional period went beyond medical and materialist circles.

Rising interest in psy-sciences at the turn of the 20th century onwards popularized the alleged split between emotions and reason. In this process, psy-sciences were gradually turning into a tool for “managing individuals” and encouraging emotional restraint with a deliberate and open agenda to regulate his/her feelings, and an alleged authority granted by science. From the foundation of *Darülfünun*, today's Istanbul University, in 1900 onwards, a short period of intense translation activities started (Afacan 2016: 89). While new books on human psychology were published to amalgamate old established theories of the soul and bio-medical perspectives, emotional expression and restraint became an important interest to Ottoman literati.

In the second Constitutional period, love surfaced as the most commonly stigmatized and discussed emotion. One of the first books about “pathological forms of love”, *Aşk-ı Marazî* ('Pathological love') by Dr Nazım Şakir (1326/1910), came out in the second Constitutional era. This was a popular subject according to Dr. Şakir, given the spread of “pathological forms of love” and the rising interest in medical explanations about love (Nazım

Şakir 1326/1910). In this book he merges philosophical and literary theories of love with psychiatric cases such as love among hysterics, superior degenerates, and imbeciles, covering different forms like erotomania, fetishism, masochism, and sadism. The sense of departure from old traditional approaches to emotions was not limited to medical circles. The next year, M. Arif welcomed psychological approaches to love in *Aşk Nedir?* ('What is love?') (Arif 1911). He rejected traditional tools for making sense of love, such as philosophy, for being "frivolous", and criticized psychiatric approaches for being old-fashioned (Arif 1911: 4). According to Arif, the most cutting-edge perspective on love was the theory of obsession and this came from psychology (Arif 1911: 6).

Philosophy journals became new venues to speculate on emotions from the angle of the alleged dichotomy between reason and emotions. A number of journal articles on emotion were published in *Yeni Felsefe Mecmuası* ('Journal of New Philosophy'), a philosophy journal established by M. Zekeriya Sertel and Ahmed Hamdi Bey in Salonica in 1911, which contained contributions by some authors of the *Genç Kalemeler* circle, primarily Ziya Gökalp. One anonymous article series entitled 'Human being, thought and feeling' ("İnsan, fikir, his"), for example, took a clear stance against emotional experiences and encouraged emotional suppression to the death: "The more progress and improvement is made, the less intensely feelings are felt and the more triumphant thoughts are. For the deep thinkers feelings and thoughts are in a constant and endless fight, suffice it to say. We wish that thoughts, which bring happiness to humanity, are the winners, and that feelings are crushed to death" (Anonymous 1911: 31).

Foundations of this approach were laid in Ziya Gökalp's theory of nationalism, being in tune with the policies of the Committee of Union of Progress (CUP), which sought demographic planning and social control over individuals (Ahmad 1993: 31). In unfolding Gökalp's contributions to the formation of Turkish national identity, the secondary literature has emphasized its collectivist nature, which always prioritized national consciousness (*millî şuur*) over individual rights and attacked what it deemed "selfishness" (Kadioğlu 2002: 289–292). Kadioğlu has maintained that "in the Turkish context, the concept of modern citizenship evolved in such a way as to exclude a liberal individualist dimension" (Kadioğlu 1998: 40). With the popularization of Ziya Gökalp's social theory, encapsulated by his famous motto "No individual but society, no rights but duty" (*Fert yok cemiyet var, hak yok görev var*), focus on the common good became a hegemonic discourse. Written propaganda frequently emphasized societal duty over individual rights. One of the strongest examples is a poem Gökalp wrote from the perspective of a soldier whose final line is: "with closed eyes, I carry out my duty" (Heyd 1950: 124). In this period, the sphere of reading went through a process of "militarisation of learning", which continued into the early Republican Era "in attempting to inculcate an ethos of the soldier in every young reader, not merely those attending military schools" (Fortna 2011: 37).

The dream of complete rationality would look bizarre to modern eyes, yet the dichotomy between emotions and reason resonated with many people at the turn of the 20th century. Indeed, the alleged dichotomy between mechanical objectivity and self-control versus fragile feelings became a common theme in problematizing emotions in the second Constitutional period. In 1912 one of the most well-known Ottoman feminists, Halide Edip Adıvar, penned an autobiographical novel about the unconventional life story and emotional jour-

ney of a young well-educated woman named Handan, whose three consecutive love stories all ended poorly. Refik Cemal, the husband of Handan's beloved "docile" sister Neriman, first finds it hard to make sense of Handan's devilish and passionate inner world. After putting the blame on the culture of psychological introversion and digging further among the reading elite, Refik Cemal expresses his deep gratitude for his loving and caring wife Neriman for being oblivious to this world of desires and emotions. According to Refik Cemal, women, except for Neriman, are nothing but assemblages of a nervous system, perfectly masked by ornaments (Adıvar [1912] 2011: 99). Trapped in the world of psychological introversion, Handan experiences a number of "unidentified and unnamed emotions", in her words, because of her love for her unfaithful husband. She wonders "if what she deems as the human heart is nothing but a nervous system (*cümle-i asabiye*) in her unfaithful and selfish husband's body" (Adıvar 2011: 137). In the end, the nervous system once more restores highly gendered moral order and takes away Handan's mind as well as life. Her funeral was nothing but a source of gossip and humiliation, even though she never acted upon her feelings for Refik Cemal.

As a fierce defender of female rights in the late Ottoman Empire, it is unexpected of Halide Edip to punish Handan, yet it is expected of the spread of anti-emotional rhetoric and the value of emotional restraint as the ending suggests. Historians of science and emotions would not find it hard to read Halide Edip's message. As Dror, Hitzer, Laukötter and León-Sanz (2016) clearly illustrate, the promotion of an alleged dichotomy between mechanical objectivity versus fragile feelings was not unique to the late Ottoman intellectual milieu. Scientific technologies of the era promoted a "masculine emotional culture of self-control and restraint" as opposed to a "feminine emotional culture of sensitivity and feelings" (Dror et al. 2016: 11) As Dror, Hitzer, Laukötter and León-Sanz remind us, there is no "emotionless state" or "rationality" even in scientific thinking, with reference to Fleck's notions of "styles of thinking" and "collectivist thinking", which postulate that "the entire process of scientific research (from observation to explanation) and the epistemic interest of the scientist were regarded by Fleck as driven by emotions" (Dror et al. 2016: 13). This double-sidedness, however, was not perceived and acknowledged by the "men" of science at the time.

As the mouthpiece of scientific circles, Bahâ Tevfîk's problematization of literature boiled down to the question of whether literature speaks to the selfish, "sensitive" and "irrational" side of emotions. Through an unusual love story between an old homosexual couple who decide to fight jealousy together, Bahâ Tevfîk rewrites the rules of love in *Aşk, Hodbinî* ('Love, egoism') within an immoralist framework (Bahâ Tevfîk 1910b: 92). Stigmatising "lust, passion and jealousy", he depicts how love should ideally be experienced and expressed. By leaving the story open ended, he also leaves to the readers the question of whether love in reality could be completely detached from such selfish feelings – lust, passion and jealousy: "Now I understand that real love starts after the age of 80, a type of love that is beyond lust, passion and jealousy.' Nail leans on the couch, lights his cigarette. Enis sits down at the piano and plays a waltz: 'When Love Blossoms...' [...] The melody of passionate love spreading like waves from the piano answers to this feeling: If only love could be detached from egoism [...]" (Bahâ Tevfîk 1910b: 92). In another story, *Kiskançlık* ('Jealousy') by Bahâ Tevfîk, love at last enters into the domain of mental health: the

cold-hearted and free-spirited protagonist consults a friend, who introduces himself as an expert on mental health, about the intricacies of passionate love, and thus learns how to govern his as well as the loved one's excessive emotions (Baha Tevfik 1910c: 2–4).

How do we explain how someone as passionate about individual freedom as Baha Tevfik could stigmatize passionate love on the basis of promoting selfishness? Baha Tevfik is the author of *Felsefe-i Ferd* ('Philosophy of the Individual'), a heteroclite compilation consisting of articles on diverse subjects such as education, physiology, ethics, philosophy, officialdom, marriage, socialism, and anarchism, which praises the concept of the individual. He was among very few intellectuals who had serious reservations about rising nationalism in the Ottoman Empire (Mignon 2009: 30–33). However, the sense of urgency for saving the Empire after the Balkan Wars rendered intellectual products as sheer sources of propaganda. In these sources, while the value of emotional restraint was encouraged, personal feelings were attacked as threats to the common good of the society and the common goal of saving the Empire.

There were different imaginations for the future of the Ottoman Empire, as well as different value systems for holding imaginary Ottoman society together, be it nationalistic, scientific or religious. However, prioritizing the common good in the time of crisis became the common concern. The concept of "common good" was at the heart of the formation of Turkish nationalism, which stood for values of "unity and uniformity" as opposed to diversity and plurality (Cizre 1998: 13). While emotional discourses of saving the Empire and sticking together spread, emotions themselves were often depicted as irrelevant, dangerous, and sometimes pathological, in particular allegedly "fragile" and "selfish" feelings such as passionate love (*ask*), jealousy (*kıskançlık*) and sadness (*hüzün*).

No work could depict the urge to leave the past culture of "emotional roller coaster" behind more clearly than *Rüyada Terakki* ('Progress in a Dream'). One of the first science fiction novels produced in the late Ottoman Empire, *Rüyada Terakki* depicts how a certain culture of emotional restraint relates to the trauma of the Balkan Wars (1912–1913). *Rüyada Terakki* begins with a dream of the protagonist Nazım, who is deeply upset about the position of the Ottoman Empire in the Balkan Wars, in which he meets his grandfather, Molla Davut. In this dream Molla Davut takes his grandson to the 23rd century Ottoman Empire. Easily impressed by advanced technology such as sleeping machines, flying machines, and ten-story factories, Nazım soon realizes that most of these machines are based on his own sketches in the 19th century. For Nazım, men are similar to machines and the "new men" of the 23rd century will achieve perfection (*insan-ı kamil*) (Davudzâde Molla Mustafa Nazım [1913] 2012: 56–61). The "new men" are unaffected by demonic desires and egotism, thanks to childhood indoctrination into a moral code based on Islam. Free of craving for coffee, tea, or cigarettes, "they work relentlessly", which they consider a religious virtue (Davudzâde Molla Mustafa Nazım 2012: 61). One difference between the successful new Ottomans and the old ones is their approach to emotions and reason.

In a play Nazım attends in the 23rd century, Ottomans of the future watch the extreme suffering of the Ottomans of the early 20th century during the Balkan Wars. The play, as expected, is full of sadness and a sense of agony. When seeing soft-hearted Nazım's sadness, Naim Bey from the future intervenes and differentiates past and future attitudes towards sadness (*hüzün*): "We don't like sadness. However, these people are fond of anything

which causes grief and sadness perpetually. As you will see the more they are exposed to agitating sounds, dramatic songs, melancholic gestures, and attitudes which would move them, the more they are satisfied" (Davudzâde Molla Mustafa Nazim 2012: 173). In the 23rd century, however, people simply don't feel sad. It is important to notice that here there is an ambivalent attitude towards sadness. Mollazade places great importance on achieving maturity through the Sufi path. In the bright future, when complete maturity is achieved in the 23rd century, it is as a result of the suffering and anguish experienced in the past. Ironically, however, the happy and stable individuals of the 23rd century are completely freed from the sense of sadness and weaknesses of the heart.

Anti-emotional rhetoric was not only limited to literary representations. In the salons of Istanbul, the question of what sorts of emotions were welcome in a newly established collective culture was discussed widely. In an old mansion on the Princes' Islands, Ziya Gökalp criticizes Yahya Kemal for his "soft spot" for his friends, and for developing "shallow feelings" (*dar hisler*): "Virtues such as loyalty (*vefa*), friendship (*dostluk*) and interpersonal relationships (*sahsi rabitalar*) belong to the old world. In the new world an individual only loves his/her community and collective notions. He does not let his time and feelings to be wasted by a few people. Neither does he pursue such shallow and frivolous dreams such as friendship" (Beyatlı 1977: 85–86). This is, after all, how Americans live their dreams and make the most of their lives in a brand-new world according to Gökalp. In response, Yahya Kemal asks wittily why Gökalp preferred his good friend, Yahya Kemal, over his community, i.e., the members of the Committee of Union and Progress, which Gökalp often finds "too crowded" and adds: "What you describe as shallow feelings, are indeed emotional bonds between friends, which in my understanding are not new, are not old. They are with us since the beginning of mankind and will always be there" (Beyatlı 1977: 85–86).

Public and theoretical reaction to Gökalp's hostility towards individual feelings came from Mustafa Şekip Tunç. In 1921, when Tunç was contributing to *Dergah* magazine, the collectivist aspect of Ziya Gökalp's scientism (*ilimcilik*) and collectivism was criticized fiercely. Tunç focused on the importance of the individual, and questioned whether personal feelings such as passion (*ihtiras*) were detrimental to the collective order. He proposed that the focus should be on the individual as the basis of society: "It is easy to say 'no individual but society', yet in reality it is meaningless and could only be attained for a short period of time through despotism. Society should be attentive to individuals' needs, lest revolutions or revolts break out often" (Tunç 1921a: 52). He penned a series of articles about passions in his column *Ruhiyat* ('Psychology') in *Dergah*, such as "Passions in Politics" and "The Benefits of Passions" with an introduction informing us about how passions "have lately become a major subject of complaint in political discourses" and how they are of "great interest to all of us [them]" (Tunç 1921b: 162). For Tunç, the conflict between collective and individual feelings was illusionary and mistaken. He also believed this was true of the conflict between personal passions and the common good, even though such presupposed binaries were taken for granted in his time (Tunç 1921a: 52).

Needless to say, imagining the nation as emotionless as possible was also self-contradictory, given that rising nationalism entailed the intensification of collective feelings among fellow citizens. However, this belief was shared by many, with a strict division between individual and collective feelings. Intellectuals, who were often placed into different

categories such as materialists, Islamists, and nationalists, and who indeed built their narratives on different values such as religious devotion, nationalism or being scientifically minded, expressed antagonism towards emotional expressions and literary representations, unless these feelings served a clear collective purpose. In other words, the value of emotional restraint served as a new common value for binding intellectual groups which rarely came together and for forming a new emotional community among the Ottoman literati. This group shared the belief in the role of language in the formation of a new community through the use of literary propaganda texts expressed in simple language.

## 4 Contested languages and words of the early Republican era

Given that a certain linguistic community had already started to be formed in the late Ottoman Empire, the early Republican ruling elite was well versed in the role of language in community formation when the Republic of Turkey was founded in 1923. During the foundational years of the Republic of Turkey, an extensive programme of reforms in daily life towards secularization and modernization of the newly founded Republic were implemented under the leadership of Mustafa Kemal Atatürk. The newly founded early Republican government implemented such effective language reforms, which developed the policies of monolingualism and unity.

Language planning in Turkey started with Turkish language reform, which involved two major phases: the adoption of the Latin alphabet in 1928 and the purification (i.e., *Özleştirme*, ‘authentication/Turkification’) of the grammar and lexicon in 1930s and 1940s. Kemal Atatürk’s expression of the link between language and emotions became the motto of Turkish language reform:

National sentiment (*millî his*) is strongly tied to that of language. National language that is rich in content is the most effective means for the cultivation of national sentiments (*millî his*). Turkish is among the richest languages, as long as it is used carefully. The Turkish nation, which saved the country and protected its independence, must save its language from the tutelage of foreign powers now. (Arsal 1930: 1)

As Hale Yılmaz has shown, the alphabet change “should be understood both in the context of the early Republican state’s nationalizing, secularizing language reforms and in the context of its modernist, developmentalist goals, for which a literate society was a prerequisite” (Yılmaz 2013: 140). On 1 November 1928, the Alphabet Law was passed to switch to the Latin alphabet from the Arabic alphabet. The Alphabet Law followed on from the Abolition of the Caliphate in 1924, which was a major turning point in giving legitimacy to the newly founded nation state taking precedence over religion (Berkes 1999: 450–460). Secularism became a central tenet of early Republican ideology, which for Azak was catalysed by the spread of the fear of Islamic fanaticism (Azak 2010: XI). The Kemalist State promoted an allegedly pure form of Turkish Islam restricted to the individual conscience (*vicdan*) (Parla and Davison 2004: 108), that is “personal, rational and enlightened” as opposed to

reactionary Islam (Azak 2010: 175). Kemalists, as Bozarslan argues, fitted Islam into their nationalist ideology instead of replacing it, and it played a crucial role in the definition of a national identity (Hamit Bozarslan 2000: 61–73).

Apart from ideological underpinnings, there were practical reasons for the alphabet change as was stated in the bill of 31 October 1928: “the system of the Arabic letters does not contain vowel signs, which our language needs” (Strauss 2008: 490). With eight vowels (*e, i, o, ö, ü* in addition to three Arabic short vowels), some elements unknown in French and some original creations such as *ğ*, the new alphabet was considered to be an original Turkish creation. A circle of “nationalist linguists” found their own ways to develop an alternative to the science of philology in the West and unique solutions “that they devised in their quest for further Turkish westernisation” (Aytürk 2004: 2). However, the alphabet reform did not solve the problem of the literacy rate overnight and many people continued to use the old alphabet primarily for practical reasons (Yilmaz 2011: 678).

In the 1930s and 1940s, language reform brought fundamental and long-lasting change in the Turkish lexicon. During this period, the Turkish Language Society (*Türk Dil Kurumu*), founded in 1932, served as a versatile tool fulfilling many roles: “a private association; a learned society; a nationalist club; a federation of patriotic committees; a satellite of the single party; a parliamentary adjunct; a propaganda workshop and outlet; an auxiliary organisation to the state; an academic institute; a branch of a ministry; a government agency; and a presidential pastime” (Szurek 2015: 95). The Turkish Language Society (*Türk Dil Kurumu*) and leading intellectuals made extensive efforts for reviving forgotten Turkic words, or coining new words based on Turkish roots, suffixes, and neologisms. Consisting mostly of words compiled as a result of a collaborative public effort of “word collection mobilization” (*söz derleme seferberliği*), the “Collection of Turkish Equivalents of Ottoman Words” (*Osmanlıcadan Türkçeye Söz Karşılıkları Tarama Dergisi*) offered a great number of equivalents, which could reach as high as 77 Turkish substitutes for a single Arabic word as in the example of *hediye* (Lewis 2000: 50). In response to criticisms of incomprehensibility, the long list of synonyms, phonetically incorrect new constructions, further escalation of the difference between written and spoken Turkish and arbitrariness due to extreme purism, a much smaller version, the “Ottoman Turkish Pocket Glossary” (*Osmanlıcadan Türkçeye Cep Kılavuzu*), was published.

The early Republican government operated on the same principles of unity and common good. In the long run, these principles intensified the problem of linguistic exclusion. The focus on the common good was sharpened in the early Republican period with the systematic use of Turkish as the national and common language. From 1924 onwards, school textbooks used in the classrooms frequently emphasized the duties rather than the rights of citizens (Üstel 2004). As the principle of “How happy is the one who calls himself/herself a Turk!” demonstrates, the newly founded Republic made a claim for civic nationalism, inclusive of all ethnic identities. However, in practice it had a strong exclusionist aspect, which was reflected in the language policy of the early Republican era. In this period, any expression of ethnic differences became taboo, effectively excluding non-Muslims and non-Turkish speakers (Yıldız 2001: 300). Language reform fully created the Turkish linguistic community by silencing other languages such as Kurdish, Armenian, Greek, Judeo-Spanish, Romani and Zazaki and establishing the hegemony of Turkish.

One of the most well-known examples of exclusionary policy is the “Citizen, Speak Turkish” (*Vatandaş, Türkçe Konuş*) campaign. While it began as a student initiative in 1928, the “Citizen, Speak Turkish” campaign soon became a massive movement, which shows how “the mobilisation of university students, teachers, intellectuals, and journalists to create a homogenous Turkish nation in accordance with the state’s aim has facilitated the Turkification process and contributed to the reproduction of Turkish nationalism” (Aslan 2007: 250). As Alpay argues, “mother tongue”, *anadili* in Turkish, as a term has mistakenly come to correspond exclusively to Turkish due to a long period of censorship and fear-mongering campaigns targeting ancestral languages, even though there are 52 different languages and dialects in present-day Turkey according to data provided by the Foreign Office (Alpay 2010: 83–87). Due to the ethno-religious boundaries of Turkish nationalism, those who are able to call themselves Turk remain a limited and privileged group (Yıldız 2001: 301).

The new regime promised happiness to Turkish citizens, as reflected by its motto: “How happy is the one who calls himself/herself a Turk!”. One could easily assume that the early Republic of Turkey was a scene of emotional intensity and variety with great potential for dynamism and change about which we know very little. As Sara Ahmed and Anne-Marie Fortier remind us in a recent attempt to “re-imagine communities”, each community has its own requirements and set of relations which are open to negotiation and change. We ought to not take the concept of “community” for granted and remember that the meaning of “being with” a group might differ in each case (Ahmed and Fortier 2003: 253). Therefore, any emotional community should be perceived to be in a constant state of evolution and change, rather than stagnant and identical to the Ottoman Empire community of the past. To draw conclusions about emotional communities in the early Republican period, further research is needed. However, it is clear that the belief in the interconnectivity between emotional and linguistic change was inherited and internalized by the Republican authorities.

One starting point for further research would be the argument of “loss of emotional content”, which was argued by Geoffrey Lewis, the author of one of the most well-known and comprehensive accounts of the Language Revolution, *The Turkish Language Revolution: A Catastrophic Success* (Lewis [1999] 2000). This book presents the language reform as a “catastrophic success”, due to the loss of the Turkish of the 1920s and 1930s rather than the Ottoman lexicon of earlier times (Lewis 2000: 4). In this work, he presents the argument of “the loss of emotional content”: even though some neologisms do not misinform the reader, and some of them were actually successfully internalized, they lack “emotional content” (Lewis 2000: 152). Two of the most striking examples Lewis gives are *özgürlik* and *bağımsızlık*, which lack the “emotional content” of their old equivalents, *hürriyet* and *istiklal*, respectively. Today’s new words mean the same, but the emotional content of the older ones is unknown to younger generations: “you do not miss what you have never known” (Lewis 2000: 152), Lewis concludes.

Here, unfortunately, Lewis does not unfold what he means by “emotional content” in reference to the repercussions of language change. One could easily assume that *özgürlük* could have had more or notable emotional intensity for a speaker given its ideological significance for a number of reasons, such as using a new word, leaving the past behind,

moving forward, belonging to a community, feeling more modern and so on. Furthermore, learning a new word does not automatically erase an old word from memory, as Lewis also reminds us (Lewis 2000: 150). In the case of *istiklal*, it might be a stretch to assume that its emotional content is unknown to new generations, even if we assume that *istiklal* might have triggered feelings of national sovereignty more intensely than *bağımsızlık* in the 1930s or in the current day. Co-existence of synonyms in time could lead to fine distinctions between meanings, and emotion words take a natural organic course of action such as the co-existence of *aşk* ('passionate love') and *sevgi* ('love, amity') referring to different forms of love. Although *yürek*, of Turkish origin, and *kalp* of Arabic origin refer to the same organ, the heart, "there is a division of labor between them in terms of emotional load" (Baş 2017: 135) according to Melike Baş: *Kalp* is associated with love and compassion, while *yürek* is linked with sadness, distress, fear, and cowardice (Baş 2017: 135). However, it is clear that Lewis's argument opens a new window into a whole range of interactions between language and emotions, about which we know very little.

As for the early Republican regime's efforts at top-down linguistic reforms, it is crucial to remember that each political regime has its own political vocabulary open to ideological agendas, as Tanıl Bora reminds us (Bora 2018). However, words evolve in their own way and take unexpected turns transcending ideological agendas. There certainly was a drastic change in the emotional landscape for Turkish speakers in the 1930s, yet it would be too simplistic to interpret the change as a loss of all emotional content in the Turkish language. What remained the same between the late Ottoman and the early Republican periods was the awareness of the role of language in the formation of a new community which would hypothetically share similar emotional values.

## 5 Conclusion

This chapter has shown a degree of reciprocity between linguistic and emotional change in the case of Turkish, in particular Ottoman Turkish, at a discursive level. It has argued that there was a degree of awareness about the role of language in the foundation of a new emotional community in the late Ottoman Empire before the implementation of language planning by the Republican government, albeit we don't know much about the ramifications of this awareness. This process started with the rising concerns about language simplification in the late Ottoman Empire. The formation of linguistic community generated a new discussion among the educated class about which emotions should be cultivated or suppressed. Emotional restraint appeared as the most important social value of the new emotional community, participated in primarily by the literati and possibly by the readers. Speakers were encouraged to unite emotionally in their concern for the common good of their society. In the early Republican period, the principle of monolingualism was implemented in order to expedite linguistic community formation.

This leaves us with a picture of a long process of negotiation during which some languages, emotions, and words were contested in a largely unsystematic way in order to achieve linguistic and ideological unity. However, neither do we know much about the emotional landscape in the early Republican era, nor can we follow the further evolution

of the culture of emotional restraint in the 1930s and beyond. One important avenue for further research is in how the words used to describe emotion in the Turkish language themselves were altered. In relation to the major political, cultural and social changes which Turkey experienced starting from the 19th century, a number of emotion terms came and went, about which we know very little. From the angle of emotion studies, synonyms are to be taken as hints towards different intensities of emotional experiences and sometimes reflective of major cultural changes in the past. In Ottoman Turkish, a large selection of emotion terms, from *heyecan* to *teessür*, came with a semantic map of terms based on Arabic trilateral word roots. For *his*, the most commonly used word for ‘feeling’ and the verb ‘to feel’, for example, the semantic map involved *hiss-i müşterek* (‘*sensus communis*’), *mahsus(e)* (‘sensible’), *ihsasat* (‘sensations’), *havass-ı hamse* (‘five senses’), *hiss-i zahiri* (‘external senses’), *hiss-i batini* (‘internal senses’) to *hissiyat* (‘sentiments’), most of which are lost today. This variety of emotion words enables us to develop and measure different scales and ranges of emotions of different intensities with a sense of historicity going beyond the limited perspective of the seven basic “universal” emotions of Ekman (i.e., anger, contempt, fear, disgust, happiness, sadness and surprise), something that historians must do to localize and historicize emotions.

Another striking question is proposed by the changing emotional impact of words, both neologisms and traditional words, which still remain in use. Picking up from where Lewis left off, one can look for new ways to compare the emotional intensity of new and old words. How can we interpret the emotional impacts of using neologisms or loanwords on speakers today? Such questions would deepen our understanding of how language planning affected cultural patterns and the emotional life of speakers in the early Republic of Turkey or beyond. They would facilitate comparative studies between different cases of linguistic and emotional changes across countries. With its unique position as a culture with an emotional-linguistic landscape heavily influenced by political strategies, language planning in Turkey could be a gold mine for emotion studies.

## Acknowledgements

This chapter was supported by the Max Planck Institute for Human Development, Center for the History of Emotions. I am sincerely grateful to Ute Frevert, Emanuel Szurek, Özgür Türesay, Berna Kamay, Burcu Gürsel and my colleagues at the Center for the History of Emotions for their valuable comments on earlier versions of this chapter.

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Heli Tissari

## 14 Expressions of emotion and linguistic change

- 1 Introduction
- 2 Causes and caused reactions
- 3 Drivers of linguistic change
- 4 Discussion
- 5 Conclusion
- 6 References

**Abstract:** This chapter discusses the knowledge that we gain about emotions through data on language. Language provides us with a framework in which to understand emotions, and emotions are also indirectly present in our linguistic behaviour even though we do not discuss them directly. This chapter deals with what causes emotions and how people react to them, and how words and expressions for emotions feature in linguistic change. Linguistic change tends to be driven by general mechanisms such as metonymy, but linguistic expressions may also play a role. Most of the data represents written language because many examples come from historical data, which shows how language change factors in how we use words and expressions for emotions. Words for emotions often originate in words for matters that we associate with emotions. In turn, expressions of emotion often begin to be used for politeness and lose some of their original content. Our knowledge about our own and other people's emotions can turn into fixed phrases that begin to live their own lives. This chapter was inspired by historical semantic research into English words for emotions, but it also discusses Present-day English. Those findings are then also compared with some research on other languages.

### 1 Introduction

When Early Modern preachers addressed their public as follows, they probably expected the listeners to feel ashamed:

- (1) “I speak it to your *shame*”

(The *Helsinki Corpus of English Texts* [hereafter: HC]: Latimer, *Sermon on the ploughers*)

Research on historical texts also conveys ideas of what caused emotions and what kind of behaviour ensued when people experienced an emotion. In this chapter, all these phenomena will be discussed under the umbrella term *cause*. It will cover cases where a person's referring to an emotion is expected to cause such an emotion and cases where people discuss emotion as caused by or causing something else. It will also discuss the idea that

the characteristics of an emotion may lead people to express it in a certain way; to, say, cause them to use particular types of linguistic expressions. Furthermore, a particular context, such as text type, may call forth expressions of certain emotions. The point is that we can learn interesting things about emotions simply by analysing the kind of language that people use for them. This is different from analysing what happens in the brain when people encounter words for emotions such as disgust (Ziegler et al. 2018).

This is what Kövecses (1990) talks about when he writes: “The characterization of emotion concepts should involve uncovering cognitive models (or scenarios) associated with emotion terms *that are human-sized and are used for the purposes of everyday life*” (Kövecses 1990: 32, emphasis in the original). He was talking about cognitive models that are reflected in our language about emotions rather than about cognition as studied by brain science.

However, the idea that language tells us about the causes and consequences of emotions can also be traced back to Diller (1994), who investigated the concept of anger in Middle English. He was interested in what social events gave rise to anger and what kinds of action ensued. He tentatively suggested that the word *anger* became popular when people began to talk more and more about anger ensuing from disputes between ordinary people rather than rulers and superiors getting *wroth* with their subjects. Geeraerts, Gevaert, and Speelman (2012) later replicated his study, which is rather rare in the field of linguistics. They wanted to modify Diller’s (1994) idea, above all by pointing to the role of the text type in how anger was discussed in medieval times: rather than in religious texts, which represented a more traditional worldview, anger was likely to occur in non-religious texts that pointed towards the renaissance.

The chapter also deals with another aspect of words for emotions, beginning from the following questions. In what contexts with linguistic expressions for emotions can we identify drivers of linguistic change? What would the drivers be, and what kind of changes would they drive? Note that the focus shifts here from language as describing emotions to language itself. The focus will be on a linguistic phenomenon called *metonymy*, which can be defined as follows: “The metonymic process consists in mentally accessing one conceptual entity via another entity” (Radden and Kövecses 1999: 19). When a word or expression is used to refer to an emotion, it allows us access to many other concepts associated with that emotion. This leads to some of these expressions acquiring new meanings that no longer primarily have to do with emotion.

For example, if I say to a colleague that I am *happy* to do something, the focus is not on my feeling of happiness but on my positive attitude towards that person. The process behind this is metonymic. Through the adjective *happy*, the hearer can access my positive attitude. Here, metonymy, the mechanism that opens the door to such a possibility, will be seen as a *driver* of linguistic change.

Many of the new meanings created this way, through metonymy, can be subsumed under the umbrella term politeness, and they are often language-specific. An example is the English expression *I am happy to do it*, which cannot be directly translated even into other European languages like German or Polish (Baranczak 1990: 12). However, to return to the quote from Kövecses, such expressions are often “used for the purposes of everyday life” (Kövecses 1990: 32). The suggestion here is that people use many such expressions primarily for purposes of politeness rather than for reporting their emotions.

The aim of the chapter, then, is to show what the study of linguistic meaning as changing over time can contribute to our understanding of the relationship between language and emotion. Therefore, the focus will be on research within historical linguistics and, even more specifically, historical semantics (Fritz 2005; Grygiel and Kleparski 2007; Kay and Allan 2015). Much of this research will come from the field of cognitive linguistics and historical cognitive linguistics (Winters, Tissari, and Allan 2010). The choice of emotions to be discussed is rather based on pragmatic factors. The chapter will deal with studies that illustrate the two concepts of *cause* and *driver* as explained above.

The substance of the chapter is formed by studies of English words and expressions for fear, guilt, happiness, joy, pride, shame, and sadness. The studies on happiness, joy, sadness, pride, guilt and shame illustrate the term *cause*, while the studies on fear, joy, happiness, sadness and shame illustrate the term *driver*. The case of happiness is nevertheless an exception in that the driver does not seem to be metonymy but *weakening* of meaning (Ullmann 1962: 233). There is also some overlap between the two sections because some expressions that illustrate the term *driver*, such as *I fear (that)*, can *cause* emotions in their recipients. While the focus of this chapter is on English, studies on other languages will also be mentioned.

## 2 Causes and caused reactions

The historical semantic studies on guilt, joy, happiness, pride, sadness and shame that will be dealt with in this section were inspired by Kövecses's (1990) work on emotion concepts in American English. His idea was to construct cognitive models for several emotions by listing their various aspects as represented by linguistic expressions including, among other things, metaphors and metonymies. This would eventually lead him to a general model for emotion in American English that he called a prototype, which consists of the following stages (the words that illustrate the term *cause* as understood in this chapter are in bold): state of emotional calm > **cause** > emotion exists > attempt at control > loss of control > **action** > emotional calmness (Kövecses 1990: 184–185).

What Tissari (2006a, 2006b, 2008a, 2008b) did was to adapt this notion to see what kinds of causes of and reactions to joy, happiness, pride, sadness and shame could be found in electronic corpora of historical varieties of English. She borrowed Kövecses's (1990) idea that language tells us both about causes of emotions and about people's physiological and behavioural reactions, transferring it to historical semantics. Doing so required acquiring textual data, though Kövecses (1990) did not specify where his information on American English came from. That it was possible to find relevant features of emotions in historical texts showed in a new way that people indeed regularly discuss such aspects of emotions. Kövecses (1990: 44) was not only able to come up with metaphorical and metonymic examples like *She pursued him relentlessly* to describe aspects of love and other emotions, but in later research, it was also possible to find expressions in corpora that tell us directly why people experienced a particular emotion and how it showed. A noteworthy aspect of this is that such information frequently occurs in texts which do not focus on the description of emotion; it can occur even when an emotion is mentioned in

passing. Fabiszak and Hebda (2007, 2010), for example, studied further historical data to understand the medieval English concepts of pride, shame and guilt. However, few people have used this idea in historical semantic studies, as far as I know. For example, although Germany is the birthplace of so-called *Begriffsgeschichte* ‘history of concepts’, semanticists studying German have not particularly focused on words for emotions (Prof. Hans-Jürgen Diller, personal communication, 28 December 2017).

The information gathered in this way, which I will soon discuss, can be understood within the framework of what Hirsch (1980a: 9) calls the *intersubjective aspect* of emotions. He emphasises that when we use words for emotions, we interpret other people’s behaviour and attribute intentions and attitudes to them. We tend to explain to ourselves why other people behave the way they do. Moreover, Hirsch (1980a: 11) points out that we not only evaluate whether an emotion is good or bad, but we also make what he calls *moral type judgements*. For example, we may consider fear a sign of cowardice or stupidity. His considerations will thus also be relevant to Section 3, in which we discuss expressions denoting fear.

## 2.1 Pride

In his description of the concept of pride, Kövecses (1990: 93–94) lists the following causes of pride: achievements; possessions; belonging to a prestigious group; good appearance; physical or mental capabilities, skills or properties; moral qualities; and good social status. Tissari (2006a) found that moral, or rather, religious causes of pride were the most common in her corpus data representing Late Middle and Early Modern English (1400–1700). To put it simply, pride was seen as a sin, caused by Adam and Eve’s fall in the Garden of Eden. This does not mean that no other causes of pride occur; they are simply infrequent. Corpus data representing the Late Modern English period (ca. 1700–1900) suggested that pride was still seen as a sin. However, there were now further options as well. Pride could rather be seen as weakness or folly, or even as something positive that is required for healthy self-esteem. It could then be seen either as caused by self-esteem or as being one of the causes of self-esteem. It is only in the Present-day English data that one could clearly see several causes listed by Kövecses (1990). The main causes of pride appeared to be one’s own or someone else’s achievements, belonging to a prestigious group (ethnic, local and national pride), and possessions.

Fabiszak and Hebda’s (2010) analysis of medieval English pride agrees with Tissari’s (2006a) description of Late Middle and Early Modern English in that pride was usually seen as sinful. However, there is something else that should be mentioned as well. Fabiszak and Hebda (2010) also found evidence that an idea cherished by Germanic warriors had lived on since pre-Christian times. It was the idea that pride helps one to fight one’s enemies and that it is good to feel military pride. In a similar way, Shakespeare used the word *pride* in a rather positive sense in his historical plays that portray wars and fighting (Tissari 2006a).

The intersubjective aspect of whether one is expected to openly express one’s feeling of pride and whether pride is considered good or bad thus depends heavily on not only

age and culture, but also the context of use. This applies not only to the English language. Limatius's (2017) and Niva's (2017: 59) research suggests that people nowadays express pride in their looks and possessions in fashion and life-style blogs. Thus, the genre itself can "cause" expressions of an emotion; compare medieval anger as discussed by Geeraerts, Gevaert, and Speelman (2012). Moreover, while exhortations to feel an emotion such as that of shame in example (1) are rare in the corpus data studied by Tissari (2006a, 2006b), the idea that pride is required for warfare suggests that people can evoke an emotion in order to feel it when it is needed.

If we only consider Present-day English, the analysis thus suggests that some of the causes of pride listed by Kövecses (1990) are more frequent than others. However, it was also possible to see change in the causes of pride in the course of several centuries. Similarly, different causes of pride may be frequent, not only in different languages but in different varieties of a language such as English: one could compare, for example, Australian English and Indian English. Such comparisons are common in corpus linguistics and metaphor studies (e.g., Mueller 2016).

It should perhaps be pointed out that pride on behalf of someone else seems to have been more acceptable than pride in one's self even in Late Middle and Early Modern English (Tissari 2006a). This fact relates to the discussion about different kinds of pride, which is relevant to both linguistic and psychological research on pride. Węzyk (2019) suggested that Polish people regard pride more positively than native speakers of English because Polish has a word for both authentic and hubristic pride. This distinction has also been discussed in research initiated by Tracy, who is famous for the study of pride in the field of psychology (Tracy and Robins 2004; Tracy, Shariff, and Cheng 2010). There is reason to assume that such a distinction is familiar to speakers of English, although they do not have separate words for the two kinds of pride. In fact, Kövecses's (1990) idea is that pride may or may not be justified, which is very close to or almost the same as it being or not being authentic.

It would also be possible to explore the kinds of physiological and behavioural reactions to pride mentioned in texts. This is what Tissari (2006b, 2008a, 2008b) did in her studies of shame, happiness and sadness.

## 2.2 Shame and guilt

Tissari's (2006b) corpus data on shame included descriptions of reactions to it; for example, the following:

- (2) I have sometimes beeene so abashed and *ashamed*, that I have not knowne what to say [...]  
(HC: Brinsley, *Ludus literarius or the grammar schoole*)
- (3) The day she received the letter she could hardly bear to look at him – she felt so *ashamed* [...]  
(The Freiburg-LOB Corpus of British English [hereafter: FLOB]: Wirdman, *Seize the Day*)

Example (2) shows a reaction that Kövecses (1990: 89) lists as a metonymy for pride: INTERFERENCE WITH NORMAL MENTAL FUNCTIONING. The corpus data on shame also attested two other physiological responses that Kövecses (1990: 89) listed for pride: REDNESS IN THE FACE and INCREASED HEART RATE. In contrast, while pride makes people boast about their achievements (Kövecses 1990: 90), the data on shame suggested that shame made it difficult for people to speak. Example (3) was categorised as a behavioural reaction, although it probably belonged to a fuzzy area between physiology and behaviour. Example (4) more clearly shows how Early Modern people were expected to behave when ashamed:

- (4) Lamentation aryseth of foure affections, eyther of a great feare or dreade, or of a great *shame*, or of some sorrowe, or els of some hatred.  
 (HC: Fisher, *Sermons*)

It has already been pointed out that Kövecses (1990: 93–94) listed causes of pride as discussed by speakers of American English. Tissari (2006b) noted that these could be reversed for shame. She found evidence of all the following causes of shame in her corpus data: non-achievements; poverty; not belonging to a prestigious group, or belonging to a non-prestigious group; bad appearances or looks; lack of physical or mental capabilities, skills, or properties; moral qualities; and dubious social status. Example (5) talks about poverty, and example (6) about bad looks:

- (5) [...] there is no Scandal like Rags, nor any Crime so *shameful* as Poverty.  
 (HC: Farquhar, *The beaux stratagem*)
- (6) Ye women when there is any black spot in your faces, or any moole in your kerchieues, or any myer vpon your clothes, be you not *ashamed*?  
 (HC: Fisher, *Sermons*)

There are certainly differences in how Early Modern English authors depicted shame as against how it is represented in Present-day English. However, the matter ought to be investigated more extensively to point these out. That the opportunity exists is in itself noteworthy. Tissari (2011) indeed suggested that one could analyse large linguistic corpora or databases to specify which parts or functions of the body people tend to associate with it, to chart the embodiment of shame. Diller (2014) noted that the medieval English conceptualisation of anger corresponded to the conceptualisation of *ssoong* on Ifaluk, an atoll in the Western Pacific, as studied in the 1970s. Diller explained it as follows: “So, what 1970s’ Ifaluk, ancient Athens and medieval Europe have in common is a sense that there is such a thing as status which has to be respected and whose violation must not go unsanctioned” (Diller 2014: 236). He suggested that historical semantics could act as a *bridge-builder* between disparate cultures. It could help people see that their ancestors thought in a way that is now common in a different place in the world.

Fabiszak and Hebda (2007) used the Old English part of the Helsinki Corpus to determine what caused shame and guilt in those days, applying Tissari’s (2006b) idea of reversing Kövecses’s (1990) causes of pride. They found that the picture was different for each

emotion, as could be expected. Some of the causes were only typical of shame. These included: non-achievement; not belonging to a prestigious group, or belonging to a non-prestigious group; bad appearance; and lack of physical or mental capacities. Guilt had to do with moral qualities. Fabiszak and Hebda (2007) were also able to distinguish more fine-grained causes under these categories. They identified three types of non-achievement: professional incompetence, neglect of duty, and falling short of one's expectations. Moreover, they suggested that the moral qualities that led to shame were different from those that led to guilt. The former, causes of shame, consisted of the following: fornication, immoral behaviour; envy, contempt, ill-wishing; vanity; slander; theft and other offences; undergoing punishment; and improper behaviour. The latter, causes of guilt, comprised fornication, murder, theft and disturbance of the peace. Interestingly, in comparison to pride as a strength on the battlefield, Fabiszak and Hebda (2007) pointed out that fear on the battlefield was a cause of shame. Their study showed that an analysis of the causes of an emotion, as presented by linguistic data, could help distinguish between closely related emotions. An apparent next step would be to compare how linguistic evidence on the differences between, for example, shame and guilt, relates to the ways in which these have been presented in philosophy, psychology and psychiatry, and even theology.

A current debate among philosophers appears to concern the question how and to what extent our experience of shame depends on other people. For example, Montes Sánchez (2015) argued against the idea that the experience of shame requires an internalised other. According to her, it suffices to know that we depend on other people; she refers to an awareness of intersubjectivity that children develop early. Westerlund (2019), on the other hand, wanted to explain how our experience of shame "essentially involves the coexistence of our urge for social affirmation and our self-perception" (Westerlund 2019: 74). Linguistic research on causes of shame could potentially contribute to this discussion if we could develop a rigorous method to show that they relate to intersubjectivity or urge for social confirmation in a way different from other emotions.

To return to the introduction and example (1), if we were to focus on expressions that cause shame, it would pay to turn to research on impoliteness because being treated impolitely can cause shame as well as make the person experiencing it attribute shame to the person who did not behave properly. A major researcher in this field is Culpeper. He has published both on impoliteness in general, and on its historical aspects (Culpeper and Kádár 2010; Culpeper, Haugh, and Kadar 2017). It has to be noted, however, that there is much more to impoliteness than shame. While the Germanic tradition of *flyting*, hurling insults at one another in a verbal duel, can be seen in terms of shaming, for example, many other emotions are also involved in impolite linguistic behaviour. People use impolite expressions to express such things as aggression, disdain and disgust. It is also possible to be impolite for the sake of having fun, with no intention to hurt another person (Jucker and Kopaczyk 2017).

## 2.3 Happiness and joy

The term *metonymy* was mentioned in the introduction as playing a key role in emotion as a driver of linguistic change. It also plays an important role in the emergence of the words

*happy* and *happiness*, which originate in a Norse noun that referred to what happened to a person, *hap*. In other words, their origins are in a situation, not an emotion. In the course of time, people derived the adjective *happy* from *hap* in order to characterise fortunate events (Diller 2014). This was, in part, a metonymic development: a feature of *hap* became the source of the meaning of *happy* (Geeraerts 1997), from which the noun *happiness* was later derived (OED, s. v. *happiness*, noun). However, since not all events are fortunate, it was also a case of specialisation of meaning. The adjective *happy* was specialised to mean something positive (Ullmann 1962). To sum up, causes of happiness gave birth to the words *happy* and *happiness*.

Such a metonymic development is not at all unusual; indeed, many words for emotions meant something else first, which then began to be associated with an emotion. I will return to this in the section on sadness, but it is helpful to point out here that the etymologies of words for emotions are a rich source of information about emotions.

Diller's (2014) study of *happy* in Middle English prose and verse and in Modern English literature touched upon causes of happiness in four main ways, of which fortunate events form one category. He noticed that 18th- and 19th-century authors often used the adjective *happy* in combination with such nouns as *day* or *event*. The emphasis was not on what people felt but on those occasions being fortunate or presaging fortune. A *happy day* could be the day when a woman got married, having thus secured her livelihood and maintenance. It can of course be assumed that a feeling of safety would follow, conducive to happiness.

As regards Middle English, Diller (2014) identified what he called “bringers” of happiness. Similarly, some of these were days and events; for example, an almanac could suggest to its reader which day of the week would be particularly favourable for something. However, some of the bringers were in fact people. Prime examples of such people were Mary and Jesus, her son. This shows that in medieval times, happiness had a strong religious component. Indeed, Heikkinen and Tissari (2002) were not able to find anything other than religious happiness in their Old English data.

Fabiszak's (2002) analysis of Old English joy was more successful in culling such bringers. In addition to going to heaven or having religious experiences on earth, she lists the following causes of joy, among others: return to health, finding a wife, birth of a son, returning home, hearing good news, receiving gifts, feasting including drinking, talking with other people, and music. Her list for Middle English also includes human relationships as causes of joy, but is nevertheless different. She lists the following Middle English causes of joy, among others: martyrdom, power, keeping and riding horses, admiring the beauty of nature, lying, and spilling blood. Because her data was limited, these findings did not show that speakers of Old English as opposed to speakers of Middle English did not, for example, find joy in riding horses. Rather, they suggested that although joy is considered a good emotion, people could feel it after doing something bad.

Diller (2014) also considered whether happiness was earthly or heavenly, objective or subjective. The former related to the distinction between religious happiness and happiness on earth, which has already been discussed. The latter concerned the question of whether the adjective *happy* referred to someone's emotion, that is, their subjective experience. It has also been touched upon above. Diller (2014) explained that Present-day speak-

ers of English might be too keen to read an emotion into contexts where medieval texts attest *happy*. While fortunate events may have led to feelings of happiness in the kinds of context where medieval authors used *happy*, their emphasis was on circumstances rather than inner experiences, even if *happy* modified words referring to people. This did not contradict Fabiszak's (2002) findings on joy because she dealt with a set of words for joy, including such words as *blide*, *glaednes*, *liss*, *mirhð* and *wynsumnes*.

This brings us to the differences between, for example, the words *happiness* and *joy*. At this point, one might consider Ekman's (2003) complaint that the English language does not have specific enough words for us to distinguish between basic emotions when it comes to what he calls enjoyable emotions. Many linguists and anthropologists oppose the entire idea of basic emotions based on the differences between cultures that they have studied (Wierzbicka 2013). However, a middle way would be for anthropologists, linguists and psychologists to work together to compare how words for enjoyable emotions behave in fact and what could be basic about them within and between languages. Russell's (1991) article on the categorisation of emotions in various cultures and languages is an excellent example of how one can combine and compare research by people representing various fields.

A comparison of *happiness* and *joy* in data from A Representative Corpus of Historical English Registers, that is, the ARCHER corpus, covering the time span 1650–1990, suggested that these two emotions did not primarily differ in terms of their causes but in terms of their intensity. It was thus not enough to look at what caused these emotions; further analysis was required to distinguish between them. In this case, their different degrees of intensity were conveyed by the conceptual metaphors used of them. For example, religious texts discussed happiness as something that could be pursued and that could surround a person, while joy appeared to be a more dynamic experience, like water bursting forth in a fountain, or an animal let loose (Tissari 2008b). By the way, this is a difference which Kövecses (2008) did not make when he listed many conceptual metaphors of happiness and joy.

The main differences in causes actually occurred not between happiness and joy but between text types. While the happiness and joy discussed in sermons and homilies were, above all, caused by experiences of God, early scientific texts would mention happiness and joy caused by the pursuit of science, news reports portrayed how political and military events made people celebrate, and so on (Tissari 2008b).

This effect of text types on how emotions will appear has already been mentioned a couple of times. Text type or, more broadly, context, affects what emotions are present (e.g., pride in fashion blogs), which words are used (e.g., *wrath* versus *anger*), and what causes of an emotion and reactions to it are discussed. A good example of the combination of text type, cause and reaction is the news reports in the ARCHER, which often discussed political celebrations leading to actions that did not occur in other text types, such as shooting the cannon (Tissari 2008b). To add a strand to this, Fabiszak's (2002) description of medieval people's reactions to joy in fact suggested that specific causes of joy led to specific behavioural reactions. Thus, religious joy was expressed through singing, entertainment made people laugh, the joy of romantic love made them do many things such as faint or kiss the other person, and so on. A reader would be likely to find a different set of causes of joy in a religious text than in a secular text.

## 2.4 Sadness

Words for sadness did not differ from those for the emotions discussed above. It was possible to identify typical causes of and reactions to sadness. In the ARCHER corpus (1650–1990) that has been mentioned previously, the most frequent causes of sadness were either illness and death or moral and religious (29 % and 25 % of reported causes, respectively), as in (7) and (8) (Tissari 2008a: 293):

- (7) [He] was blown up and his body *sadly* mutilated. (1812)
- (8) *Sad* if our zeal to our bibles & flames of persecution goe out together. (1661)

Physiological reactions to sadness mainly appeared in people's looks, be it in their looks in general or in their faces and eyes in particular. Sad eyes were naturally associated with tears. Examples included (Tissari 2008a: 293):

- (9) a *sad-eyed* young woman in widow's weeds (1956)
- (10) her face grew grave and *sad* (1872)
- (11) the youths grew apparently *sad* (1897)

As regards sad people's behaviour, they mostly tended to express their emotion by talking about it (39 % of reported behaviour). However, they were also described as thinking about the matter (20 %; Tissari 2008a: 294). This agreed with the way people working with a methodological framework called the Natural Semantic Metalanguage (NSM) represent emotions: their explications for emotion words always include a thought component. Thus, Wierzbicka's (1992) explication of the English adjective *sad* contained the lines: "sometimes a person thinks something like this: / something bad happened / I would want: this didn't happen" (Wierzbicka 1992: 558). However, Tissari's (2008a, 2008b) work on happiness and sadness suggested that some emotions make people ponder more than others. Thinking seemed to be a typical reaction to sadness but not to happiness.

Wierzbicka's (1992) explication of the adjective *sad* also contains the following thoughts by a sad person: "If I could I would want to do something because of this / I can't do anything" (Wierzbicka 1992: 558). In other words, she suggests that an integral part of feeling sad consists of knowing that one cannot change the situation. The ARCHER data gave a slightly different picture. Some of the sad people resigned, while some attempted to do something about the situation (16 % and 17 % of reported behaviour, respectively; Tissari 2008a: 294).

What seemed to be particularly characteristic of sadness in corpus data was that it was discussed metonymically. The interesting question is how far this was caused by the nature of sadness as an emotion. One could compare sadness with happiness, for example.

Let us take a look at the etymology of the adjective *sad*. It parallels that of *happy* in that the emotional meaning of *sad* is the result of a metonymic process. Before *sad* began to refer to how people felt, it meant 'satisfied', 'weary', 'tired' and 'serious', among other things (OED, s. v. *sad* adj.). The leap from weary and serious to downcast and sorrowful is

not particularly great. That the feeling of sadness can be accessed through the concepts of tiredness and thoughtfulness agrees with the findings presented above in that sad people tended to be thoughtful and frequently resigned (Tissari 2008a).

Both *happy* and *sad* precede nouns: there are *happy events* as well as *sad circumstances* (Diller 2014; Tissari 2008a: 296). However, even more generally, it seemed typical of the data on sadness that it was attributed to something other than the people who felt it and that the question of who experienced it was bypassed. Even examples (9)–(11) illustrate this to some degree, because although it is clear who is sad, it is not the people themselves who are characterised as sad, but their parts or attributes. This propensity of the adjective *sad* and the adverb *sadly* is more pronounced in expressions like the following (Tissari 2008a: 296, 300):

- (12) Bless me, ‘tis *sad*!  
(ARCHER: 1686)
- (13) *Sadly*, the economy is now declining fast [...]  
(FLOB)

This finding could be discussed in the broader framework of evaluation. To give an example, Vainik and Brzozowska (2019) compared positively valued adjectives and adverbs in Polish and Estonian casual conversations and realised that Estonians tended to externalise their affect and attach qualities to behaviours and entities in order to make their evaluations appear more objective. If the Estonians did this when expressing positive evaluation, the metonymies in the corpus data on sadness may not have resulted from sadness being a negative emotion. Instead, one might need to consider culturally conditioned communication styles, as Vainik and Brzozowska (2019) did. Their Polish informants behaved in a different way and did not hesitate to express subjective opinions. This even relates to medieval authors using the adjective *happy* rather as an evaluation of circumstances than as a description of a person’s subjective state (Diller 2014).

### 3 Drivers of linguistic change

Based on the previous section, we can claim that metonymy has driven linguistic change as regards the meaning of the adjectives *happy* and *sad*. Their original meanings have given people access to emotions that have then begun to be labelled with those words. The section on sadness and shame below will take this discussion further and show how metonymy has imbued the adjective *sad* and the noun *shame* with new meanings that relate to the social context rather than directly referring to people’s emotions. Metonymy also plays a role in the meaning of the expressions *I fear* and *I’m afraid* that will be discussed to show how expressions for emotions can end up in the realm of polite language. The similar case of *I am happy to do it* has already been mentioned but will not be discussed further. Instead, the section on happiness and joy will explain how the meaning of an emotion word can be bleached to the extent that people increasingly start to replace one expression with another.

### 3.1 Fear

The study of the English expressions *I fear* and *I'm afraid* originated in an idea expressed by Fauconnier and Turner (2000) in their article on a mental phenomenon that they called *compression*: “[I]n perception, at the level of consciousness, it is usually only the integration of cause and effect that we can apprehend” (Fauconnier and Turner 2000: 246). In that article, they illustrate how the human mind integrates long chains of reasoning into one event. This inspired Tissari (2007) to consider the reasoning behind the use of *I fear* and *I'm afraid*.

Various chains of reasoning potentially seemed to be behind using those expressions. In the simplest of cases, the expressions *I fear* and *I'm afraid* would of course report that a person was feeling fearful of something. However, in historical data they also often seemed to convey further chains of reasoning. People might use them to suggest that if they felt fear, something dangerous was going to happen. In such cases, they interpreted the fear as some kind of omen or as instinctive knowledge. On the other hand, there were also polite uses of these phrases to suggest that what was going to be reported could be experienced as bad. On such occasions, either the bringers of the bad news or their recipients might lose their face. The polite phrase was a means for the bringers of the news to avoid apologising, which would involve losing their face. It nevertheless also protected the recipients' positive face, which is threatened by the negative content of the message (Brown and Levinson [1978] 1990; Tissari 2007).

These uses of *I fear* and *I'm afraid* are still around and familiar to us. Such expressions occur not only in the English language. For example, the Swedish expression *jag är rädd att* ‘I am afraid that’ functions exactly in the same way (Hirsch 1980a). Moreover, even other expressions with the English word *fear* are used to convey predictions. In news discourse, it can be, for example, *there are fears* or *there have been fears* (Stenvall 2014: 475). In the same vein, financial news reports use such other words as *alarm*, *panic*, *scary* and *terrified* to describe a crisis, to the extent that such expressions can cause fear in the readers (Ho 2016: 303).

Tissari (2007) wondered whether the length of the potential chains of reasoning had grown in the course of time. She thus considered the possibility that the range of uses had developed in steps rather than being immediately available at any point. Going back as far as the 15th century provided no such evidence. Even a comparison with the *Oxford English Dictionary* (s. v. *fear*, verb) did not suggest otherwise. The way we understand the expressions *I fear* and *I'm afraid* can be considered in terms of metonymy, one interpretation giving access to another, but the compression of meaning may always have been instant rather than a gradual historical development. This would in fact agree with Fauconnier and Turner's (2000) understanding of how compression works, on the spot.

Be that as it may, compression and metonymy probably play a key role in moving expressions of emotion into the realm of politeness. When people use *I fear* type expressions to prepare the ground for negative news, they do not necessarily feel any actual fear. In any case, the fear is more likely to concern the recipient's reaction than the reported matter itself. A similar concern for the recipient, or wish to create a rapport with them, can be hypothesised to be behind other similar expressions as well. For example, in Swedish,

a person can begin a positive announcement with the words *jag har glädjen att meddela att* ('I have the joy to announce that', that is, 'I am happy to tell you that'; Hirsch 1980b: 14). Compression here concerns the hearers' understanding that it is not only the speaker who is happy, but that what is going to be announced is supposed to make them happy as well. This in turn signals that the speaker wants to make everyone present feel good, having good intentions towards them.

Intriguingly, if the expressions *I fear* and *I'm afraid* trigger fearful anticipation in their recipients, they in fact cause emotions in them. The same applies to positive contexts such as *I am happy to tell you*. The problem is that a linguist cannot measure whether and what emotions occur. In contrast, the phenomena of politeness and rapport have been studied extensively. Fairness, empathy and respectfulness feature among the behavioural expectations associated with rapport (Spencer-Oatey 2005). It has also been suggested that research on linguistic politeness should consider emotions as "regulators of relationship between organism and environment" (Langlotz and Locher 2017: 290).

It is thus reasonable to expect that speakers and writers regulate their relationship with their recipients in terms of emotions and that they are usually expected to show them empathy and respect. The expressions discussed in this section make sense in exactly such a context. There is also evidence that such expressions can become formulaic, which indicates that they are used routinely. To give an example, *I'm afraid* type phrases can occur in the contracted forms *afraid not* and *fraid so*, as in (14) (Tissari 2007: 71–72).

- (14) "Have we run out of muesli, Mum?" Helen wrinkled her nose. "Fraid so," her mother answered [.]  
 (The British National Corpus: Geras, *The Green behind the Glass*)

Many formulaic and rhetorical expressions with emotion words occur in historical English data. A typical context is letter-writing, where people were expected to be polite (Schneider 2000; Tissari 2007; cf. Van der Wal and Rutten 2013). Also in Present-day English, writers use *love* and *respectfully* to finish their letters and e-mails.

### 3.2 Sadness and shame

It has already been pointed out that metonymy was typical of sentences with words for sadness. In other words, sadness tended not to be attributed directly to particular people. It seems likely that this has led to how the adverb *sadly* is used in Present-day English to precede negative information, as in (15) (Tissari 2008a: 300):

- (15) *Sadly*, the economy is now declining fast [.]  
 (FLOB)

The OED suggests that this usage appeared or became frequent in the 1930s (s. v. *sadly* adv.). Note that it is not possible to do the same with any English word for emotion. For example, one could not use *angrily* instead of *sadly* to suggest that the decline of the economy upsets the writer.

The case of *happily* is ambiguous. Consider the following:

- (16) *Happily*, the Squire came out too, and gave a loud greeting to her father [.]  
 (ARCHER, 1861)

This is different from *sadly* in (15), because the reader would not assume the economy to be sad, while a likely reading of (16) is that the Squire was happy and behaved in a happy manner. It is conceivable that *happily* could be used to indicate that the rest of the sentence tells us something that can be considered fortunate, but we cannot completely parallel *sadly* and *happily* as sentence adverbials. However, Roderick McConchie, who checked my language, commented that he would read *happily* here as ‘fortunately’. This suggests that to fully analyse the expressions that I am discussing here, it would be necessary to study how native speakers of English understand them.

This means that *sadly* has developed a particular use that parallels that of such expressions as *fortunately* or *regrettably*. These kinds of adverbs have been studied in terms of syntax, but we could also consider whether there is a reason why such words as *angrily*, *happily* and *sadly* function in different ways. Perhaps we could even predict whether *angrily* will assume the kind of sentence initial function that is now available for *sadly*. In that case, the currently popular usage of *sadly* could be seen as a driver of linguistic change. All this is something that statements such as the following description of *pragmatic adverbs* do not cover: “Adverbs in this class are predicates with two arguments: one is the speaker, the other one is the proposition (the contents of the sentence, its intension). The speaker characterizes his attitude towards what he is saying” (Bellert 1977: 349).

A native English speaker’s take on the finding that metonymy characterises sadness was to mention the adjective *sad*, which at that point was being used by young people. They used it to characterise pitiful people (Tissari 2008a: 306). The phenomenon of conceptual compression has already been discussed above (Fauconnier and Turner 2000). If *sad* is used in this way to characterise someone, plenty of reasoning is potentially compressed in it. In short, it is not necessary for either the user of the adjective or the person described to feel sad. Instead, it probably means something like “someone could feel sad about that person failing to impress me”.

Again, it can be noted that it is not possible to do the same with any emotion adjective one might choose. For example, people who impress us are not characterised as *happy* or *proud* because someone could feel happy or proud on their behalf. Why the English language works in this way and the direction in which it may change is an intriguing question. It may be, for example, that the fact that sadness tends to be considered a negative emotion plays a role in this.

The noun *shame* has also developed a use that expresses the speaker’s “attitude towards what he [sic] is saying” (Bellert 1977: 349). This is illustrated by example (17) (Tissari 2006b: 150):

- (17) It is a *shame* that there is no natural light but because of its size it doesn’t feel claustrophobic. Its [sic] very rock and roll [.]  
 (FLOB: Studio Sound)

Again, conceptual compression and metonymy are at play. It is unlikely that anyone feels shame in this situation; the link to shame is relatively thin. It hardly seems likely that the architect who designed the room or the people who built it, for example, should feel shame, but that is not the point, which is that the person feels some regret about the choice of room, or simply wants to express their preference for natural light. On such an occasion, the word *shame* could be replaced by the word *pity* which, likewise, expresses a feeling but would not necessarily be the feeling that the speaker felt. Again, it would be interesting to see whether there are other such nouns in English and if there are similar cases in other languages. One could consider what that tells us about the development of the uses of emotion words.

Both of the cases discussed here, that of the adverb *sadly* and the expression *it is a shame*, are examples of expressions with emotion words starting to be used for pragmatic purposes. Raumolin-Brunberg (1996) calls this phenomenon *pragmatisation*. It goes together with ellipsis and contraction as in *what a shame*. The same in fact applies to the phrases *I fear* and *I'm afraid* that were discussed above; remember *fraid so* (Tissari 2007). Such expressions are no longer primarily used to express an emotion; rather, they are used to evaluate a situation. Such developments agree with Traugott's (1989) description of subjectification. It is the tendency of meanings to first apply to the external situation (someone shows fear, sadness or shame) and then shift their focus towards an evaluation or cognitive viewpoint (this situation may be associated with negative emotions).

### 3.3 Happiness and joy

The case of happiness and joy is different from the changes above. Stefanowitsch (2006: 82) points out that the word *joy* occurs about one-and-a-half times more often than the word *happiness* in British English data. However, this appears not to have always been the case. In Tissari's (2008b) diachronic corpus data on *happiness* and *joy*, occurrences of words derived from *hap\**, in fact, outnumber those of *joy* words. Her tentative suggestion is that happiness is now considered as a default state, so that people who feel more than ordinary contentment with their lives, or at least want to claim it, need a stronger word to express it. This would agree with the metaphors of *joy* characterising a more intense experience than those of *happiness*.

Assuming that happiness has become the default and that joy refers to a stronger positive emotion than is the norm, agrees furthermore with Ullmann's (1962) idea of semantic *weakening*. If we frequently use a particular word to emphasise something, it loses its semantic potential and, at some point, we will need a new word to convey the same value. This phenomenon is familiar to many people as regards to the use of such emphatic adjectives as *great* or *excellent*, for example. If bosses always tell their employees that they did a great job, the adjective *great* no longer distinguishes between different levels of performance.

In theory, a similar change could happen with respect to another word pair expressing less and more of the same kind of emotion, in any language. Tuovila (2005) suggested that the Finnish word *ilo* is cognitively more salient than the word *omni*. The relationship be-

tween these two words is very similar to that of *joy* and *happiness*, although it must be noted that the English adjective *happy* can be translated as both *iloinen* and *onnellinen* (Hurme, Pesonen, and Syväoja 2003).

It is also relevant to note that Tissari's (2006a) data on pride suggests a further trend towards words that may not have primarily referred to emotion to begin with, acquiring more and more characteristics of an emotion. In the particular case of pride, the emphasis of the early discussions was on such religious issues as sin and the fall, and the question of how pride felt appeared to be secondary. It was above all in Present-day English data that people frequently discussed pride in terms of metaphors that are used of emotions, such as PRIDE IS A FLUID IN A CONTAINER, where THE CONTAINER refers to the body (Lakoff and Kövecses 1987). The case of happiness parallels that of pride in that the adjective *happy* was derived from a word that did not refer to an emotion (Diller 2014). Thus, the focus was first on something other than what people felt. It must nevertheless be remembered that the emotional experience of joy could already be discussed using other words in Old and Middle English (Fabiszak 2002).

## 4 Discussion

To generalise, the above discussion of causes and drivers in linguistic data suggests two directions of further discussion and research. On the one hand, various things can be said about words and expressions of emotions in the context of linguistic change. In brief, they are sometimes subject to a linguistic phenomenon that drives them to change, such as pragmatisation, and have sometimes driven or might drive a specific change in people's language use. On the other hand, much can also be said about the broader context in which the emotions are named. This context may be, for example, the text type or genre. Often, the context appears to relate to politeness or even to impoliteness, which in turn tends to relate to how people in a certain place and time were or are expected to behave. However, linguistic data on words and expressions for emotions also give us valuable information about the psychological characteristics of emotions. At times, this information may even be derived from etymologies of words.

To continue with characteristics of emotions, simple searches for words for emotions such as *proud*, *sad* or *shame* inform us about what caused these emotions and how people reacted to them. To be more precise, textual data show us how situations were interpreted or what situations were imagined by the writers. They were nevertheless members of communities of practice whose attitudes and thoughts their texts are likely to reflect (Wenger 1998).

In terms of politeness, this means, for example, that it makes perfect sense that happy people would shoot the cannon in historical data (Tissari 2008b). In his discussion of 18th-century compliment culture, Jucker (2012) specifically discussed customs related to such occasions as state visits and the coronation of a king. The linguistic aspects of politeness can thus be discussed in a broader cultural context. Jucker's (2012) chapter underlined that this context is subject to change. He distinguished between five different types of politeness that had characterised the history of the English language since Old English times. Accord-

ing to him, the kind of politeness that characterises Present-day English could be called *non-imposition politeness*. In Wierzbicka's (2006) words, speakers of Present-day English do not want to "put [any] pressure on the addressee" (Wierzbicka 2006: 39). She even termed this type of utterance (*you might like, could you do X*) *whimperatives* (Wierzbicka 2006: 45).

The term *whimperatives* conveyed an evaluation of the behaviour described. It is interesting to note that neither Jucker (2012) nor Wierzbicka (2006) who used the word are native speakers of English. What appears reasonable to a native speaker of one language thus does not necessarily appear so to a speaker of another language. Here we come back to the previously mentioned intersubjective aspect of talking about emotions (Hirsch 1980a; Montes Sanchez 2015). This applies both within and across languages and cultures. Tracy and Robins (2004) wrote: "Put simply, society tells us what kind of person we should be: we internalize these beliefs in the form of actual and ideal self-representations" (Tracy and Robins 2004: 107). The study of language can contribute significantly to understanding such beliefs, although not always directly.

Russell's (1991) survey of research on the categorisation of emotions across the globe showed that people classify emotions in different ways. In some languages, there is no word that would roughly correspond to the English *emotion*. Therefore, the kind of phenomena discussed in this chapter cannot automatically be expected to be relevant to all languages. However, Russell (1991) emphasised that there is a difference between emotions as phenomena and people's words for them. Furthermore, he suggested that we could study emotion words in terms of the scripts that accompany them. Speakers of a language tend to be aware of such matters as what usually causes a particular emotion and in what kind of situation. This fully agreed with Kövecses's (1990) idea of constructing a prototype for emotion for American English. Such scripts include what Hirsch (1980a) called *moral type judgments*. For example, Russell's (1991: 443) anger script suggested that an innocent person had been offended.

It would be worthwhile to pursue further research on linguistic data to uncover current and previous scripts for emotions in different languages. Most of the cognitive linguistic research on emotions has been based on relatively small data so far; it is time to turn to big data. This would agree with the trend of moving from qualitative to quantitative research observed by Janda (2013). Intellectual historians have suggested that we can study the development of concepts in big data best if we begin with words that are not too general. Thus, instead of, for example, *freedom*, they would prefer to look at a word like *esprit de corps*, which in fact has to do with feeling, the feeling of belonging to a group (De Miranda and Chabal 2021). Cognitive linguists should also further investigate how intersubjectivity works when people name and discuss emotions. Intersubjectivity itself has been the subject of plenty of interest, but the central book on this topic, *Shared Mind*, for example, did not dedicate a chapter to emotions (Zlatev 2008).

Among other things, such research could work as a bridge-builder between different cultures in the way Diller (2014) suggested. The idea is similar to that represented by NSM researchers who have warned against Anglo-centrism in research on emotions and who use scripts to explicate emotions (Wierzbicka 1992: 2013). It is nevertheless not exactly the same. Ogarkova, Soriano, and Gladkova's (2016) research on anger in English, Spanish and Russian suggested that it would be worthwhile to combine methods in psycholinguistics.

Similarly, it would be worthwhile to combine cognitive linguistic research on emotions with NSM research. Díaz Vera (2013) combined historical cognitive linguistic research on medieval fear with a pictorial analysis, suggesting that “the same [...] conceptual models are shared by verbal and visual modalities” (Díaz Vera 2013: 269).

We should even compare different cultural traditions of linguistics with each other. Onodera and Suzuki (2007) pointed out that Japanese linguists had paid plenty of attention to how language reflects emotions. This was before Japan was influenced by Western thought.

Moreover, it has already been mentioned that there should be more collaboration between various fields of research such as linguistics, anthropology and psychology. Russell (1991) reminded us of the fact that “emotion concepts are embedded in a system of beliefs about psychological and social processes” (Russell 1991: 445). The scope of relevant studies is potentially huge. From a historical linguist’s point of view, it seems relevant to note here that the experts on emotions have also varied in the course of time. Frevert et al. (2014) pointed out that there has been a shift in the European understanding of emotions. While it used to be governed by writings of philosophers and theologians, people now tend to trust psychologists and neuroscientists.

Linguistic mechanisms such as compression, metonymy and pragmatisation may seem to be in a league of their own when discussing emotions, but they should not be seen as peripheral or removed from real life. On the contrary, expressions ensuing from the workings of these linguistic mechanisms are very common in everyday English, for example. There are also further everyday phenomena that can be uncovered by semantic analyses. Henn-Memmesheimer (2012) noticed that many emotion words currently used in German newspapers can be traced back to what used to be scholarly and scientific words, among them *Nervosität* and *Panik*. They have been adapted to everyday discourse and have lost their originally precise meanings.

Finally, this chapter has touched upon the topic of words and expressions for emotions causing people to feel something. This is very likely and has been discussed, for example, as regards news discourse containing expressions of fear (Ho 2016). Stenvall (2014) noted that it is difficult for anyone to discuss emotions objectively, so that such discussions in news reports risk becoming subjective. However, how people react to language about emotions requires methods that are not at an ordinary linguist’s disposal, which is why that question has not been raised.

## 5 Conclusion

This chapter has shown that relatively simple analyses of emotion words in textual corpora give us valuable information about those emotions. Above all, it has shown that such analyses can yield information that helps us construct scripts for emotions. However, the chapter has also illustrated how mechanisms of linguistic change, in particular conceptual compression, metonymy and pragmatisation, contribute to how people use words for emotions in everyday English discourse. The suggestion is that similar phenomena could be studied further. They should be studied not only in data from various periods and languages, but

also in big data that can give us a better overall coverage. Furthermore, it has been noted that there are many possibilities for combining various linguistic approaches with each other. Evidence suggests, in particular, that the interface between expressions for emotions and linguistic politeness deserves more study. Lastly, people from different disciplines should increasingly collaborate to understand how emotions are discussed in speech and writing and what this tells us about how emotions work.

## Acknowledgments

I thank the editors of the book for a wonderful learning experience. I thank them and the anonymous reviewers of my chapter for many good comments, suggestions and new references. They played a decisive role in helping me improve the original version of my chapter. I also thank Roderick McConchie who read and corrected my English. I take responsibility for all remaining errors.

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Dietrich Busse

## 15 Historical semantic and linguistic history of thinking

- 1 Modern historical semantics: from conceptual history via discourse analysis to linguistic epistemology
- 2 Is there a semantics of emotions? Are emotions part of “thinking”?
- 3 A general approach to cognitive processes: schema and frame theories
- 4 Frame-based approaches to historical semantics and linguistic epistemology of emotions: risks and advantages
- 5 References

**Abstract:** Modern “linguistics proper” has not paid much attention (if at all) to the epistemic background of language (speaking, discourse, understanding). Whereas in 19th-century semantics (which was first of all historical semantics) the history of human knowledge and thinking was at least a background topic of linguistic research, “modern” (post-Saussure) linguistics has for many decades modelled itself as a non-diachronic and non-epistemic kind of discipline. It has been neighbour disciplines such as history, philosophy, and cultural sciences that first paid attention to the history of knowledge and thinking. Conceptual history and (post-Foucault) discourse analysis as modern (or post-modern) versions of historical semantics were first invented by historians and started to influence linguistic (diachronic) semantics in the late 1980s. This chapter will present and discuss approaches and methods of a linguistically founded history of knowledge as part of a cross-disciplinary historical semantics. It will be based on a linguistic approach that aims at a fully epistemological (i.e., “knowledge-analytical”) concept of language and language understanding. With the linguistic perspective on the close relationship between language and knowledge thus widened, language-related research may contribute to the interdisciplinary endeavour of a modern history of human knowledge and thinking.

### 1 Modern historical semantics: from conceptual history via discourse analysis to linguistic epistemology

Some preliminary remarks may be useful for a better understanding of the present chapter. The author has been asked to contribute a chapter with the headline “Historical semantic and linguistic history of thinking”. Since he is – as at least some of the editors know – not specialised in the field of linguistics of emotion, but is known for his work on modern historical semantics, conceptual history, historical semantics, discourse analysis and the approach of an “epistemological semantics”, he interprets the request for a contribution to the present handbook as a request for a contribution from his point of view on historical

semantics and history of thinking. So, the readers of the following can expect reflections about what a historical semantics as he sees it may contribute to a future historical semantics of the language of emotion – not more and not less.

Modern historical semantics developed from 19th-century-based – in some sense “narrow-minded” – *history of words* and *word meanings* (including *etymology*) to more knowledge-related approaches. (See, for more details for the content of this section, Busse [1987: 50–59].) Thus, a knowledge-oriented *history of concepts*, as, e.g., developed by continental European researchers such as the German historian Reinhart Koselleck (1972, 1978a), has been integrated with a (post-Foucauldian) *discourse analysis* to approaches that try to take into account the complete range of knowledge involved in the use of language, text and discourse. These approaches integrate cultural sciences, linguistics and cognitive sciences to a unified approach for the analysis, explanation and description of the relations of language, thinking, cognitive processes and cultural as well as societal predispositions of human knowledge. Whereas traditional history of thinking was – beginning in the 19th century – not necessarily linked with arguments or observations concerning the role of language or linguistic signs, the so-called *linguistic turn* in the last third of the 20th century generated language-based (or language-related) approaches in the field of the history of thinking, too. The most important and most influential of those approaches are the conceptual history mainly influenced by continental scholars, as, e.g., Reinhart Koselleck (1972, 1978a), and the discourse analysis based on ideas from Foucault (1969, 1971). Both approaches led to the more recent idea of a more general “linguistic epistemology” (in the sense of a linguistically based analysis of all kinds of human knowledge).

Human knowledge, especially abstract knowledge, is generally understood to be conceptual in nature and seen as structured by concepts. This is a truism as long as one accepts that the term “concept” or its derivation “conceptual” refer not only (or at least not primarily) to words, that is linguistic signs, but principally to the mental content or knowledge components behind them. Even though serious philosophical and linguistic doubts are often raised about the concept of “concept”, and have in particular been raised about many current theoretical and philosophical conceptions connected with this term, yet this term and the idea of an analysis of knowledge in the form of a conceptual analysis still enjoy a certain popularity and currency. This is true especially in very recent tendencies, in the cognitively based research on cognition, knowledge, and significance, concentrating on the terms “term” or “concept” as the core of the theoretical models.

The history of concepts itself (as an academic sub-discipline) is three centuries old. Beginning with French encyclopaedism in the 18th century, several “monumental” projects of concept-historical encyclopaedias were founded in the last decades of the 19th century for different domains of knowledge (e.g., religion, law), some of which are not yet finished, and in the second half of the 20th century (philosophy, history). While the earlier approaches did not distinguish well between “history of concepts”, “history of words”, “history of ideas”, and “history of things”, some of the more recent approaches have postulated that these differences should be taken into account more strictly. As one of the most influential founders of a modern conceptual history, the German historian Reinhart Koselleck (1972: xix) postulated that a history of (historical, social) concepts should be more than, and different from, a pure history of words, or history of ideas, or history of “facts”. Whereas

the recent approaches to a history of *philosophical* concepts, such as the 12-volume lexicon *Historisches Wörterbuch der Philosophie* (1971–2004, founded by Joachim Ritter and edited by Ritter, Karlfried Gründer and Gottfried Gabriel), remained in the area of a traditional history of terms (its entries mostly oscillating between a pure history of word-meanings and a traditional history of ideas), Koselleck postulated for a true historical history of concepts to be neither a history of words, nor a history of terms, nor a history of ideas, nor a history of historical facts (*Sachgeschichte*), but another, a new form of conceptual history. This view parallels to an embarrassing extent the view postulated by Michel Foucault for his historical *genealogy* of the *episteme* (or, as others used his approach, a history of discourses), since Foucault postulated that the epistemological genealogy should be neither a history of concepts, nor one of ideas, of topics, of theories, of sciences, and, most important for our concern: not a history of linguistic signs or meanings. (See Koselleck's [1972] famous introduction to the encyclopaedic lexicon *Geschichtliche Grundbegriffe*, co-founded and co-edited by Otto Brunner, Werner Conze and Reinhard Koselleck. However, Koselleck was, in his latest writings, reluctant even to see his history of concepts as part of a historical semantics; but this point cannot be discussed here at length, since it is based on a, linguistically seen, traditional but erroneous concept of language, words, and meanings, as holds for Foucault's view on semantics and linguistic signs, too.)

According to Koselleck's approach, only concepts are apt to "bundle the multiplicity [or: diversity] of historical experiences" and "pull together theoretical and practical factual references" (i.e., from meaningful contexts) and make them perceptible as such (Koselleck 1972: xxiii). Historical concepts are – in a famous and often-cited formulation by Koselleck – "indicators of historical movements", but equally effectuating "factors of the historical process" itself (since they express new experiences and conceptions that in turn can influence further historical events) (Koselleck 1972: xiv, emphasis by DB). Conceptual history *modo* Koselleck is based on two hypotheses that should be well distinguished: First, that history is something that is reflected in concepts, as a medium of coming to terms with human experience; second, that concepts themselves have a history that can be traced through the times. The discussion of this approach to historical semantics led to the insight that historical semantics cannot be restricted to a history of single words, since the functions of historical concepts described by Koselleck always are the achievement of a complex of words, of phrases, of parts of texts *in context*. Since contexts always occur as contexts of knowledge, historical semantics (in the sense that Koselleck tried to establish) shifts from a pure (and poor) history of word meanings to a historical epistemology, i.e., to a study of the function, the occurrence, and the effects of single epistemic items in certain epistemological (or historical) surroundings (or: contexts). Since it was this epistemological function Koselleck mostly was interested in, his idea of a historical semantics can be brought together with Foucault's epistemological genealogy (as designed in his *Archaeology of Knowledge* [1969] and his *The Order of Discourse* [1971]).

A conceptual history, as designed by Koselleck, aims at the structure of the knowledge, the thinking behind the words used. Thus, it acknowledges the specific character of the unit "concept", since it is not always clear in advance if that is a category describing thinking and knowledge, or a category describing language. If an approach to historical semantics should be accepted by linguists, it must always try to cope with this double character

of concepts, to be units of thinking and knowledge and units of language (pure, “empty” signs) as well. The “in-betweenness” of Koselleck’s conceptual history between a history of thinking (history of ideas) and a history of words is somehow paralleled by the view held by Foucault in his *Archaeology of Knowledge*, who treated the “discourse” as the main-spring of the social episteme. Foucault (1971: 48) described the level of the “discourse” as an intermediate level between thinking and speaking, i.e., as a level of effect(s) of its own kind that cannot be resolved to the one side (thinking) or the other side (language). Thus, a history of discourse *modo* Foucault is neither a history of the movements of thinking, nor a history of ideas, nor a history of words or of word meanings, but a history of the movements of or within the *episteme* that cannot be reduced to one of the other approaches mentioned. In the methodological debates in history, the adaptation of Foucault’s discourse analysis was linked with a bundle of methodological modifications. The modifications concern, e.g., the use of everyday sources instead of the so-called “summit literature” of theoretical or scholarly reflections of history; they concern an analysis of semantic movements, of words-in-context, in texts, instead of an analysis of single, isolated words; an analysis of “meaning” as an effect of texts or discourses (i.e., of “epistemic contexts”), instead of an effect of isolated word meanings plus syntax rules; a research of the movements and lines of influence within the *episteme* below the level of what is made the overt and conscious topic of explicit discourse and reflection. Parallel to history, the idea of a discourse analysis *modo* Foucault has been adapted in other, neighbouring cultural and social sciences and humanities and has produced within modern linguistics a vivid research in the field of linguistic (or, more precisely, linguistically reflected) discourse analysis and historical discourse semantics.

Conceptual history *modo* Koselleck as well as discourse analysis *modo* Foucault both aim at an analysis and explicit-making of the knowledge elements and knowledge structures and structures of thinking “behind” the words and texts (in Foucault’s words, the *episteme*). This “knowledge” comprises not only the explicit, overt, or conscious knowledge but includes epistemic elements that might be hidden at first glance and escape conscious reflection but nevertheless may basically influence, structure and constitute the thinking and knowledge. Because a history of thinking (which should rather be addressed as a history of knowledge, of the *episteme*) always has to deal with linguistic units (discourses, texts, words), it always turns out to be a part of semantics. That means that it turns out to be a part of the analysis of the knowledge used for the understanding of words and texts (the so-called meaning-relevant or meaning-determining knowledge). Since a history of knowledge (or, of thinking) and a historical semantics basically are not strictly separable, the question arises: what are the consequences of this for a historical semantic analysis of the language of emotion?

## 2 Is there a semantics of emotions? Are emotions part of “thinking”?

Here, the question of whether there is a semantics of emotions at all must be considered. And, most importantly, are emotions part of “thinking” in terms of the predetermined title

of this chapter? A profound answer to these questions would require a complete theory of emotion as embedded in a theory of thinking and of human mind. Since this cannot be accomplished within the limits of the present chapter, some stray comments on the relations between emotion, thinking, and language must suffice.

Granted that human thinking (and knowledge) is seen by most scholars and approaches essentially as concept based, the question arises if emotion is correctly seen as a matter of concepts in any appropriate sense of this term. There is, in the modern philosophy of language, a deep ongoing discussion on the possibility of communicating inner states, wherein, e.g., Wittgenstein expresses severe doubts whether words or linguistic expressions related to inner states of a speaker have a describable and determinable meaning at all. In contrast to this, cognitivists usually hold the view that any cognitive or mental activity is based on cognitive or epistemic structures that might be conceived of as conceptual in essence. In this view, words or linguistic expressions referring to emotions might have a meaning that should be describable by means (of models) of conceptual structures (see Section 3 of this chapter for more details). If one looks up the term “emotion” in dictionaries or encyclopaedias, it reveals very multifaceted results. One cannot draw from this that emotion is strictly opposite to “concepts” or “conceptual structures”, as is often claimed in everyday or even in scholarly discourse. But there may be some residual incertitude about the question, whether concepts such as “conceptual structures” are best suited for explaining how emotions and the communication on emotions function. And whether a term such as “underlying conceptual structure” is used in the same sense if one speaks about, e.g., “resentment”, or, e.g., “armchair”. So, there may remain many doubts about the conceptual character of a language of emotion as well as about issues concerning the form of representation of emotions in cognition, knowledge, or memory.

Yet, on the other side, there are and have been scientific projects such as “linguistics of emotion”, “dictionaries of emotion words” (cf. Jaeger 1988; Jaeger and Plum 1990), etc., so that a “semantics of emotion” might not be too far out of reach. And if a “semantics of emotion” might exist at all, a “historical semantics of emotion” should be possible as well.

### **3 A general approach to cognitive processes: schema and frame theories**

The following section will outline some fundamental aspects of an epistemologically oriented linguistic-semantic analysis of the “knowledge behind” our words and expressions, an approach equally suitable, as the author of this chapter hopes, for a future (historical) semantics of emotion yet to be developed. This overview mainly refers to schema and frame theories, since the author of this chapter is convinced that these approaches are best suited for the aim of an “epistemological semantics”, or, more generally, a “linguistic epistemology” as pursued by him in the recent years (Busse 2008, 2016, 2017).

The most convincing approaches to mental (or cognitive) processes conceive them as structured by *schemata*. This view was strengthened by the inspiring study of Bartlett (1932), a book that even nowadays is worth reading since it collects important theoretical

insights that are neglected in most recent research and approaches. According to Bartlett, all perception, imagining, remembering is based on inferential processes, i.e., it is based on – as he calls it – construction: “It has been shown that a great amount of what is said to be perceived is in fact inferred” (Bartlett 1932: 33). There is, in this theoretical approach, no place for an immediate and “un-constructed” perception, or cognition, since constructing and inferring are mechanisms deeply involved in any higher level human mental processes.

The constructive character of cognition is linked with what he calls the “effort after meaning” (Bartlett 1932: 44). I.e., all perception data first of all have to be made “meaningful” for the perceiving mind. In this view, meaning is something that is deeply rooted in our cognition (and not only linked with language and speech). It is, in Bartlett’s terms, a “standing-for” relation (i.e., a sign relation), linking the one (actual perception data, sensations, etc.) with the other (remembered sensations, perceptions, schemata, settings).

The possibility of “meaning” (i.e., the cognitive construction of relations between single items – or single complexes of items – in memory) depends on perception patterns being pre-existent to the single act of perceiving, feeling, etc. In other words, it depends on “schemata”: “It looks as if that preservation of material which is required in recognising is normally a preservation of schemes, of general settings, of order or form of arrangement; and as if the detailed reinstatement of individualised material is a special case” (Bartlett 1932: 195).

Schemata or “settings” play an important role in perceiving and recognition because they provide general structures of knowledge enabling to contribute from memory what must not be constructed or inferred on the basis of the available perception data. Since every usage of pre-formed schemata of knowledge involves a process of recall, perceiving and recognition are deeply rooted in processes of remembering. This process of remembering is, according to Bartlett (1932: 196), inevitably linked with language (signs, words):

Remembering involves a greater degree of organisation, both of psychological material and of attitudes and interests, so that more bridges are built from one sensory mode to another, or from one interest to another. As we shall see, there is good reason to connect this with the growing importance of image and word functions; and, in fact, we find that both images and words play more prominent parts in remembering than they do in recognising. (Bartlett 1932: 196)

Not only memory and remembering (as what necessarily precedes the existence and possibility of any language) are in a very strong and specific way dependent on schemata and structures of knowledge, but all cognitive or mental processes on a higher level of mind. For this chapter I hold the view that this approach (developed by Bartlett [1932] in his study of remembering) is valid for any higher-level cognitive processes, including what is called in a pre-scholarly and not well-defined manner (and in an everyday view) “emotion” or “feeling”. I.e., all higher-ranking mental processes are inevitably influenced by structures of preceding knowledge, very reluctantly called by Bartlett “schemata” (he prefers “settings”), which are addressed as “frames” (of knowledge) in more recent approaches of cognitive and linguistic research.

Bartlett points out that “the past operates as an organised mass rather than as a group of elements each of which retains its specific character”, and infers “[i]t looks as if a sound

rule of method would compel us to approach its problems through a study of these relatively less complex cases of determination of present reactions by the past" (Bartlett 1932: 197). The core terms here are *organisation* and *determination*. One can speak of an organisation in cognitive processes only when not every past single datum of perceiving is stored (and re-activated in remembering) with all of its specifications and random properties, but when (in one way or another) a structuring, focusing and abstraction to the core elements takes place. Determination means that these structures of preformed knowledge reshape, or at least influence further, later events of perception and recognition and select and mould the further processing of perceived data.

The full definition of Bartlett's own usage of "schema" is as follows:

"Schema" refers to an active organisation of past reactions, or of past experiences, which must always be supposed to be operating in any well-adapted organic response. That is, whenever there is any order or regularity of behaviour, a particular response is possible only because it is related to other similar responses which have been serially organised, yet which operate, not simply as individual members coming one after another, but as a unitary mass. Determination by schemata is the most fundamental of all the ways in which we can be influenced by reactions and experiences which occurred some time in the past. All incoming impulses of a certain kind, or mode, go together to build up an active, organised setting: visual, auditory, various types of cutaneous impulses and the like, at a relatively low level; all the experiences connected by a common interest: in sport, in literature, history, art, science, philosophy and so on, on a higher level. There is not the slightest reason, however, to suppose that each set of incoming impulses, each new group of experiences, persists as an isolated member of some passive patchwork. They have to be regarded as constituents of living, momentary settings belonging to the Organism [...], and not as a number of individual events somehow strung together and stored within the organism. (Bartlett 1932: 201)

It follows that, according to this approach, every act of perceiving, recognition (and, as we assume: feeling and emotion as well) is always both: re-production and solitary, single event as well.

As has been shown, the "schemata" or "organised settings" have a predominant influence on all further cognitive activities: "Remembering obviously involves determination by the past. The influence of 'schemata' is influenced by the past" (Bartlett 1932: 202).

It is important not to forget that all processes of schema-recall are (following Bartlett 1932: 205) *constructive* processes. They include *condensation*, *elaboration*, *invention* (of new knowledge items), and *combination* (of schemata).

All schema construction and recall are characterised by the following features: (i) *abstraction*, (ii) *stability* of once established forms or patterns, (iii) *stereotyping*, (iv) *omissions*, *simplifications*, *modifications* in the process of schema application, (v) a strong reliance on *inferences* combined with an increasing *reduction of details* of the original schema, (vi) dependence of the filling, highlighting, recall and modification of the schemata on *interests* and cognitive *tendencies*, (vii) the *possibility for attaching* new details. With all of these features Bartlett points out features that are core elements of the later frame theories (in cognitive sciences, e.g., Minsky [1974], and linguistics, e.g., Fillmore [1977, 1982, 1985, 2006]).

And a last point, very important in Bartlett's own view: He strongly parallels patterns in individual remembering with the social preformation and transmission of patterns: "There is no doubt that much human remembering is influenced directly and strongly by

factors which are social in origin" (Bartlett 1932: 95). Acquisition of new cognitive material (or of knowledge items, epistemic material) always takes place by integrating them in already available cognitive or epistemic structures, as Bartlett could verify by his experiments.

The most important founder of modern frame theory, Marvin Minsky (1974), referred to the schema approach of Bartlett (1932), conceived by Minsky as the real founder of the frame approach. In his view, frames are nothing other than schemata as defined by Bartlett. Generally, frame theories (theories of knowledge frames) understand these frames (or knowledge frames) as "structures consisting of concepts or ideas". (As stated by, among others, Fillmore [1992: 40, 2006: 613], as well as Barsalou [1992: 31].) Frame semantics, or – more generally considered – frame theory as it is presented today (particularly in linguistics) is, nevertheless, not a monolithic block, not a closed model. It is rather a heterogeneous set of concepts with the most varying ancestries in different branches of science, each of which shows, to some extent at least, very different goals of knowledge, objects of research, and basic assumptions. The frame semantics of the linguist Charles J. Fillmore (and of the research association founded by him, FrameNet, with its centre in Berkeley) – the only genuinely linguistic frame concept – is rooted in thoughts and theorems, some of which are quite different from those of the frame models in the cognitive sciences, such as the models of Marvin Minsky (1974, 1986), Schank and Abelson (1977) and Lawrence Barsalou (1992).

In the following section a few points should be mentioned which act as the centre of the frame idea being discussed and further developed in many disciplines (such as linguistics, cognitive science, psychology). (The following description is based on the thesis-like summary of the core ideas of frame theory/-ies in Busse [2012: 819–827].)

A frame (or "knowledge frame") is a structure of knowledge in which a certain constellation of knowledge elements is grouped, with reference to a structural frame core which can be understood as an "object" or "theme" of the frame; the constellation of knowledge elements functions in this perspective as frame-constituting elements. These knowledge or frame elements are not epistemic quantities "filled out" with concrete data; rather, they act as slots, to which, in an epistemic contextualisation (embedding, "filling"), concrete ("filling out") knowledge elements (so-called "fillers", "values", or attributions) are allotted.

Thus, frames represent knowledge structures (to put it in somewhat simple terms) that attach to a category certain attributes, which in turn can be filled out with certain concrete values. (In other frame theories, the attributes are called "empty places" or "zero places" or "slots" and the values are called "fillings" or "fillers".) The type and number of attributes of a frame are not laid down once and for all but vary. Thus, new attributes may be added.

Frames are then generally understood to be structures made of concepts ("concepts" are understood here as purely epistemic quantities or entities), which, since all concepts in turn are structured in the form of frames, reveal themselves to be structures made of frames. To the extent that frames essentially specify (epistemic) possibilities (and constraints) of attaching further, more detailed frame elements, their structure can be described as an arrangement consisting of epistemic relations (to the attached elements and among them).

Since frames, in this view, are basic structures (elements) of cognition/knowledge, and thus are to be assumed on all levels of their description, it follows compellingly that different levels and types of frames (and frame analysis) must be assumed. Within the framework of a semantic or conceptual analysis applied to frame theory, the following dichotomies approximately designate level differences that must be taken into consideration in frame theory and frame analysis: *individual* versus *social*; *short-term memory* versus *long-term memory*; *token* versus *type*; *actual (meaning)* versus *occasional (meaning)*; *concrete* versus *general*; *exemplar* versus *category*.

In the description of frames (as conceptual structures), then, the description of the slots or attributes or terminals and their relation among each other and to the frame core, have a central function. This can be defined as follows: the slots (terminals, frame elements, “attributes”) of a frame are the knowledge elements that are connected to a firm set of such elements in a particular frame, and that constitute this frame, and that define the “object of reference” (the “theme”) of the frame. These knowledge elements are not fully specified in their epistemic content; rather, they simply establish the conditions that must be fulfilled by concrete and specifying knowledge elements that must be “filled in” for a complete instantiation of that frame.

It is important to take into consideration the following: the characteristic of being a slot (a terminal, an attribute) is not attached in an absolute sense to a knowledge element, but only in relation to a higher-ranking frame. In isolation, such knowledge elements form their own frames, with their own slots/attributes in turn subordinated. “Slots” or “attributes” important for an epistemological analysis (of a knowledge frame) are those ascriptions of concepts (functioning in this relation as “aspects”) for which there exists, in the linguistic/cultural community in which this attribution occurs, an established convention of attribution. Slots determine the relations (and thus also types of relations) which subsist between the frame core and the specified knowledge elements (“fillers”, “fillings”, “values”) which are attached by means of these relations.

To illustrate the frame approach and to make things clearer, Figures 15.1 and 15.2 show a schematic representation of two (albeit relatively simple) concept frames according to Barsalou (1992).

A linguistic (semantic) frame analysis, but also a conceptual one, thus registers, with the assumption of “frames”, structures in knowledge (relevant to comprehension). It is generally agreed by nearly all researchers active in frame research that there is no way to distinguish strictly between “linguistic knowledge” and so-called “encyclopaedic knowledge” (or “knowledge of the world”). An important interaction between the “linguistic” and the generally epistemic levels is to be seen in the fact that linguistic signs focus on knowledge of the world in a specific manner. (See, for instance, “perspective” according to Fillmore [1977: 59], which he sees realised through the verbs *buy*, *sell*, *pay*, *cost* in the example of the COMMERCIAL EVENT frame.) But it should be noted here that this interaction between “linguistic” and generally epistemic levels is strongly influenced by *recursivity*, *undelimitability*, *flexibility* and *vagueness* (Barsalou [1993: 30–35, 43–49] has emphasised this particularly).

Using the frame model for the purposes of a conceptual analysis, frame elements show up as conceptual elements (attachment positions, “slots”, “attributes” of a category). Barsalou’s frame elements, which he calls “attributes”, are, with reference to the lexeme class

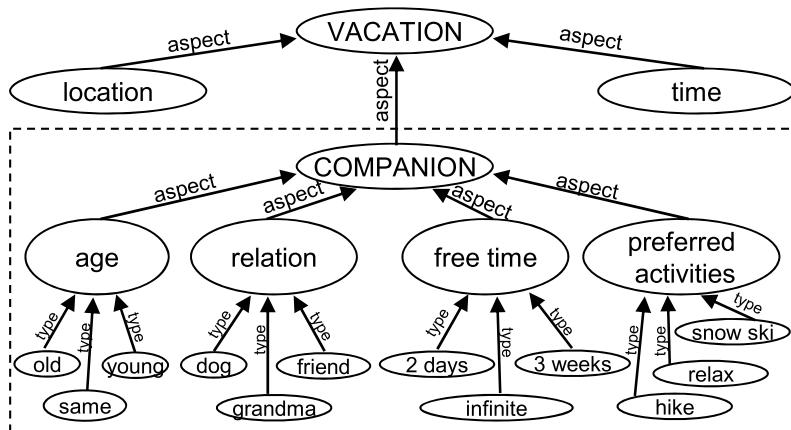


Fig. 15.1: Attribute frame for *companion* according to Barsalou (1992: 33, 62).

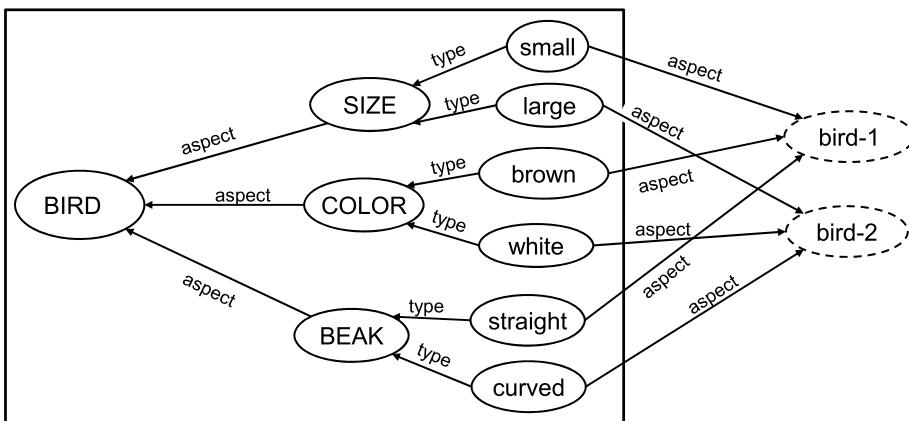


Fig. 15.2: Representation of tokens/exemplars for *bird* according to Barsalou (1992: 45).

of nomina, typically classes of characteristics that can be specified in the reference objects of a category (size, colour, material, etc.).

Frames (on the level of general social knowledge structures, i.e., patterns or types) are not simple closed structures. On the contrary, one must reckon with considerable social variance in the degree of "granulation" and differentiation of the frames. Owing to the general principle of recursivity, frames are, in principle, knowledge structures that can be infinitely refined. This exhibits the fact that, in social domains with different needs of knowledge, the differentiation of frames varies, too (typically known as the so-called expert/layman divergence).

Thus far the general outlines of frame theories as the basis for a semantic frame description, or one using conceptual analysis have been presented. It has become clear that some representatives (in cognitive disciplines) of frame theory, at least, conceive of frames primarily as conceptual structures (in a double sense: internal structures of concepts and structures consisting of several concepts, conceptual systems). In this way, frame theory

has become an important contribution to a theory of concept. Frames or concepts are seen here as knowledge structures, i.e., as complexes consisting of knowledge elements which are arranged internally in a regulated, structured relationship to each other. The advantage of frame theories as opposed to previous concept theories is to be seen primarily in the ability to allow a structural description of the internal semantic, conceptual or epistemic structure of concepts, based on uniform criteria and a unified model of structure.

## 4 Frame-based approaches to historical semantics and linguistic epistemology of emotions: risks and advantages

A frame semantic analysis of word meanings or concepts first requires the identification and labelling of any single epistemic item within the meaning-relevant knowledge for this linguistic sign. Second, it requires the determination and description of any relation holding between a given frame element (epistemic element) and the other frame elements (epistemic elements) it is related to. (See Fig. 15.1 for a simple example.) Although knowledge frames might be described in a narrative mode, too, most frame-semantic analyses use a graphic mode of description as in Fig. 15.1, or different schedular forms. The need for an identification of any single epistemic item leads to some practical difficulties in frame descriptions, first of all the problem that for many epistemic items in conceptual structures there might be no adequate label at hand in the first moment. More important is the principal problem that for frame descriptions (as descriptions of the entirety of the knowledge that is understanding relevant for the given word or concept) there cannot be a finite limit drawn up to which the description may be done (and where a further refinement of description, i.e., a further refinement of identifying and labelling frame or knowledge elements should stop). This was pointed out by Barsalou (1992):

For any representational component – whether it be an attribute, structural invariant, constraint, or something else – people can always note a new source of variability across instances, and add further frame structure to capture it. Through the continuing process of analysis and elaboration, people transform what were once holistic, unanalyzed primitives into complex frames. As a result, primitives that serve as simple, elementary building blocks no longer exist. Note that this is not an ontological claim about the structure of the physical world but is instead a psychological conjecture about how people represent it. [...] Rather than being the elementary building blocks of knowledge, primitives may instead be larger wholes, the analysis of which produces an indefinitely large set of complex building blocks. (Barsalou 1992: 41–42)

These principal difficulties may play a specific role in the frame semantic description of the language of emotion. (For more detailed reflections on the problems and advantages of an applied frame semantics of complex concepts, see Busse, Felden, and Wulf [2018: 332–353].)

In literature about frame-analytic research, examples of emotion words or frames are very rare. The specific problems that might be raised by this kind of linguistic (and epistemic) items become clearer by the very few related remarks to be found in the work of the

linguistic founder of frame semantics, Charles J. Fillmore. For our concern it is most important that, related to emotion words, he believes that core items in the description of those words may remain as “unanalyzed notions in the notation” (Fillmore 1976: 17). But see his argument and examples as follows:

Next, let us consider the problem of interpreting certain abstract nouns. I will suggest that characteristic of many kinds of abstract nouns is knowledge of a schema alone, independently of the specific scenes that might match it, and that sometimes to understand a sentence containing an abstract noun, what we need is a scene in which some observer is applying schemata to scenes to check for goodness of fit.

IMPATIENCE, for my first example, is associated with a schema which contains several linked properties: a person wants something to happen soon, he realizes that it may not happen soon, and he feels the way one typically feels under these conditions. To understand such a schema, of course, the interpreter has to be a human being – or has to know what it is like to be a human being – and has to know what it is like to want something to happen and what it is like to have to wait for something one wants to happen.

A second example is DISAPPOINTMENT. The schema for “disappointment” has a stage in which a person wants something to happen and believes that it is going to happen; a later stage in which the person realizes that the expected event is not going to happen; and an immediately later stage in which this person has the feelings that an individual typically has under those conditions. Again, the interpreter must know what it is like to have those feelings, and how human beings internally react to thwarted expectations.

Notice that here we have had to depart in an obvious way from what is visually representable. To take into account these emotional matters, we will have to introduce some sort of conventions for representing *wanting*, *expecting*, *knowing*, *feeling*, etc., and we will have to expect the interpreter of our interpretation to be able to learn these conventions by virtue of his being human. This may or may not be a defect in the notation; it is quite believable that there is no other way of dealing with private human experiences apart from identifying them with labels [...] and expecting the interpreter of the interpretation to know what it is being talked about. These, in short, will be among the unanalyzed notions in the notation. (Fillmore 1976: 16–17)

Still other scenes relate to psychic experiences: on these depend such notions as *anger*, *fear*, and *wakefulness*. More complex than these are psychic experience that have histories: things like: *impotence*, *suspense*, *surprise*, *disappointment*, etc. Knowing these words is not just knowing the character of the associated emotions per se, but is knowing what sorts of events could create the emotional experiences. *Impatience*, for example, is the way somebody feels who had wanted something to happen, who had reason to believe that it was going to happen, but who has found out that it wasn’t going to happen. In order for us to have an understanding of these words, we have to have experienced such feelings as wanting, expecting, etc., and we also have to understand the characteristic historical features of the associated scenes. (Fillmore 1977: 74)

Because frame semantic techniques have developed a lot since Fillmore wrote this, it is one of the tasks of this approach to develop methods for identifying and describing even what Fillmore seems to have thought of as “unanalyzable notions”. A linguistic semantic analysis of emotion words has to develop the tools for such an analysis and description.

According to Fillmore, the understanding, or the meaning, of such types of words presupposes a very specific (and personally moulded) lifeworld-knowledge. He links the meaning or knowledge-structure of/behind those words with the “reasons people had to create such a word or category”: “With respect to word meanings, frame semantic research can be thought of as the effort to understand what reason a speech community might have

found for creating the category represented by the word, and to explain the word's meaning by presenting and clarifying that reason" (Fillmore 1985: 234).

Or, in another paper:

In this paper I have argued for a view of the description of meaning-bearing elements in a language according to which words (etc.) come into being only for a reason, that reason being anchored in human experiences and institutions and to know why such experiences and institutions gave people reasons to create the categories expressed by the words. The semanticist's job is to tease out the precise nature of the relationship between the word and the category, and the precise nature of the relationships between the category and the background. (Fillmore 1982: 135)

Nobody can really understand the meanings of the words in that domain who does not understand the meanings of the social institutions or the structure of experience which they presuppose. (Fillmore 1982: 116)

Thus, the entirety of the meaning constituting knowledge (or category constituting, or concept constituting knowledge) becomes part of the descriptive task of an epistemically oriented semantic analysis, wherever it comes from and whatever domains of knowledge or human cognition (and mind) it may belong to. The scope of knowledge Fillmore (1985) integrates into the understanding-semantics task is remarkable:

In a U-semantic which makes critical use of interpretive frames, it is assumed that linguistically encoded categories (not just words and fixed phrases, but also various kinds of grammatical features and syntactic patterns) presuppose particular structured understandings of cultural institutions, beliefs about the world, shared experiences, standard of familiar ways of doing things and ways of seeing things. (Fillmore 1985: 231)

If one would like to follow Fillmore's considerations about emotion words, one would have to bear in mind that most emotions are linked with bodily sensations that are not easy to describe explicitly in our language. Since emotions are linked so narrowly with very personal experiences and sensations, the related everyday-frames we all – as human beings – have in mind are (in Fillmore's surpassing words) both "most accessible" and "extremely subtle and complex" at once: "What a speaker of a language knows about the individual 'words' of his language and the conditions that determine their appropriate use is perhaps the most accessible aspect of linguistic knowledge, but at times it too is extremely subtle and – at least on the face of it – extremely complex" (Fillmore 1970: 120).

At this point, some severe problems might rise for an adequate historical semantic analysis of linguistic expressions of emotions. I will give an example for this: We may well understand intellectually what Thomas Hobbes (in Tuck 1996) impressively enumerated in the tenth chapter of his *Leviathan* concerning the role and form of feelings related to *honour* in the society of his times. But will we really be able to understand (in terms of Fillmore's explanations) the feelings a man of Hobbes' century had in relation to the instances reported there? Will we really be able to understand the feelings of a 19<sup>th</sup>-century bourgeois or aristocrat that are causative for him and another trying to shoot each other to death in a duel?

So, we come to the conclusion that an item-for-item analysis of the knowledge frames motivating (in Saussure's sense of this notion) emotion words and expressions might (and should) be possible but will remain a difficult undertaking with a lot of steps of developing

methodological tools still to do. Since the problems of identifying and describing exactly the relevant epistemic items will increase when the semantic analysis of emotion words shall take the form of a historical (diachronic) task, a fruitful outcome of such an endeavour will not be impossible, but will possibly inevitably be combined with unforeseen pitfalls. But the task is worthy to be undertaken.

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## **IV Semiotics of emotion**



Winfried Nöth

## 16 Semiotic conceptions of emotion

- 1 The emotions in the research field of semiotics
- 2 The semiotics of passions and emotions of Greimas and the Paris School of Semiotics
- 3 Peirce's semiotics of feeling, sensation, sentiment, and emotion
- 4 The cognitive substratum of semiotic conceptions of emotion
- 5 References

**Abstract:** Semiotics, the general study of signs, has brought forth two comprehensive theories of emotion, the *Semiotics of Passions* (Algirdas J. Greimas) and Charles S. Peirce's cognitive theory of emotion. Greimas's semiotics has its roots in narratology and structural, especially modal semantics. A passion is the representation of an emotion, and an emotion is the effect produced in a human subject by an object of value. Verbally expressed, passions manifest themselves in modal or aspectual forms of verb phrases as well as in adverbial forms modularizing intensity, variety, and duration. Peirce distinguishes between emotion, sensation, and feeling. Emotions are neither mere feelings nor sensations but verbal, nonverbal, or mental signs. An emotion and the concept that represents it is a "general type", a sign determined by a general semiotic law. Emotion concepts differ from intellectual concepts. As a bodily experience, an emotion is the occurrence of a general type associated with a specific quality of feeling. In its generality, an emotion is a so-called *legisign*. In a singular occurrence, an emotion manifests itself as a *sinsign*. The quality associated with it is a *qualisign*. As signs, emotions manifest themselves in the form of icons, indices, and symbols.

### 1 The emotions in the research field of semiotics

This chapter introduces the contributions of semiotics to the study of emotion. Semiotics is the general study of signs, sign processes, and sign systems. The field of research has also been studied under the designation of *semiology*, but the International Association of Semiotic Studies has adopted *semiotics* as the general designation for its domain of research. The linguist Ferdinand de Saussure (1857–1913) conceived semiotics (still under the designation of "semiology") as an extension of linguistics, i.e., as "the science that studies the life of signs within society" (Saussure 1916: 16). If "linguistics is only part of the general science of semiology", as Saussure (1916: 16) defined it, the study of emotion in language belongs to semiotics as well as to linguistics.

Semiotic approaches to emotion study verbal and nonverbal signs of emotion, i.e., the ways in which emotions are expressed verbally or nonverbally. Signs of emotion have been

studied in many domains under a variety of semiotic premises, for example, in literature (Knuuttila 2009), theater (De Marinis 1985; Kiss 1995), language in general (Anttila 1977), rhetoric (Frawley 2015) and hermeneutics (Wilk 2005), in music (Machin 2011), film (Feng and O'Halloran 2013), advertising (Landowski 2007), or in the media in general (Feng and O'Halloran 2012). Verbal and nonverbal signs of emotion belong to a hybrid field of research in which the differences between semiotics and other disciplines, such as linguistics, psychology, or social psychology, are not always clearly marked. An example of this hybridity is the study of expressions of emotion in gestural or facial expressions by Ekman, Friesen, and Tomkins (1971), in which the authors postulate a universal "language of the human face" consisting of six basic nonverbal signs of emotion: happiness, sadness, surprise, anger, disgust, and fear (cf. Nöth 1990: 387–420). The study was first presented as a semiotic one in the journal *Semiotica*, but it has equally often been subsumed under the heading of social psychology.

Semiotics has not always shown a deep interest in the study of emotions. Under the influence of Ferdinand de Saussure, the structural tradition of semiotics had focused on the study of arbitrary signs, signs generated by codes that differ from culture to culture. To the degree that expressions of emotion are universal, their study did not fit within a research program based on the dogma of the arbitrariness of signs. Nevertheless, in the course of the history of contemporary semiotics, two influential theories of emotion have emerged, first, Charles S. Peirce's semiotic theory of emotion and feeling, second, the Paris School's *Semiotics of Passions*. Only in passing, a third semiotic theory of emotion can be mentioned here, the biosemiotic theory of emotion developed by Walter A. Koch in *The Wells of Tears* (1989) and *The Biology of Literature* (1993).

## 2 Greimas's and the Paris School's *Semiotics of Passions*

### 2.1 Survey

The Paris School of Semiotics, founded by Algirdas J. Greimas (1917–1992), began to develop a semiotics of emotions towards the end of the 1970s. Greimas's (1978) paper "Pour une sémiotique des passions" and the special journal issue *Sémiotique des passions* edited by Eric Landowski (1979) contain the germs of this theory. Next came articles and chapters on the semiotics of individual passions, such as despair (Fontanille 1980), defiance, and anger (Greimas 1983: 213–246, 1987: 148–164). The most systematic study of emotions in the framework of the Paris School is the volume *The Semiotics of Passions* by Greimas and Fontanille ([1991] 1993), summarized by Fontanille (1994, 2002) with examples from the passions of avarice, obstinacy, jealousy, or defiance.

Other significant monographs in this context are *Les passions* by Herman Parret (1986) and *Passions sans nom* by Eric Landowski (2004). The anthology by Ouellet (1997), the special journal issues *Sémiotiques de l'affect* edited by Kègle (1993), and *Les émotions: Figures et configurations dynamiques* by Fontanille (2007) testify to the collective endeavor

of the Paris School's semiotics of emotions. Surveys and general introductions are Cléro (1993), Fabbri and Perron (1993), Broden (1995: 232–242), Kim (2000), Fontanille (2006: 143–199), and Fiorin (2007). Encyclopedic articles on the key terms of the semiotics of passions by various authors are included in Greimas and Courtés (1986).

## 2.2 The semiotic background

The background of the Paris School's semiotics of passions is structural linguistics, in particular structural semantics, lexicology, discourse analysis, and narratology. Greimas's study of anger, included in the volume *On Meaning* (Greimas 1987: 148–164), has the subtitle “A lexical semantic study”. It is a study primarily on the basis of lexicological evidence from the perspective of structural semantics as first outlined in Greimas's *Structural Semantics* (1983) and further elaborated in Greimas's *On Meaning* (1987), especially in *Du sens II* (1983). Here, the approach to the study of emotion is founded on semiotic narratology and discourse analysis as outlined in Greimas and Courtés ([1979] 1982, 1986), Courtés (1991), and Fontanille ([1998] 2006). Important elements of the semiotics of emotions come from structuralist modal and aspectual semantics (Fontanille 1995; Zilberberg 1981, 1989, 2006; Fontanille and Zilberberg 1998).

## 2.3 Passions and emotions

The diversity of the “passions”, ranging from *avarice* to *asthma* (Fontanille 1989), studied by the members of the Paris School raises the question whether all of these studies are in fact concerned with emotions and, if not, what the differences between emotions and passions are. Greimas and Fontanille discuss this question under the heading of “Passional nomenclature” (Greimas and Fontanille 1993: 49–52), where they describe passions as a lexical field of nouns, adjectives, and sometimes verbs coined in the history of the specific culture of a particular language. The authors argue,

The dictionary definitions of passions include a series of taxonomical designations that form, as it were, the main areas of affective life. In French, we have distinguished the following types: “passion”, “sentiment”, “feeling”, “inclination”, “penchant”, “emotion”, “mood”, (humoral) “disposition”, “attitude”, “temperament”, “character”, complemented by adjectival phrases like “inclined to”, “likely to”, “susceptible to”. Before even the division of the passional universe by lexemes that designate passional meaning effects, there seems to be another, more abstract cultural grid that reveals an immanent theory of passions within the very foundations of cultures. (Greimas and Fontanille 1993: 49–50)

The vocabulary of emotions is thus not coextensive with the one of the passions. Only in Kègle (ed. 1993) and Fontanille (ed. 2007) do the authors restrict themselves to emotions proper. Passion is a much broader concept than emotion, but “the emotional dimension is constitutive of passional discourse” (Kègle 1993: 1). Besides words for emotions (sentiments) and feelings, Greimas and Fontanille's list of passions includes words for inclinations, dispositions, penchants, temperaments, character traits, virtues and vices, such as

most of the ancient seven deadly sins (see Johansen and Umiker-Sebeok 1997), and even the disease of asthma (Fontanille 1989).

Altogether, the “Passion index” by Greimas and Fontanille (1994: 237–239) lists 112 items of passion. Evidence of the broader scope of the notion of passion is apparent when we compare Greimas and Fontanille’s index with lists of emotion words set up by psychologists, e.g., the list of 401 emotion words by Dahl and Stengel (1978) or the list of 525 emotion words by Storms and Storms (1987; cf. Nöth 2015). Among the first 38 lexemes in Greimas and Fontanille’s index (from A to E), we find that only 21 are acknowledged as emotion words by the psychologists, whereas 17 cannot be identified as such in any of the lists set up by them. Among the 17 “lexemes that designate passionnal meaning effects” (Greimas and Fontanille 1994: 50) not listed in the vocabulary of emotion words are “ambition”, “avarice”, “avidity”, “dazzlement”, “disdain”, or “esteem”. Hence, almost half of the concepts in the universe of “passions” belongs to the semantic field of words that do not refer to emotions.

Within the narrower universe of emotions and feelings, to which this article is restricted, Greimas and Fontanille define feelings (sentiments) as “complex affective states, stable and durable, linked to representations” and emotions as “generally intense affective reactions, appearing through different disorder, especially of a neuro-stagnate nature” (Greimas and Fontanille 1994: 50). The psychological background of this interpretation shows influence of the “logic of feeling” of Théodule-Armand Ribot (1839–1916), the 19th century founder of psychology in France (see Lenoir 1920).

The association of feeling with representation distinguishes the Paris School from Peirce’s theory of feeling discussed below, where only emotions are representation, whereas feelings are not. The concept of representation is essential insofar as the Paris School’s approach focuses on how feelings are represented *in discourse*. Emotion is a phenomenon of discourse, declares Fontanille (1993: 13). The semiotics of emotion is the study of “the emotional dimension of discourse, which covers all manifestations of passions, whether recognized in psychology and philosophy as ‘emotions’ or not” (Fontanille 1993: 14).

This does not mean that the semiotics of passions has its focus exclusively on verbal signs. It focuses equally on the human body in which signs of emotion become manifest. Fabbri and Perron (1993: 8) point out that Greimas’s semiotics of the body is influenced by Husserl’s and Merleau-Ponty’s phenomenology. The relation between the subject experiencing the emotion and his or her objects of desire is “mediated by the help of the body, which is both a subject and an object in the world, simultaneously an object situated among other objects and the perspective from which the subject experiences the world” (Fabbri and Perron 1993: 8). The authors conclude that the attention given to the body constitutes a fundamental difference between Greimas and Saussure. In contrast to Greimas’s embodied sign, Saussure’s sign is “totally disembodied” (Fabbri and Perron 1993: 8).

Why do Greimas and Fontanille associate emotion with bodily disorders? The association is rooted in the etymology of the word *passion*, since in Latin, *passio* means ‘suffering’. Greimas makes explicit reference to this association when he writes, “passion is a question of the passive subject” (Greimas 1978: 2). Fontanille’s premise is, “emotion appears in the discursive chain as a fracture, an irruption, a desynchronization, a glimpse [...] into the unsuspected depths, obliterated through the normal course of events and brutally re-

vealed” (Fontanille 1993: 13). Parret adopts the same argument in a less dramatic style. His excursus on the history of the French word shows that the association of emotion with disruption is deeply rooted in the history of French ideas and the philosophy of Rationalism and Enlightenment. The author points out that the dictionary *Grand Robert* defines emotion as a “complex state of consciousness, generally sudden and momentary, accompanied by physiological disorders” and, by extension, as “all feelings considered from the affective perspective, whether pleasant or unpleasant” (Parret 1986: 124). He then turns to Kant’s and Ribot’s distinctions between passions and emotions:

Kant’s much quoted distinction between passion and emotion is, “*Emotion* works like water breaking through a dam; a *passion*, like a stream that burrows ever deeper in its bed. An affect works on our health like an apoplectic fit: a passion, like consumption or emaciation. An affect should be regarded as a drunken fit – we sleep it off, though we have a headache afterwards; but *passion*, as a sickness that comes from swallowing poison”. Théodore Ribot’s ideas are related to these Kantian metaphors, when he writes, “I distinguish between emotion and passion just like in pathology there is the distinction between an acute and a chronic form. I understand by *emotion* a sudden shock, often violent, intense, with an intensification or stop of movements: *fear*, *anger*, love at first sight, etc. In this, I follow the etymology of the word, which means primarily movement (*motus*, *Gemütsbewegung* etc.). By *passion*, I understand an emotion that has become fixed and thereby undergone a metamorphosis. It is the permanent or intermittent obsession and the work of the ensuing imagination.” (Parret 1986: 124–125)

## 2.4 Passion vs. action and cognition

According to the Paris School, there are “basic *rationalities* that we use to organize our experience in discourse: *action*, *passion*, and *cognition*, which constitute the three basic dimensions of our language activity, [...] the *pragmatic dimension* [...], the *passional dimension*, and [...] the *cognitive dimension*” (Fontanille 2006: 129). The model of discourse underlying this triad derives from narrative semiotics.

Action means narrated action defined as a sequence of acts performed by a *subject* of doing or “causing-to-be”. It manifests itself in transformations in the sense of changes of the relation of a subject with a desired object of value (Greimas and Courtés 1982: 3, 7, 350). The pragmatic dimension of discourse follows the logic of action, which includes a modal component since a competent agent “is (or must be able) able to” act. The agent’s doing thus presupposes a modalized doing in a “having-to-do”, “wanting-to-do”, “being-able-to-do”, or “knowing-how-to-do”, which define the subject’s competence of doing.

The cognitive dimension of discourse concerns transformations of the subject’s knowledge about the object. Its logic is one of discovery. The acquired knowledge may be true, false, a secret, or a lie. In the cognitive dimension of discourse, knowledge is produced, organized, interpreted, concealed, manipulated, or conveyed persuasively. The competent cognitive subject is a persuasive or interpretative agent endowed with partial or full knowledge (Greimas and Courtés 1982: 32–33, 45).

The “passional dimension”, also called “pathematic dimension” (Greimas and Courtés 1986: 162), contrasts primarily with the dimension of action (the pragmatic dimension). While action is the transformation of an initial into a final state through the agency of a

narrative subject represented in statements of doing, passion consists in sequences of states of feeling (or mind) of a subject represented in statements of state, which show the subject either in conjunction or in disjunction with the object of desire. At the root of the opposition between action and passion is hence the opposition between doing and being (Greimas and Courtés 1986: 162).

## 2.5 Modalization and its surplus

The specifically emotional element of the statements of passional discourse consists in their twofold modalization. Statements representing action are modalized only once, insofar as the representation of the subject's competence of doing requires modality to show what the subject can, knows how to, must, wants to or believes to achieve. Statements that represent passions, by contrast, are twice modalized (Greimas and Courtés 1986: 16). First, they presuppose a modality of wanting, which represents the subject's desire. Second, they involve a modality that Greimas defines as thymic, which is a cover term for modalities representing states of euphoria or dysphoria. In other words, the thymic has to do with the positive or negative valorization of the state in which the subject is united with, or separated from, the object of desire. Fontanille describes the modalizations characteristic of passional discourse as follows:

Modalizations with passional effects evince always a "surplus" of modality in relation to the doing that actualizes it as well as in relation to the logically necessary. For example, if one examines "impulsiveness", one can see that the "wanting to be the one who acts" surpasses in a spectacular and simple way the "wanting to act" necessary to perform the act. Likewise, the thrifty one turns a miser as soon as his or her "wanting to be the one who possesses" surpasses the simple "wanting not to spend" or the "wanting to acquire". This modal surplus explains how the thrifty one turns a miser who continues to amass riches beyond the "necessary". (Fontanille 1994: 348)

The Paris School distinguishes between modalities specifying the actantial constellation and modalities specifying the mode of existence concerning the process. The modalities of *wanting*, *knowing*, and *believing (something)* concern the subject in relation to the object. Those of *having to*, *being able to*, and *believing (someone)* concern the relation between a subject and a third party. The modalities concerning the modes of existence are (i) virtuality (of motivations), (ii) potentiality (of beliefs), (iii) actualization (of aptitudes), and (iv) realizations ("effectualizations" of doings or beings). From this typology derives a fundamental modal distinction among motivations, beliefs, aptitudes, and effectuations as well as a typology of passional agents. In passions of commitment the agents *assume*, in p. of desire, they *want*, in p. of power, they are *able to*, in p. of knowledge, they *know*, and in p. of doing, they suffer from hyperactivity, impulsiveness, agitation, etc. (Fontanille 2002: 611–612).

Broden gives further examples of how the modalities in the dimension of action relate to the ones of passion:

The same modalities which define narrative structures when they govern doing (wanting and being able, knowing and having to) constitute the passions when turned toward being, as a dialectic of wanting and not-wanting precipitates hesitation as a subjective state, or a conflict between being able

and knowing determines agitation. [...] The turning point from hope to despair comes with a definitive ‘not being able to be’, the impossibility of the wished-for end, complemented by the ‘knowing not to be’, of the lucid subject of despair; the conflict between the simultaneous obligation to be and its impossibility, between the ‘desire to be’ and the ‘knowing not to be’, generates a split that threatens to destroy the subject. (Broden 1995: 233–234)

## 2.6 Aspect

Besides modality, the semiotics of passions borrows aspect as another essential element from grammatical morphology and lexical semantics. Greimas and Courtés (1982: 18) distinguish six aspectual categories articulated into three pairs of opposites, (i) durativeness vs. punctuality (e.g., *run* vs. *knock*), (ii) perfectiveness vs. imperfectiveness (e.g., progressive form vs. present perfect in English), and (iii) inchoativity vs. terminativity (e.g., *begin* vs. *stop*). An example of an emotion described in terms of aspect combined with modality is *despair*. “The itinerary of the subject of despair presupposes an initial moment in which an obligation (must be, should be) is projected upon the world, followed by a ‘wanting to be’ in which the subject desires a state of affairs congruent with the imperative” (Broden 1995: 233).

## 2.7 Tensivity: modulations in intensity

As a complement to the binary classifications of aspect in morphology and vocabulary, the semiotics of passions has developed the theory of tensivity (Zilberberg 1981, 2006) to account for grades and modulations of the “tensive space” between the polarities of euphoria or dysphoria. The theory of tensivity distinguishes between degrees of *intensity* and of *quantity* in discursive phoria (cf. Fontanille 2002: 613–615).

Tensivity is thus the indispensable correlate of phoria [...] and through the union of the two allowed we could introduce the concept of *phoric tensivity*, defined as the space of the ‘preconditions’ of signification. In other words, the tensivo-phoric space is the space of minimal feeling. However, [...] phoria and tensivity are not the same thing. The former is polarizing and creates the thymic category (euphoria vs. dysphoria), which in turn rearticulates itself through its modalizations. But [...] tensivity articulates itself according to the categories of intensity (force, energy, affect, etc.) and extension (quantity, deployment, space and time, cognition, etc.). These categories combine in the constitution of processes in the forms of [...] *aspect*, which segments, enumerates, or distributes the accents, the modalizations and the tensions throughout the different phases of the process, and *tempo*, which creates the effects produced through the process on the subject’s proprioception. (Fontanille 2002: 605–606, emphasis in original)

Emotional tensivity grows from the polarity of the phoric opposites together with the search for values: “Affective intensity is indissociable from axiology”, argues Fontanille. “It could even be defined as a property of *phoria* itself: on the one hand, *phoria* is more or less intense (this is the definition of affect), and on the other hand, it is polarized in *dysphoria* and in *euphoria* by the axiological judgment (this is the definition of value). The passionnal

effect then results from the combination of these two properties, affect and value” (Fontanille [1998] 2006: 144). Fontanille specifies that the two poles of phoria, euphoria and dysphoria, are transformed into the dichotomies of ‘desirable/undesirable’ in the modality of /wanting-to/, into ‘indispensable/harmful’ in the modality of /having-to/ and into ‘possible/impossible’ in the modality of /being-able-to/.

Broden explains and gives examples of how aspectual and tensive components contribute emotional effects in discourse through a discursive strategy called *modulation*:

The Paris semiotic notion of aspect specifies the modulation of a process in the fields of time, space, and actor, and implies at least an implicit observer. It thus encompasses not only the traditional grammatical companions to tense (e.g., perfect and imperfect, inchoative, continuous and iterative), but also inflections of movement (steady, halting, skipping; straight, zigzagging, meandering, spreading out), and evaluations of limits and degree (too much, too little; early, late [...]). Certain emotional states exhibit a defined aspect: curiosity and enthusiasm, whose inchoativity awakens possibilities, opens inquiries, and initiates and orients processes, contrasts with terminative contentment and resignation which look backwards, close out actions, put things to rest. The perfectivity implicit in the latter two emotions is complemented by the durativity attached to patience, doubt, hope, and rancor, and by the iterative implications in obstinacy, faithfulness, and boredom associated with tedium. The social arena institutes passions by branding tendencies or behaviors as excessive or insufficient: the avaricious subject hoards too much, the prodigal not enough; the glutton eats to excess, the bore lacks spark. (Broden 1995: 234)

## 2.8 Pathemization and the thymic dimension of discourse

Fontanille defines “pathemization” as the “passional transformation proper” and emotion as its “thymic consequence” (Fontanille 1994: 353). The thymic dimension of discourse reveals the modulations between the poles of euphoria and dysphoria in the subject, due to his or her junction or disjunction with a thymic object, which is an object of either pleasure or of suffering (Greimas and Fontanille 1993: 44). A canonical example of thymic transformations in the course of a narrative is the order of the hero’s states of feelings in the course of a fairy tale. The initial state of lack is a state of dysphoria. Second comes a state of tension during the hero’s quest, and the “happy ending” brings a state of euphoria (cf. Kim 2002: 158).

In a summary of the dimensions that make up a passion, Fontanille (2002: 620) distinguishes six “codes” of tensivity that produce passional effects in discourse and in human bodies:

1. *somatic* codes (including the *phorias*): starts (*surprise*), trembling (*fear*), or stiffness (*stupor*);
2. *thymic* codes: strong and enduring dysphoria (*sadness*);
3. *modal* codes: intense wanting, but weak ability (*inhibition*);
4. codes of *perspective*: conflict in the perspective of a dominated subject (*envy*);
5. *rhythmic* codes: iteration and frequency (*obsession*);
6. *figurative* codes: encounter of the loved one with the rival (*jealousy*) in the form of “condensations” and “displacements”.

## 2.9 Passional simulacra

Closely connected with modality is the notion of the narrative simulacrum, a concept with which Greimas and Fontanille broaden the horizon of the semiotics of passions through the dimension of a “modal imaginary” or “modal simulacrum” (Greimas and Fontanille 1993: 28). The subject as well as the object of desire can be simulacra. The object that is a passional simulacrum is not an object of value, but a “shadow object”, a mere chimera, whose value is unknown, but which is nevertheless an object of desire (cf. Kim 2002: 151) since it has become “the subject-partner of the impassioned subject” (Greimas and Fontanille 1993: 28). The subject is a simulacrum if it turns into an alter-ego, a simulated subject of state. A summary of the semiotic theory of simulacra is the following:

The discursive semiotic subject constructs simulacra of actants in the world, and in particular of itself, which it inscribes in a narrative representing its relation to a privileged desired or feared object. This narrative includes the subject's goal image, that is, the denouement or dominant scene, which portrays the subject and object in a characterized existential mode. The simulacrum, ‘being's appearance’, constitutes an internally regulated competence in the subject, corresponding or not to situations in the world, as the miser aims not so much at the riches effectively accumulated, but at the persistent image of itself surrounded by riches. The inner narrative of the prodigal subject culminates inversely in the scene of a dramatic, generous gesture of freely giving away desired objects, while the goal image of the subject of terror confronts the subject with its anti-object. (Broden 1995: 234)

Not only subjects and objects, but also the passions turn simulacra: “To consider a passion altogether as a simulacrum within discourse amounts to representing the communication, as soon as several subjects are involved, as a circulation of simulacra”, writes Fontanille (1994: 361).

## 2.10 Tensivity and Freud's energy system

Freud's psychoanalysis seems incompatible with the theory of emotion of the Paris School, primarily because psychoanalysis is not a theory of the subject. Nevertheless, Fontanille sees at least parallels between the theory of tensivity of the Paris School and Freud's theory of the human being as an energy system, where tensions between conflicting psychical instances play a central role. The author justifies this argument in a passage that may also serve as a summary statement of the Paris School's semiotics of passions:

Emotion thus presupposes a tensive discursive space, articulated by modulations in which it introduces sudden and brutal variations. The tensions, for their part, presuppose energies. One can thus postulate that in its deep structure of discourse, there is a space permeated with energies that take meaning, for example, when narrative and discursive structures set up thresholds, frontiers, or zones in which energy accumulates or becomes sparse. Anger, for example, begins against the background of a tension caused by an expectation transformed by disjunction (frustration) into an accumulation of energy. The final explosion (in aggressiveness) leads then to the release of the accumulated energy and ends in a state of relaxation. The psychoanalytic concept of emotion is not very different since Freud also considered emotions as instances of the release of energy deviated from the normal course because of some inhibition or blocking of them. There are good reasons to dismiss the distinction between “normal” and “deviant” paths of energy release and even the notion of “discharge” as the exclusive form of

emotion. However, we will readily admit that emotion is superimposed on another predominant discursive regime of tensive modulation, which it breaks up. Fear, for example, will cause a stop or a slowdown in the regular program of usage, up to temporary suspension of the base program. (Fontanille 1993: 15)

### **3 Peirce's semiotics of feeling, sensation, sentiment, and emotion**

#### **3.1 Survey**

Charles S. Peirce (1839–1914) outlined a semiotic theory of emotion that has been reconstructed from a variety of his writings. First elements of his perspective on the emotions can be found in three papers of 1868–1869 known as the “Cognition Series”. Other papers are mainly of 1877–1878, 1893, 1898, and 1905–1907. Silveira and Pires (2014) present a general survey, summaries of Peirce's definitions of emotion, and they review the secondary literature. Rosensohn (1974) and Delaney (1993: 140–149) analyze Peirce's concepts of emotion, feeling, sensation, mental life, and consciousness. Hookway (1997, 2002: 223–245, 280–284) focuses on Peirce's theory of sentiment and emotion in relation to reason. Stephens (1981) is informative but finds fault with Peirce's cognitive semiotic approach to emotions from a psychological point of view. The most comprehensive and complete reconstruction of Peirce's semiotics of emotions is Savan (1981; cf. Short 1986: 116–120). Beeson (2008: 85–157, 290–304) contextualizes Peirce's concept of emotion in the US and British history of ideas, compares his semiotics of emotion with William James's psychological philosophy of emotion and offers a detailed and knowledgeable general, albeit somewhat digressive, panorama of the issue. An application of Peirce's semiotics of emotion in a study of dramatic anger is Santaella (1997).

#### **3.2 Feeling and quality of feeling**

The concept of emotion is closely associated with the ones of feeling, sensation, affect, and sentiment. Peirce takes great care in defining all of them individually and in their mutual relations. Only with the clarification of these concepts can Peirce's semiotics of emotion take shape.

Feeling is fundamental to emotion. It is the prototype of the phenomenological category of Firstness, the category of “whatever is such as it is positively and regardless of aught else” (CP 5.44, 1903). In contrast to emotion, feeling is “immediate consciousness” (CP 5.440, 1868). It is simple and still undifferentiated, although it can “show myriad-fold variety, far beyond what the psychologists admit. This variety however is in them only insofar as they are compared and gathered into collections. But as they are in their presentness, each is sole and unique; and all the others are absolute nothingness to it” (CP 5.44, 5.85, 1903). In contrast to emotion, feeling is therefore not yet an actual sign.

Feeling [...] is that kind of consciousness which involves no analysis, comparison or any process whatsoever, nor consists in whole or in part of any act by which one stretch of consciousness is distinguished from another, which has its own positive quality which consists in nothing else, and which is of itself all that it is [...]. Feeling [...] is positively, in itself, regardless of anything else. [...] A feeling is a state, [...] but not a single state. [...] It is simply a quality of immediate consciousness. (CP 1.306–7, 1907)

Feeling is neither a thought nor a sign because it is uninterpreted in its suchness. Peirce often uses the concept of *feeling* as a synonym of *quality of feeling* (e.g., CP 5.44, 5.85, 1903). As Peirce defines it, feeling is the mere quality and possibility of a sensation that is not yet actualized. Restricted to immediate consciousness, feelings are different from sensations, which are actually felt:

Among phanerons there are certain qualities of feeling, such as the color of magenta, the odor of attar, the sound of a railway whistle, the taste of quinine, the quality of the emotion upon contemplating a fine mathematical demonstration, the quality of feeling of love, etc. I do not mean the sense of actually experiencing these feelings, whether primarily or in any memory or imagination. [...] But I mean the qualities themselves which, in themselves, are mere may-bes, not necessarily realized. [...] That mere quality, or suchness, is not in itself an occurrence, as seeing a red object is; it is a mere may-be. Its only being consists in the fact that there might be such a peculiar, positive, suchness in a phaneron. (CP 1.304, 1904)

That qualities of feeling are “absolutely simple and unanalyzable” means that they are “without similarity to any other, but incomparable with any other and absolutely sui generis” (CP 5.289, 1868). That they are still undifferentiated does not mean that all are of the same quality. The color of magenta in its positivity is not the same as the odor of attar, the sound of a railway whistle, or the taste of quinine. However, in their suchness, each of these qualities of feeling is still “wholly inexplicable, because explanation consists in bringing things under general laws or under natural classes”, which does not occur in the domain of Firstness. “In short”, Peirce concludes, “the Immediate [...] the Unanalyzable, the Inexplicable, the Unintellectual) runs in a continuous stream through our lives; it is the sum total of consciousness” (CP 5.289, 1868). The pure quality of a phenomenon is as inaccessible as the presence of any moment is. “For, on the one hand, we never can think, ‘This is present to me,’ since, before we have time to make the reflection, the sensation is past, and, on the other hand, when once past, we can never bring back the quality of the feeling as it was in and for itself” (CP 5.289, 1868). A quality of feeling that is present but not sensible, having a positive quality without being analyzable, seems paradoxical. In its Firstness, it is “fresh and new because if it were old it would already be a Second in relation to a previous state. It is beginning, original, spontaneous and free because if not it would be a Second in relation to a cause. It precedes all synthesis and all differentiation; it has no unity nor any parts” (Santaella 1983: 59).

### 3.3 How feeling is included in emotion

Although the examples are mostly simple sensory qualities, Peirce’s concept of feeling is broader. “Imagine me to make and in a slumberous condition to have a vague, unobjecti-

fied, still less unsubjectified, sense of redness, or of salt taste, or of an ache, or of grief or joy, or of a prolonged musical note. That would be, as nearly as possible, a purely monadic state of feeling” (CP 1.303, c. 1894). Other examples include highly complex mental states. *Curiosity* is a feeling “causing a reaction which is directed toward the invention of some possible account, or possible information, that might take away the astonishing and fragmentary character of the experience by rounding it out” (CP 8.270, 1902). *Suspicion* is a feeling that ends in an emotion. “I should define it as a feeling causing a reaction directed toward unearthing the fault by which the original belief that encountered the surprise became erroneous in the respect in which it is now suspected to be erroneous. When this weak point in the process is discovered, it at once and suddenly causes an emotion of ‘Bah!’” (CP 8.270, 1902). Among the feelings are anger, melancholy, wonder, anxiety, hope, and even the feeling connected with giving a successful scientific explanation, which Peirce describes as most “chilling” (CP 5.292, 1868). Why are these not emotions or even passions?

Emotions and passions are representation, but they *include* feelings as nonrepresentative elements. The latter are the ingredients of Firstness included in the former, which are phenomena of Thirdnesses. While “there is no feeling which is not also a representation”, the feelings that “come to consciousness through tinging the objects of thought” in an emotion can be abstracted from the representation that includes it (CP 5.292, 1968).

In his later theory of the interpretant, Peirce even postulates the omnipresence of an ingredient of feeling in all processes of interpretation: “There is almost always a feeling, which we come to interpret as evidence that we comprehend the proper effect of the sign, although the foundation of truth in this is frequently very slight” (CP 5.575, 1907). While Peirce uses the term “feeling” to introduce this idea, he introduces the term “emotional interpretant”, which sounds as if Peirce were not quite consistent in distinguishing between feelings and emotions. However, the interpretant of a sign is a matter of Thirdness, and from this perspective, feeling is now included in representation, hence, emotion.

The duplicity of the element of feeling, in its belonging to both Firstness and Thirdness, is also apparent when Peirce interprets the ubiquity of an element of *feeling* in all sign processes as the omnipresence of an ingredient of *emotion*. As early as 1868, Peirce wrote, “[e]verything in which we take the least interest creates in us its own particular emotion, however slight this may be” (CP 5.398, 1868).

### 3.4 Sensation as experienced feeling

A feeling turns into a phenomenon of Secondness, a sensation, when it is experienced at a particular instance as a real fact since “a sensation is not had until I am really acted upon by something out of my control” (CP 7. 543, c. 1900). Peirce illustrates the transition from the Firstness of a feeling to the Secondness of a real experience with a scenario of a clash between two impressions of Firstness:

Imagine yourself to be seated alone at night in the basket of a balloon, far above earth, calmly enjoying the absolute calm and stillness. Suddenly the piercing shriek of a steam-whistle breaks upon you, and continues for a good while. The impression of stillness was an idea of Firstness, a quality of feeling.

The piercing whistle does not allow you to think or do anything but suffer. So that too is absolutely simple. Another Firstness. But the breaking of the silence by the noise was an experience. [...] That consciousness of the action of a new feeling in destroying the old feeling is what I call an experience. Experience generally is what the course of life has compelled me to think. (CP 8.330, 1906)

At the root of a sensation is the dyadic relation between “first, the feeling, and second the sense of its assertiveness, of my being compelled to have it” (CP 7.543, c. 1900). A “sensation contains two radically different kinds of consciousness. One part is feeling and the other part is the consciousness of being compelled to feel upon that particular occasion” (CP 7.543, n. d.). A sensation is not yet a sign, for signs constitute the triadic relation of a Third that mediates between a First and a Second, whereas feeling is monadic, consisting of a pure suchness, and sensation is dyadic, involving a self confronted with otherness. “The consciousness of compulsion in sensation [...] necessarily involves self-consciousness and also the consciousness of some exterior force. The self and the not-self are separated in this sort of consciousness. [...] Hence, to give it a name, I propose to call it *altersense*” (CP 7.543, c. 1900, emphasis in original). The dividing line between sensation and feeling is not always sharp. Peirce uses the concept of feeling in many contexts as a cover term that comprises feeling as well as sensation.

Likewise, Peirce admitted that the distinction between emotion and sensation was a moot question, although he was affirmative that both are rooted in feeling. About the branches of the tree of knowledge to which the studies of sensation and emotion belong, he writes, “It is questionable, I admit, whether I ought thus cut the studies of Sensation and of Emotion into two parts belonging to different Orders. [...] One naturally baulks, too, at admitting that this Family has no Genera studying any other mental faculties than those of Feeling; yet this is a point upon which I permit myself a certain degree of confidence” (CP 7.378, c. 1902).

More precisely, Peirce differentiates between feeling as pure undifferentiated suchness, the experience of feeling, which is an inward and outward sensation, and reproduction of a feeling in memory, which is a mental sign: “A feeling experienced in an outward sensation may be reproduced in memory. [...] For instance, you experience, let us say, a certain color sensation due to red-lead. It has a definite hue, luminosity, and chroma. These [are] three elements – which are not separate in the feeling” (CP 1.308–309, 1905).

### 3.5 Affect

*Affect* is not a concept that Peirce uses explicitly, but Savan (1981: 327) argues that, without being thus denominated, it became an element in Peirce’s semiotics of emotions from 1877 on. Savan defines affect as “that variation in intensity of arousal and agitation that is manifested both by involuntary physiological changes and by larger movements of approach and withdrawal” (Savan 1981: 326). Examples are the affects of belief and doubt:

Belief is a “calm and satisfactory state which we do not wish to avoid” (CP 5.372). It is a “subjective feeling of mastery” (CP 5.389) in which thought relaxes. Doubt, on the other hand, is “an uneasy and dissatisfied state from which we struggle to free ourselves” (CP 5.372). It is something we instinctively dread (CP 5.377), forced upon us willy nilly either by the passionate opposition of other people or the

shock of harsh experience. It is an irritation that “stimulates the mind to an activity which may be slight or energetic, calm or turbulent” (CP 5.394). (Savan 1981: 327)

If we take the concept of affect in the sense of the doctrine of affects in ancient rhetoric and in the 18th century German *Affektenlehre*, where affects were conceived as the outward visible signs of passions, Peirce also addresses affect in this sense, when he associates emotions with the somatic motions typically evoked in response to them:

There is some reason to think that, corresponding to every feeling within us, some motion takes place in our bodies. This property of the thought-sign [...] may be compared with what I have called the material quality of the sign [...]. The sensation produces no great commotion in the bodily organism [...]. The thoughts which determine an emotion, [on the other hand, have] motions corresponding to them in the brain [...]; consequently, it produces large movements in the body, and independently of its representative value, strongly affects the current of thought. The animal motions to which I allude, are, in the first place and obviously, blushing, blanching, staring, smiling, scowling, pouting, laughing, weeping, sobbing, wriggling, flinching, trembling, being petrified, sighing, sniffing, shrugging, groaning, heartsinking, trepidation, swelling of the heart, etc., etc. (CP 5.293, 1868)

It is known that the link between emotions and somatic motions is inherent in the etymology of the word. Peirce commented on the etymology of the word in the *Century Dictionary* of 1886, “*Emotion* derives from ‘emotio’, a word which as far as I know, and I am pretty well read in hog-latin, is entirely imaginary. For derivation and definition put: L. emotus, pp. emoveo, to expel, agitate” (Peirce 1993: 400). Peirce goes on to distinguish two senses of emotion, both associated with bodily motions, “(1) a secondary sensation, or feeling excited by an idea, that is accompanied by a bodily commotion, like blushing, blanching, trembling, weeping, etc.; (2) [a] physical excitement, as [an] emotion of the pulse induced by exercise” (Peirce 1993: 400, 1886). The somatic effect provoked by an emotion in the form of a bodily movement need not be “felt directly as a bodily state”; it may also be “only known inferentially” (CP 1.250, c. 1902), for example, when reading about emotions in a novel.

### 3.6 Emotion as a sign

Emotions are embodied in signs, which represent an object and evoke an interpretant. As a sign, an emotion is thought-like. Emotions are thought-signs, internal signs, which are not necessarily embodied externally. External signs of emotions, such as the tears of a sad person, are not emotions, but only their symptoms, i.e., indexical signs of emotive states. Although not always externalized, emotions always “depend upon the state of our thoughts about something” external (CP 7.339, c. 1873). Savan gives the example of a person in the grip of fury: “Here, it would seem that the strong immediate feeling is the emotion of rage. But it is characteristic of the strongest passions that while we are in their grip we are least aware of our feelings” (Savan 1981: 321). We are driven away, absorbed in the feeling, and “it is only after the first surge has passed that we are able to reflect upon our feelings and identify them” (Savan 1981: 321) as, for instance, feelings of rage. Hence, the immediate feeling is not the sign of an emotion. The emotion is a sign of the feelings associated with it.

### 3.7 Sentiment

Peirce never defined the concept of sentiment, and it is certainly not a key concept in his semiotics of emotion, but he developed a theory of “logical sentiment” that has received much attention from his commentators. The difference between emotion and sentiment is not sharp. There seems to be a gradual transition in the semantic spectrum extending from sentiment as a quasi-synonym of feeling to a concept of moral philosophy.

The most detailed account of Peirce’s concept of sentiment is in Hookway’s (1997) paper “Sentiment and self-control” and in chapter 9 of his (2002) *Truth, rationality, and pragmatism*. This account of Peirce’s theory of logical sentiment is comprehensive, but the author does not clarify whether sentiments differ from emotions, when he discusses Peirce’s cognitive theory of emotion as “Peirce’s cognitive theory of sentiment” (Hookway 2002: 240–243).

Savan, by contrast, distinguishes between emotions and sentiments as “enduring and ordered systems of emotions, attached either to a person, an institution, or, in Peirce’s case, a method” (Savan 1981: 331). For him, *love* is “the prime example of a sentiment. One who loves will be joyful but also sad, angry, and jealous, and also fearful and careless. But the joy and sadness, jealousy and carelessness, anger and fear all are bound together within one sentiment of love” (Savan 1981: 331). On the other hand, the author distinguishes among “natural instinctive emotions”, “moral emotions”, and “logical sentiments” and he concludes that sentiments are “not emotions” (Savan 1981: 330–331).

Beeson (2008: 32) ascertains that mid-19th century English-language psychology textbooks used to subsume passions, affections, sentiments, and feelings under the cover term of emotion. Sentiment was then a kind of emotion. How do sentiments differ from emotions? Among the various meanings listed for “sentiment” in the *Oxford English Dictionary* of 1989, two come closest to, but do not exhaust Peirce’s ordinary use of the term, (i) ‘a mental feeling, an emotion; now chiefly [...] those feelings which involve an intellectual element or are concerned with ideal objects’, and (ii) ‘an emotional thought expressed in literature or art’ (<https://www.oed.com/oed2/00219981>, accessed 18 December, 2021). In addition, Peirce’s usage of sentiment is often associated with the notion of an instinct that guides us in “vitally important” matters and even in logical reasoning (CP 1.616–1.677, 1898).

Peirce’s use of “sentiment” has many other facets, all of which are tinged with emotional connotations. Sentiment may be a synonym of “feeling” (e.g., “feeling or sentiment”, CP 6.19, 1891), a “thought or sentiment” associated with a feeling (CP 5.378, 1877), the sentiment of generalization of which poetry is “one sort” (CP 1.676, 1898), an esthetic sentiment (“forms of beauty [and] of sentiment [...] are the most evanescent of phenomena”, CP 6.552, 1887), or a religious sentiment. Religion, says Peirce, has its root in “a sort of sentiment, or obscure perception, a deep recognition of a something in the circumambient All” (CP 6.429, 1893). “The complete regeneration of sentiment is religion, which is poetry, but poetry completed”, CP 1.676, 1898). Furthermore, a “sentiment of awe” is associated with the ancient Eleusinian cults (CP 6.351, c. 1902). Finally, there are moral sentiments, such as the “altruistic sentiment” whose “end is to realize a general ideal” (CP 1.589, c. 1900) or the “esprit de corps, national sentiment, [and the] sympathy” for fellow creatures (CP 6.271, 1891).

For Peirce, “the wisdom of sentiment” steers practical and vital concerns of human life and it guides scientific reasoning when logic and mathematics fail (CP 1.649–1.660, 1898). Three sentiments are “indispensable requirements of logic”, namely “interest in an indefinite community, recognition of the possibility of this interest being made supreme, and hope in the unlimited continuance of intellectual activity” (CP 2.655, 1877). Peirce wrote,

Men many times fancy that they act from reason when, in point of fact, the reasons they attribute to themselves are nothing but excuses which unconscious instinct invents to satisfy the teasing “whys” of the ego. The extent of this self-delusion is such as to render philosophical rationalism a farce. Reason, then, appeals to sentiment in the last resort. (CP 1.631–32, 1898)

That sentiment in this sense is not the polar opposite of reason, but a vital constituent of it is one of the deeper insights of Peirce’s philosophy. Even logic has sentiment as one of its “indispensable requirements”, argues Peirce, namely, the one of “hope in the unlimited continuance of intellectual activity” (CP 2.655, 1877). Furthermore, since “logic depends on a mere struggle to escape doubt”, it “must begin in emotion” (CP 2.655, 1877).

### 3.8 Emotion as cognition

Since “every phenomenon of our mental life is more or less like cognition, every emotion, every burst of passion, every exercise of will, is like cognition” (CP 1.376, c. 1885). Peirce thus defends a cognitive theory of emotion, but not a cognitive theory of feeling and sensation. He argues that what “makes us look upon the emotions more as affections of self than other cognitions, is that we have found them more dependent upon our accidental situation at the moment than other cognitions; but that is only to say that they are cognitions too narrow to be useful” (CP 5.292, 1968).

An emotion is not the fruit of an intuition. It is not *immediately* felt in the sense something never experienced before is since it is not without reference to other emotions. Only feelings present themselves to our senses as immediate qualities. They are the material or sensuous qualities of emotions, which represent nothing yet (cf. Savan 1981: 323). In its suchness, a feeling cannot yet be differentiated from other feelings so that it has no semiotic structure yet. As Savan explains, a feeling is

a mental event [that] exists over some time period. Once that period is over, the event has passed. The identical event cannot recur, whereas an emotion can. My revulsion at torture is the same today as it was yesterday. To compare two temporally distinct occurrences, they must be brought together, set side by side, and this can happen only if the two occurrences are represented. An emotion is, then, a representamen, a sign. (Savan 1981: 321)

### 3.9 Emotions as legisigns and sinsigns

Emotions are types or habits of experience mentally associated with previous experiences of a similar kind. Each new instance of an emotion is associated with previous instances of experience of it. As recurrent habits of feeling, an emotion is a legisign, a sign that

recurs with some regularity in the semiotic life of its interpreter. Due to their recurrence, emotions become habits of feeling. Hence, emotions are like verbal expressions, determined by linguistic rules that have become habits. Peirce defined signs of this kind as *legisigns*. Like words, emotions are legisign, but a legisign, just like a law or rule, has no embodiment as such; it still needs to be embodied to be known as a sign. Once embodied, an emotion becomes a *sinsign*, a replica or singular instance of the legisign. The feeling embodied in the sinsign of an emotion is a *qualisign*. Hence, emotions are nonverbal legisigns insofar as they are habits of feeling and action. Embodied in sinsigns, singular instances of legisigns, they incorporate a qualisign, which consists of the associated feeling quality.

### 3.10 Anger and other examples

As Peirce sees it (cf. Savan 1981: 325), emotions begin with a state of confusion disturbing a habit of expectation causing puzzlement as well as the awareness of a loss of control over the situation. Uncertainty prevails, and feelings are in conflict.

The emotions, as a little observation will show, arise when our attention is strongly drawn to complex and inconceivable circumstances. Fear arises when we cannot predict our fate; joy, in the case of certain indescribable and peculiarly complex sensations. If there are some indications that something greatly for my interest, and which I have anticipated would happen, may not happen; and if, after weighing probabilities, and inventing safeguards, and straining for further information, I find myself unable to come to any fixed conclusion in reference to the future, in the place of that intellectual hypothetic inference which I seek, the feeling of anxiety arises. When something happens for which I cannot account, I wonder. When I endeavor to realize to myself what I never can do, a pleasure in the future, I hope. "I do not understand you", is the phrase of an angry man. The indescribable, the ineffable, the incomprehensible, commonly excite emotion. (CP 5.292, 1868)

The emotion of anger, for example, manifests itself in many ways, but all instances of it have some attributes in common. An emotion begins with a state of excitation, followed by aggressive verbal and nonverbal behavior or, when anger remains unexpressed, by plans or a desire of aggression. Such common characteristics show that the instance of anger is a replica of a general type, the legisign of anger. The replicas of emotions also embody qualities of feeling, which are qualisigns. Although of a general type, emotions cannot be such, unless they are embodied or expressed in the body and mind of an angry person in a specific situation. Anger produces specific facial and bodily symptoms, such as feeling hot, trembling or shaking, having an increased heart rate or a stomachache.

### 3.11 Emotion as a rheme of a dicent sign

For Peirce, an emotion is the predicate of a proposition-like nonverbal or verbal mental sign, whose logical subject expresses the cause of this emotion:

Every emotion has a subject. If a man is angry, he is saying to himself that this or that is vile and outrageous. If he is in joy, he is saying, "this is delicious". If he is wondering, he is saying, "this is strange". In short, whenever a man feels, he is thinking of something. Even those passions which have

no definite object – as melancholy – only come to consciousness through tinging the *objects of thought*. (CP 5.292, 1868, emphasis in the original)

The observation that emotions “tinge” the way we interpret objects is an interesting, albeit somewhat vague parallel to the Paris School notions of tensivity and modulation discussed above.

The cause or motive of anger, referred to as “this or that” in Peirce’s argument, is expressed in the subject or object of the emotion. As a logician, Peirce makes no difference here between the notions of subject and object. What he refers to with both terms is the logical cause of the emotion, not to the person who experiences the emotion. The felt emotion is then the predicate attributed to the subject, which represents its cause. The resulting proposition-like sign is a *dicent*, a term that Peirce uses to expand the notion of proposition to include nonverbal phenomena such as the conjunction of a nonverbal motive or cause and a nonverbal effect of an emotion.

With the advancement of his semiotic system after 1903, Peirce began to interpret the propositional subject of a dicent as involving an indexical, and the predicate an iconic rheme, which corresponds to a term in logic, roughly to a verb of attributive expression in ordinary language. The dicent sign thus contains an index pointing to the cause of the emotion (notice the “this and that” in the above description), whereas the emotion it evokes is a mental icon in the sense of a sign that can only be imagined in comparison to previously experienced signs of the same kind. Similar to verbal propositions, which can be true or false, emotions can be appropriate to their causes, justified or “shown to be inappropriate, disproportionately strong or weak, and so on” (Savan 1981: 323). These are further characteristics of a dicent legisign, which are signs of habits.

### 3.12 Emotional reasoning

“Emotional reasoning” is a major topic in Peirce’s writings. Both logical and emotional reasoning occur in the form of inferences, but while logical reasoning is self-controlled, emotional reasoning lacks such control. In emotional reasoning, the causes of the emotion are inferred from their effects on the state of mind, but since emotions are vague, their causes may be uncertain. Therefore, Peirce defines emotional inferences as “hypothetic”, which is the mode of reasoning that he later defines as abduction. “We may say, therefore, that hypothesis”, i.e., abduction, “produces the sensuous element of thought, and induction the habitual element” (CP 2.643, 1877). The mode of induction subsequent to the one of abduction in emotional reasoning serves to define the specific nature (joy, sorrow, etc.) of the emotion under analysis.

### 3.13 The object of a dicent sign of emotion

In 1907, Peirce defines the object of a sign as “that which the sign ‘stands for’” or which it represents. It is that which an utterer has in mind, an “individual thing, or individual collection or series, or an individual event” (Peirce 1998: 407). Whether existent or only

fictional, it must be possible to indicate it within the given universe of discourse in which the sign is located. Peirce goes on to distinguish between the *immediate object* as the idea the sign “is calculated to awaken” or on which it “is built” and the *real* (elsewhere: *dynamical*) object as “that real thing or circumstance upon which that idea is founded” (Peirce 1998: 407). “What, for example, is the object of ‘runs’? Answer: it is something, a runner. What is the object of ‘kills’? Answer: it is a pair of indesignate individuals, the one a killer, the other killed by him. So ‘gives’ has for its object a triplet of related indesignate singulars, a giver, a gift, a recipient of that gift from that giver” (Peirce 1998: 408).

According to these premises, the object of an emotion consists of the agents, objects, or circumstances in the scenario that causes the emotion, agents, and patients. Adapting an example that Peirce gives in CP 1.474 (c. 1896), the objects of the scene of Raskolnikov’s murdering Alyona Ivanovna with an axe in Dostoyevsky’s novel are three: the murderer, the axe, and the victim. The three objects are represented indexically in the form of two proper names and one mental index, the axe as an object of real experience that the reader needs to imagine as an individual axe by selecting mentally a particular axe from the class of her or his objects of experience to make sense in this situation. The emotion of abhorrence the reader feels in the face of this heinous crime is a matter of its interpretant. It cannot be indicated, as objects need to be. It is a mental icon of the feelings similar crimes usually evoke in us.

Consider the emotion of love represented in the dicent sign (i.e., the proposition) “Ezekiel loveth Huldah” (CP 2.295, c. 1893). “Ezekiel” and “Huldah” are the two objects of this sign, says Peirce. The dicent sign designates them by means of indices in the form of their proper names. Indices are necessary to identify the object of a sign, “for without indices it is impossible to designate what one is talking about”, explains Peirce (CP 2.295, c. 1893). The verb “loveth” is a “mental icon of one person loving another” (CP 2.295, c. 1893). The emotion associated with it does not belong to the objects of the sign because love cannot be identified by an index. It is therefore a matter of the interpretant. “The pair of objects denoted by the pair of indices Ezekiel and Huldah is represented by the icon or the image we have in our minds of a lover and his beloved” (CP 2.295, c. 1893).

Rosensohn exemplifies why the emotion of love in this scenario is an interpretant as follows: “Slowly it dawns on John that the emotion he is experiencing is love. He is in love with Mary whose face he sees, but who is absent in fact. This is a moment of interpretation. A quality of feeling is connected with an object, and the two are brought into unity [...] by a third conception or *interpretant*, which is John thinking, I love her, I miss her” (Rosensohn 1974: 93). In this sense, emotions as such are not the objects of signs, but belong to their interpretants. The objects of signs of emotions are agents, things, and circumstances involved in the scenarios represented by signs interpreted as emotions.

### 3.14 The interpretant

The interpretant of a sign is its “proper significate outcome” (CP 5.473, c. 1907), usually, the effect it exerts on its interpreter. As shown above, the emotion of abhorrence felt in the face of a scenario of an agent committing a crime is the interpretant, the iconic rhematic

legisign of a dicent sign, whose objects are the agent, the patient, and the instruments of their action. Here, the effect of the sign is thought-like, but the interpretant of a scenario that provokes emotion can have other forms, such as actions, habits, or habit changes. Beethoven composed a piano rondo known by the title *Rage over a Lost Penny*. The objects of this sign are the very composer and the penny he lost, although the hearer is invited to imagine any other person in search of her lost penny. The interpretant has the form of a piano rondo representing the protagonist's feeling of rage at not finding the penny. The musical sign is an icon of the quality of this feeling since its repetitive rhythms, tempos and tones evince similarities with the penny seeker's feelings.

Peirce's theory of the interpretant is complex. Only the three main interpretants of a sign can be introduced here with a focus on the emotions involved. First, there is the immediate interpretant. It consists only of the possible, not yet actualized emotional effect inherent in the sign. Second comes the dynamical interpretant, which is the effect actually produced by the sign, the actually resulting emotion. Third, there is the final interpretant, which consists of a rule or pattern for the understanding of the sign. One of Peirce's exemplifications of this triad is a sign, the author's utterance, "It is a stormy day", in reply to his wife's inquiry about the weather conditions early one morning. Peirce describes the three interpretants of this sign as follows: "The Immediate Interpretant is the schema in her imagination, i.e. the vague Image or what there is in common to the different Images of a stormy day. The Dynamical Interpretant is the disappointment or whatever actual effect it at once has upon her. The Final Interpretant is the sum of the Lessons of the reply, Moral, Scientific, etc." (CP 8.314, 1909). The example shows that the final interpretant is rather irrelevant in the cases of a weather report or Beethoven's rage at the lost penny. In both signs, the dynamical interpretant is predominant and in both cases, emotion is involved; in one, it is the emotion of disappointment, in the other, the one of rage.

In Dostoyevsky's novel, we come closer to the idea of a final interpretant of an emotional sign. The readers' emotions of abhorrence are dynamic interpretants, but the profound psychological and moral lessons the novel teaches about the depths of the human soul are final interpretants to the degree they are universal, but to the degree that these emotions differ according to cultural norms, their interpretants are not final. For example, readers from cultures that advocate the death penalty may be disappointed that this penalty is not inflicted on the protagonist. Notice, however, that the final interpretant of Dostoyevsky's novel or any other literary masterpiece is not necessarily the significate emotional effect actually evoked in all readers of the novel. Against such an empirical conception of a final interpretant of a literary sign, Peirce presents the alternative conception of an interpretant that has a significance of the nature of a "would-be". In a letter to Lady Welby, the author of books on *What is Meaning?*, *Significance and language*, and other semiotic topics, Peirce explains, "My Final Interpretant is, I believe, exactly the same as your Significance; namely, the effect the Sign *would* produce upon any mind upon which circumstances should permit it to work out its full effect" (SS 110, 1909).

## 4 The cognitive substratum of semiotic conceptions of emotion

The semiotic theories of emotion outlined in this chapter differ in many respects. The Paris School pays much attention to meanings expressed in emotion words and to the way in which feelings are expressed in discourse. Feeling is “associated with” representation and discourse, but emotion proper is a phenomenon of discourse. Peirce draws a sharper distinction between feeling and emotion. Feelings are not signs of emotions, but emotions are signs of feelings. Both theories are cognitive theories that do not ignore the affective and conative elements in emotion. Emotions are neither immediate feelings nor physiological reactions. They are embodied in signs and as such, they represent an object in a particular way. In the analysis of the way in which emotion signs represent their object, the two semiotic approaches to the study of emotion have another element in common. For Peirce, emotion signs are of the nature of a predicate attributed to an object, which is the object the emotion sign represents indexically. The Paris School theory of emotion localizes the signs of emotion in verb phrases and their diverse modalizations. The object of value associated with an emotion is typically represented in the form of a noun phrase that functions as a sentence object.

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## 17 Multimodality, facial expression, and emotional language

- 1 Background
- 2 Embodied and grounded theories of emotion processing
- 3 Commensurability between “visual” and “verbal” emotion information processing
- 4 Embodied emotional language: implications for second language (L2) comprehension
- 5 Concluding remarks
- 6 References

**Abstract:** Individuals convey emotional information using verbal as well as nonverbal channels (e.g., language, emotional expressions, posture, intonation, etc.). There is growing awareness among emotion researchers that understanding emotions expressed by others involves embodied processes. For instance, seeing somebody smiling elicits in the observer the automatic and unconscious tendency to smile (i.e., facial mimicry). Such spontaneous bodily processes are thought to facilitate, by means of the embodied experience, the access to other people’s emotions and, thus, emphatic understanding that in turn promotes a more positive social interaction.

I will first review literature on mimicry processes. Then, I will review evidence showing the involvement of embodied processes in emotional language processing and provide evidence demonstrating that similar bodily reactions are also at play when emotions are conveyed by other nonverbal means such as posture and tone of voice. Taking an integrative approach, I will propose the commensurability between different modalities when processing emotional information focusing on verbal and nonverbal channels. Subsequently, I will discuss the relevance of these embodied processes in different aspects of cognition and interactions. Finally, I will draw some conclusions based on recent research on the possible relevance of this framework for bilingualism and discuss the potential implications for emotion communication in multilingual and multicultural contexts.

### 1 Background

Humans communicate emotional information in different ways such as emotional expressions, body postures, tones of voice, and words. How do humans make sense of emotional information across so many different means? What happens when we see a friend or loved one smiling? Or when she is telling us that she has never been so “happy”? What happens

when we read about it in a mail or when we read in a book about someone very happy? Do we feel that emotion ourselves? Do we understand a word such as happiness in the same way we understand a smiling face?

In this chapter I will discuss how we make sense of emotional information such as facial expressions or emotional language (e.g., “happy”, “joy”) taking an embodied and grounded perspective that suggests that our body and the environment in which we navigate shape and provide constraints to our cognitive processes (e.g., Barsalou 1999, 2010). There is growing awareness among emotion researchers, in fact, that understanding emotions expressed by others might involve embodied processes. Embodied and grounded perspective suggests that partial reenactment of the emotion expressed by a facial expression plays a key role in understanding others’ emotional facial expressions (e.g., Niedenthal et al. 2009). This perspective suggests that understanding emotional information implies the re-experience of the very same emotion that the word is describing or that a face is expressing. According to this view, in order to understand a sad or happy face we require to partially reenact what for us being sad or happy is (Wood et al. 2016a, 2016b).

I will first review literature on the processing of emotional facial expressions and the role that embodied processes such as facial mimicry play in our understanding (Wood et al. 2016a). Then, I will focus on how we make sense of emotional language, outlining how emotional language is a very special category of linguistic material (cf. Mazzuca, Barca, and Borghi 2017). Following, I will draw a parallel between visual and verbal material in the emotion domain. Taking an integrative approach, I will describe a possible commensurability between verbal and visual material in the understanding of emotional information (Barsalou 1999; Foroni and Semin 2009) that may have interesting real-life implications for our judgments and cognition. Finally, I will outline the relevance of this framework on emotional language for bilingual and multilingual language processing (see Foroni 2015).

## 2 Embodied and grounded theories of emotion processing

Social life requires us to understand emotional information based on many different cues. How do we successfully perform such a task? An early account of information processing (e.g., Fodor 1979; Pylyshyn 1984; for a review, see Barsalou 2008) considered concepts as abstract representations of our experiences stored in our minds. According to this view, emotional information, like anything else, is initially encoded in sensory modalities (e.g., vision, audition, etc.). However, in order to be able to perform higher-order cognitive processes such as thought and language, the modality-specific information is transformed or “transduced” into amodal symbols detached from the actual perceptual, somatosensory, or introspective information from which they were transduced.

Embodied or grounded theories were developed as alternative accounts suggesting instead that cognition is grounded in perceptual, motor, and affect systems. These recent models argue that any cognitive processing relies heavily on modality-specific and motor resources (e.g., Barsalou 1999, 2008; Glenberg and Robinson 2000; Wilson 2002). In partic-

ular, they suggest that knowledge of the outside world is “grounded” within our body, and multimodal representations within our body play a critical role in *perceiving* and *understanding* as well as *thinking* about a concept or about a given stimulus. A common notion in embodied theories is the notion that sensory resources are involved in embodied “simulations” of the to-be-perceived stimulus (e.g., Gallese 2003). These simulations can be thought of as projections of a perceived stimulus onto the observer’s own body (i.e., motor, cognitive, and emotional representations). Thus, according to these models the mechanism by which we understand emotional information is strongly overlapping with the actual experience of such emotions. In this perspective, the mere perception of someone’s smiling face will recruit simulations of the emotion. This notion is also related to the contention that systems for action and perception heavily overlap as suggested by the literature describing mirror neurons (for a review of the discussion see, e.g., Iacoboni 2009; Kilner and Lemon 2013; Molenberghs, Cunnington, and Mattingley 2009). In the domain of emotion information processing, the embodiment framework has been extensively investigated (e.g., Foroni and Semin 2009; Niedenthal 2007; Winkielman, Niedenthal, and Oberman 2008).

The traditional symbolic/amodal theories consider the processing of emotion information similar to the processing of something like a “car”. Based on the traditional models, like we can understand that a “car” possesses features like “tires” and “engine”, we also understand that “anger” is characterized by features like “desire to strike out” (cf. Winkielman, McIntosh, and Oberman 2009). Differently from traditional models, in the embodied models knowledge of an emotion concept and its processing is not simply reduced to abstract language-like amodal symbols but is thought to engage simulations of previously experienced emotions associated to the concept. The mechanism of reenactment of multimodal features is at the core of embodied theories (e.g., Barsalou 1999, 2008, 2010) and applies at large. For instance, when perceiving and recognizing a fearful facial expression, the observer may partially generate in her-/himself the same fearful facial expression. Thus, when we think about “fear”, past experiences we had and that are conceptualized as “fear” are reactivated and the perceptual and multi-sensory features involved in our prior experiences are re-enacted (i.e., we partially re-experience “fear”). When processing emotional language these models suggest that a similar reenactment will occur (Niedenthal 2007; Niedenthal et al. 2009; Winkielman et al. 2009).

Theories of embodied cognition build the modality-based view of emotion processing on the growing knowledge about the biological mechanisms of emotion processing (Heberlein and Atkinson 2009). Modern embodiment theories assume that reenactment involves both the central and peripheral systems. The former includes systems that represent the body (somatosensory and motor cortices) and can engage in modality-specific simulations (i.e., vision, audition, touch, etc.). On the other hand, the peripheral systems involved refer for instance to muscles and viscera (Gallese 2003).

In summary, one key aspect of the most recent embodiment models is the emphasis on modal, analogue, perception-like representations (e.g., Perceptual Symbol Systems; Barsalou 1999). According to embodiment models, perceiving a facial expression or understanding an emotional word (i.e., respectively, perceptual and conceptual emotion processing) is thus achieved by recruiting somatosensory resources (peripheral and central). Thus,

even though the word “happy” does not constitute happiness, the embodied knowledge of happiness is automatically activated, and with it, a happy-like response (Winkielman et al. 2009). Support for this idea comes from neuroimaging studies that showed how the “recognition of emotional facial expressions” and the “processing of emotional language”, activate brain structures like the prefrontal cortex, somatosensory cortices, and amygdala, which also play a key role in the actual experience of emotions (e.g., Adolphs 2002; Kensinger and Schacter 2006). Since populations of neurons in the affective networks are vastly interconnected with other brain structures, they allow a quick multimodal re-enactment of a given emotional information and, thus, also lead to a modulation of a perceiver’s motoric and somatic state (for a review, see e.g., Barsalou 2008, 2010; Wood et al. 2016a).

Theories of embodied cognition have shown immediate relevance to the large set of research areas in cognitive sciences (for a review, see also Barsalou 2008, 2010), including action and perception (e.g., Bub, Masson, and Cree 2008; Tucker and Ellis 1998, 2001), language comprehension (e.g., Foroni and Semin 2009, 2013; Intraub and Hoffman 1992; Tucker and Ellis 2004), social cognition (e.g., Nakamura et al. 2014), and most importantly in the context of the present chapter, emotional information processing (e.g., Foroni and Semin 2009, 2011; Niedenthal 2007; Winkielman et al. 2009).

## **2.1 Embodied and grounded perspective on facial expressions perception and discrimination**

The human face can effectively communicate emotional states in the absence of spoken words. People usually smile when feeling “happy” and frown when “upset”. Faces expressing emotions communicate our own affective state and automatically capture our attention (Ambron and Foroni 2015; Ambron, Rumiati, and Foroni 2016; Pourtois, Schettino, and Vuilleumier 2013) and humans extract their emotional meaning in a few hundred milliseconds (Bijlstra, Holland, and Wigboldus 2010). However, how do we understand that the expression of the person before us is a “smile” or a “frown”?

According to embodiment theories, when recognizing a facial expression (e.g., a smiling face), the perceiver partially generates her own “smiling” expression (e.g., Barsalou 1999, 2008, 2010; Niedenthal 2007). Theories of embodied cognition further suggest that this mimicry response is not an epi-phenomenon but it helps the perceiver in the process of understanding the emotion expressed by the face by providing proprioceptive feedback (e.g., Foroni and Semin 2009; Niedenthal et al. 2009; Zwaan, and Taylor 2006). This feedback would even allow us to automatically understand other people’s mental states, sensations and emotions as if they were our own (Niedenthal 2007; Niedenthal et al. 2010; Rizzolatti and Craighero 2004). These arguments are based on two distinct aspects: (i) perception of emotional expressions involves the reenactment of the same emotion expressed by the to-be-perceived facial expression (i.e., reenactment of a smile while perceiving a smiling face); and (ii) the embodied processes involved in the reenactment of the to-be-perceived emotional expression play a critical role in the recognition of the expression (Niedenthal 2007; Wood et al. 2016a). I will briefly review, in turn, evidence in support of the each one of these aspects.

In line with the idea of a reenactment in the observer of the to-be-perceived emotion expression, when perceiving and recognizing facial expressions, observers automatically display corresponding facial expressions (Dimberg and Thunberg 1998; Dimberg, Thunberg, and Elmehed 2000; see also McDonald et al. 2011; Riehle, Kempkensteffen, and Lincoln 2017).

The embodied responses of the mimetic muscles have been extensively studied with many techniques including facial electromyography (EMG) recordings. EMG measures electrical currents generated in muscles during contraction by means of passive electrodes placed over the muscles of interest, providing an objective and very precise measurement of even subtle muscle activity (e.g., Larsen, Norris, and Cacioppo 2003). For example, studies implementing the EMG technique measuring facial muscle activity showed that when people are exposed to emotional facial expressions, they spontaneously react with distinct facial EMG reactions in emotion-relevant facial muscles (e.g., Dimberg and Thunberg 1998). These reactions are even present when the emotion expression is presented outside the observer awareness (i.e., unconsciously; Dimberg et al. 2000).

According to embodied cognition models, automatic simulations of emotional facial expressions reflect underlying increased neural activity in the sensory and motor systems associated with the production of the same expression (Adolphs 2002; Goldman and Sripada 2005; Keysers and Gazzola 2009; Niedenthal 2007; Niedenthal et al. 2010; Rizzolatti and Craighero 2004; Wood et al. 2016a). Thus, the facial feedback (Strack, Martin, and Stepper 1988; for a discussion, see also Coles et al. 2020; Korb et al. 2017; Noah, Schul, and Mayo 2018; Wagenmakers et al. 2016) from mimicry responses may partially reactivate the emotion concept (i.e., happiness) and, in turn, facilitate the recognition of the facial expression (e.g., Barsalou et al. 2003; Lee et al. 2006; Niedenthal 2007; Wood et al. 2016a).

In line with the contention that mimicry plays a role in emotion recognition, there is growing supporting evidence (e.g., Niedenthal 2007; Niedenthal et al. 2010; Rizzolatti and Craighero 2004; Wood et al. 2016a; but also see Blairy, Herrera, and Hess 1999; Fischer, Becker, and Veenstra 2012; Hess and Blairy 2001). Authors have tackled this idea by testing emotion expressions perception and recognition, mostly implementing three different approaches.

*First*, researchers investigated emotion recognition performance in conditions where the stimulus and the emotional state of the perceiver were either congruent or incongruent under the assumption that congruency/[incongruity] between emotional state of the perceiver and the emotion expression to-be-perceived should facilitate/[inhibit] recognition (Niedenthal 2007). In line with expectations, research consistently showed better emotion discrimination performance (i.e., faster reaction times and greater accuracy) when perceiver is in a congruent state/emotion with the facial expression to be discriminated (e.g., Niedenthal et al. 2001; Stel and van Knippenberg 2008).

*Second*, researchers have investigated emotion recognition performance in patients that have permanent (e.g., Korb et al. 2016b) or temporary facial muscle paralysis (e.g., Baumeister, Papa, and Foroni 2016; Davis et al. 2010). This approach is particularly useful because it allows the direct test of the assumed causal relationship between facial mimicry and facial emotion discrimination. Baumeister and colleagues (2016), for instance, took advantage of a group of patients undergoing subcutaneous injections of Botulinum Toxin-

A (BTX) and compared them with a matched control group. Botulinum Toxin-A is a strong neurotoxin that is used in the cosmetic industry to temporarily paralyze facial muscles for aesthetic purposes. The ability to discriminate emotional expressions was tested twice: before and after injection (or at comparable temporal interval for the control group). Results showed that paralyzing facial muscle led to a significant drop in emotional expressions discrimination performance (as measured by reaction times) and led to a reduced emotionality perception (respectively, tasks 2 and 3 in Baumeister et al. 2016).

A *third* approach implemented has tested a normal population in conditions where facial muscle activity is reduced or mechanically blocked by means of a special cream/gel or by asking participants to hold a stick/pen in their mouth in a certain position (e.g., Baumeister, Rumiati, and Foroni 2015; Foroni, Willis, and Korb 2019; Foroni and Semin 2009, 2011, 2012; Havas et al. 2010; Niedenthal et al. 2001; Niedenthal et al. 2009; Oberman, Winkielman, and Ramachandran 2007; Ponari et al. 2012; Wood et al. 2016a; Yates and Foroni 2019). The idea behind such an approach is that any manipulation that effectively blocked or produced a constant muscle contraction (e.g., holding a pen in the mouth; Foroni and Semin 2009, 2011, 2012) should preclude any meaningful and useful feedback from the involved muscles. Oberman and colleagues (2007), for instance, showed that blocking facial muscle activity with a pen-biting manipulation disrupted recognition of the emotion expression relevant to the blocked muscles (i.e., happiness – zygomaticus muscle: see also Ponari et al. 2012). In other words, by constantly biting a pen, the participants' muscles involved in the biting (i.e., zygomaticus muscle) were not free to mimic the to-be-perceived “happy” expression and, thus, recognition performance was impaired.

Thus, there is growing evidence that the impairment of facial muscle activity can selectively disrupt the processing of emotional facial expressions (e.g., Nithenthal 2007; Oberman, Winkielman, and Ramachandran 2007; Ponari et al. 2012). Taken together the evidence supports the idea that mimicry responses are not a simple byproduct of higher-order cognitive processes (i.e., but rather plays a causal role in emotion perception and discrimination (Baumeister et al. 2015, 2016; Foroni and Semin 2009; Winkielman et al. 2009; Wood et al. 2016a).

## 2.2 Embodied and grounded perspectives on language processing

The previous section outlined how viewing emotional faces elicits among other bodily reactions what we could refer to as facial mimicry. Interfering with our mimicry responses can impair recognition as well as memory for emotional expressions (Barsalous 1999; Baumeister et al. 2015, 2016; Foroni and Semin 2011; Halberstadt et al. 2009; Neal and Chartrand 2011; Niedenthal 2007; Niedenthal et al. 2001, 2010; Oberman et al. 2007; Winkielman et al. 2009; Wood et al. 2016a).

Embodied and grounded theories suggest that language comprehension is supported by the partial reactivation of somatosensory and motor systems involved in the experience described by the language (e.g., Bergen 2005; Winkielman et al. 2015; Zwaan 2004). The role of embodied processes in higher-order cognition such as language has so far been more controversial (e.g., Hoedemaker and Gordon 2013; Mahon and Caramazza 2008), but

there is now growing evidence in support of an embodied view of language comprehension (e.g., Boulenger et al. 2006; Buccino et al. 2005; Buccino et al. 2016; Fischer and Zwaan 2008; Foroni and Semin 2009, 2013; Hauk, Johnsrude, and Pulvermüller 2004; Hauk, Shtyrov, and Pulvermüller 2008; Meteyard Cuadrado, Bahrami, and Vigliocco 2012; Pulvermüller and Fadiga 2010; Pulvermüller, Shtyrov, and Ilmoniemi 2005). However, depending on the type of linguistic material (i.e., *concrete words*, *abstract words*, *emotional words/language*), the support for the embodied grounding of language comprehension seems to vary (for a review, see Mazzuca et al. 2017).

### **2.2.1 Concrete words**

When looking at research on *concrete words* processing, evidence has shown, for example, that passive reading of “food words” (e.g., “coffee”, “cinnamon”, “garlic”) elicits, relative to “control words”, increased neural activity in the primary olfactory cortex (González et al. 2006). Parallel results have been reported for words whose meaning is strongly associated with acoustic features (e.g., “phone”), producing increased activity in auditory-related brain regions of the temporal cortex (Kiefer et al. 2008). More generally, when comprehending words that have a direct link with an action performed by a particular part of the body (e.g., “grasp”, “kick”, “lick”), enhanced neural activity is reported in specific regions of the motor and premotor cortices that are activated when we act with those body parts (Bub et al. 2008; Hauk et al. 2004; Tucker and Ellis 1998, 2004). In a similar vein, words that refer to concrete objects (e.g., “cup”, “ball”) induce an activation of the same bodily patterns that are activated during interactions with these objects (for a review, see Barsalou 2008; Pulvermüller 2005). Findings like these suggest that humans automatically activate embodied knowledge about objects in terms of how they can be used/manipulated and that *concrete words* processing seems to be grounded in the sensorimotor system through simulation processes (cf. Mazzuca et al. 2017; see also Pulvermüller and Fadiga 2010).

### **2.2.2 Abstract words**

The situation seems more complex for *abstract words* (e.g., freedom, justice), because such words do not have a tangible reference in the external world. Embodied and grounded theorists (e.g., Barsalou et al. 2008; Havas, Glenberg, and Rinck 2007; Niedenthal 2007; Scorolli et al. 2011; for a review, see Barsalou 2008; Pulvermüller 2005) argue that abstract words are grounded mainly in introspective, linguistic, and social contexts. We collect conceptual information about these words from internal experience (perceptions and simulations of our inner states) and from our experiences. Notably, even though abstract words’ meaning does not relate directly to affective/emotional states, recent evidence supports the notion that abstract words may be associated with affective information much more than concrete words (e.g., Abbassi et al. 2015; Kousta et al. 2011; Moseley et al. 2012). This seems to support the idea that acquisition of abstract words is *situated in* and *contingent upon* context as one would expect for emotional words (e.g., Barsalou et al. 2008; Havas et al.

2007; Niedenthal 2007; Scorilli et al. 2011). However, Mazzuca and colleagues (2017) nicely summarized available evidence (e.g., Altarriba, Bauer, and Benvenuto 1999; Ghio, Vaghi, and Tettamanti 2013) and provided a compelling argument for considering emotional words as a category of its own. This debate is beyond the scope of the present chapter and, thus, I refer interested readers to Mazzuca et al. (2017) before focusing on the discussion on the grounding of emotional language comprehension.

### 2.2.3 Emotional language/words

More interestingly for the present chapter is, however, the contention that grounded processes are necessary to the understanding of emotional language. In fact, while emotional language might well be explained descriptively by means of language, it has been suggested that its understanding requires the encoding of the perceptual, somatovisceral, introspective, as well as sensorimotor experiences. A mounting body of cognitive and neurocognitive evidence is available supporting an embodied grounded perspective on *affective and emotional language* (e.g., Alexopoulos and Ric 2007; Baumeister et al. 2015, 2016; Cacioppo, Priester, and Berntson 1993; Havas et al. 2007; Neumann and Strack 2000; Niedenthal 2007; Niedenthal et al. 2009; Sheikh and Titone 2013).

Similar to the processing of emotional facial expressions, the processing of emotional language is also facilitated/[inhibited] by congruent/[incongruent] motor responses (e.g., Alexopoulos and Ric 2007; Cacioppo et al. 1993; Chen and Bargh 1999). Neuroimaging evidence shows that the processing of affective words produces substantial activation of sensorimotor cortices. Specifically, increased activation in inferior and dorsolateral regions of the motor system and in areas of the limbic system (i.e., orbital prefrontal cortex, cingulate cortex, insular cortex; Moseley et al. 2012). The modulation of these activations based on an individual's affective style and on cultural context (e.g., Chiao and Immordino-Yang 2013; Immordino-Yang, Yang, and Damasio 2016; Saxbe et al. 2013) further suggests that affective meaning is acquired and grounded through the experience of the relevant affective states. Pulvermüller (2005) suggested that the frequent co-occurrence of words such as "smile" with the action of smiling and the co-occurring emotional experience leads to the formation of neuronal assemblies connecting a given word representation with the relevant motor program (i.e., the action involved in a smile). Once this assembly is established, reading the word "smile", for instance, will trigger activation of the associated motor program (i.e., the person will tend to activate the smiling muscles). Thus, for emotional language, this requires a partial reactivation of (embodied) sensorimotor and emotional states associated with the emotion experience described by the language and can include a partial reenactment of relevant facial actions (e.g., Barrett 2006; Barsalou 1999; Barsalou et al. 2003; Niedenthal et al. 2009, 2010).

In line with this argument, emotional words have been reported to induce "emotionally congruent" facial muscle reactions. Building on classical research (e.g., Larsen et al. 2003; Vrana 1993; Vrana and Rollock 2002), Foroni and Semin (2009) measured facial muscle reactions during passive reading of verbal material related to happiness and anger. Consistent with the expectations, "happiness" words elicited zygomatic muscle activity and inhib-

ited corrugator supercilii activity. On the other hand, “anger” words induced a larger activation of the corrugator. These results were conceptually replicated and further substantiated by other research (e.g., Baumeister et al. 2015, 2016, 2017; Fino et al. 2016; Foroni and Semin 2013; Havas et al. 2007; Herbert, Herbert, and Pauli 2011; Niedenthal et al. 2009; Weis and Herbert 2017).

A second strand of research investigated whether the blocking of facial motor responses impact emotional language comprehension. Havas and colleagues (2010) took advantage of a group of patients undergoing subcutaneous cosmetic injections of Botulinum Toxin-A (see also task 1 in Baumeister et al. 2016) and provided evidence to support the claim that emotional bodily feedback (i.e., facial muscle reactions) plays a causal role in language comprehension. Patients showed a reduced comprehension after injections only on words related to the muscles where injections were performed. As such, blocking facial muscle activity using peripheral blocking manipulations that can prevent motor resonance – such as instructing participants to hold a pen in their mouth or to wear stiffening cream – should also affect language comprehension. Indeed, behavioral tasks implemented under blocking conditions, such as pen-holding or with stiffening cream on the face, have shown reduced/impaired language processing performance in participants, providing evidence for this contention (e.g., Foroni and Semin 2009; Havas et al. 2007; Niedenthal et al. 2001, 2009; Oberman et al. 2007).

In a recent work, Davis and colleagues (2015) support the idea that embodiment impacts some aspects of high-level comprehension, providing Event-Related Potentials (ERP) evidence of the impact of pen-blocking manipulation on language comprehension. The authors investigated how interference with facial action impacts brain responses to emotional language. Participants read positive and negative sentences while ERPs were recorded under two distinct conditions: namely, holding chopsticks in their mouth in a position that allowed smiling or did not allow smiling (blocking condition). The authors focused on the N400 component (known to index semantic congruency processing) and showed that blocking smiling did influence ERPs to final words of sentences describing positive events. The results suggest that affectively positive sentences can evoke smiles and that such facial action can facilitate semantic processing as indexed by the N400 component. Thus, evidence supports the notion of the causal involvement of embodied grounded processes in language processing and comprehension.

*In sum*, in addition to contributing to the perception and recognition of emotional facial expressions, facial actions have been hypothesized to play a role also in the comprehension of emotional language (e.g., Barsalou 2008; Foroni and Semin 2009; Niedenthal et al. 2009; Pulvermüller 2005; Winkielman et al. 2009; Zwaan 2004). Taken together, the behavioral, neurophysiological, and neuroimaging evidence reviewed in this section largely corroborates this contention.

### 3 Commensurability between “visual” and “verbal” emotion information processing

In the previous sections I discussed how embodied and grounded models provide an overarching framework explaining how we process/discriminate emotional facial expressions

and how we process/comprehend emotional language. Due to clear mapping between emotion expressions and possible simulation processes in the perceiver (i.e., facial muscle activity and mimicry), the literature has initially favored the investigation of facial emotion expressions (e.g., “happy face”, “angry face”) and language describing them (e.g., “he is smiling”), implementing the measurement of physiological reactions (e.g., facial expressions) via the EMG technique so that clear predictions could be directly tested (e.g., Dimberg et al. 2000; Dimberg and Thunberg 1998; Foroni and Semin 2009, 2013).

In general, the embodied models contend that emotion information processing is related to the bodily expressions of emotion itself and that the reenactment of multimodal features is crucial (e.g., Barsalou 2008, 2010; Niedenthal 2007). Moreover, it has been suggested that reenactment of multimodal features should apply at large irrespectively of whether the stimulus is an emotion expression, emotional language, emotional tone, or emotional body postures. Initial evidence supports the contention that embodied processes compatible with the emotional content of a stimulus are elicited also in response to prosody (e.g., Hietanen, Surakka, and Linnankoski 1998; Quené, Semin, and Foroni 2012) and emotional body posture (e.g., Calbi et al. 2017). To the degree that visual, linguistic and acoustic information is part of the neural assemblies of the emotion concept (cf. Pulvermüller 2005), then, perceiving and thinking about such information should elicit the emotional reenactment. Owing to the body of research on processing of facial expressions and emotional language, I will focus on the commensurability between visual and verbal emotion information. I will focus on research investigating the role of facial motor action (e.g., mimicry responses) for the variety of paradigms implemented and the richness of research investigating this embodied marker. However, it should be noted that emotional reenactment during emotion perception should not only include motor simulations but also other somatic simulations, alterations in hormonal activity, body language, and other neural activity. It is, thus, simply consequential to assume that the embodiment of emotion concepts is also notably reflected in other somatovisceral indices. Accordingly, other indices have been successfully implemented, providing convergent evidence for an embodied account of emotion information processing such as heart rate (e.g., Buchanan et al. 2006; Ilves and Surakka, 2012) and skin conductance (e.g., Baumeister et al. 2016; Codispoti, Bradley, and Lang 2001; Gray, Hughes, and Schneider 1982; McGinnies 1949).

Taking an integrative approach and in line with embodied and grounded theories, I propose here the commensurability between verbal and nonverbal channels linking two literatures that so far have largely grown independently but that theoretically can pertain together. I target these two modalities also for their relevance in social communication and interaction. Moreover, the literature and evidence on the involvement of facial motor simulations in emotion expression discrimination and emotional language comprehension provide a vantage point for this comparison, allowing a better test bench for the commensurability proposition (Foroni and Semin 2009). The suggested commensurability is based on several parallelisms.

First, we now know that facial expressions and emotional language elicit similar facial muscle responses. In particular, perception of emotional expressions involves mimicry responses (Dimberg et al. 2000; Dimberg and Thunberg 1998; Neal and Chartrand 2011; see also McDonald et al. 2011; Riehle et al. 2017), as the comprehension of emotional language

involves facial motor simulations (Baumeister et al. 2015, 2016, 2017; Fino et al. 2016; Foroni 2015; Foroni and Semin 2009, 2013; Havas et al. 2007; Herbert et al. 2011; Niedenthal et al. 2009; Weis and Herbert 2017). Passively observing emotion-expressive faces is associated with neural activation in the premotor cortex and neighboring regions, which are normally activated during production of the same facial expressions. Neuroscience evidence further suggests that largely similar neural substrates are activated when experiencing an emotion, viewing comparable emotion expressions, and reading about someone experiencing that emotion (Marino and Ricciardelli 2017; Singer et al. 2004; Wicker et al. 2003).

Second, the emotional congruency/[incongruency] between perceiver's emotion state and emotion material to-be-comprehended facilitates/[inhibits] comprehension of both emotion facial expressions and emotional language (e.g., Alexopoulos and Ric 2007; Cacioppo et al. 1993; Chen and Bargh 1999, Niedenthal et al. 2001; Stel and van Knippenberg 2008).

Third, chemically and mechanically blocking facial motor actions similarly impairs the recognition and understanding of facial expressions (e.g., Baumeister et al. 2015, 2016; Davis et al. 2010; Foroni and Semin 2009, 2011, 2012; Niedenthal et al. 2001, 2009; Oberman et al. 2007; Ponari et al. 2012; Wood et al. 2016a) and emotional language (Foroni and Semin 2009; Havas et al. 2010, 2007; Niedenthal et al. 2001, 2005, 2009; Oberman et al. 2007).

Fourth, people do not equally display embodied processes and do not display them irrespectively of the context. Motor responses are not consistent across individuals (e.g., Korb et al. 2015) and contexts (Korb et al. 2016a; Lebois, Wilson-Mendenhall, and Barsalou 2015; Neufeld et al. 2016; Zwaan 2004). Contextual factors importantly influence under which circumstances and to what extent embodied effects are employed during emotion information comprehension (e.g., Kaiser, Hayakawa, and An 2017; Likowski et al. 2011; Moody et al. 2007). For instance, modulation of facial mimicry based on group membership has been reported (Bourgeois and Hess 2008; Hess and Fisher 2016; Lanzetta and Englis 1989; McHugo, Lanzetta, and Bush 1991; Van der Schalk et al. 2010; Vanman et al. 1997). Similarly, modulation in embodied involvement in emotional language has been shown based on individual's affective style and on cultural context (e.g., Chiao and Immordino-Yang 2013; Fino et al. 2016; Foroni and Semin 2009; Immordino-Yang et al. 2016; Niedenthal et al. 2009; Saxbe et al. 2013). In line with this reasoning, several modern embodiment theories assume that specific task characteristics determine the extent to which embodied processes may be required for perceptual and/or conceptual operations (e.g., Barsalou 2008).

Finally, according to embodied and grounded theorists, simulation mechanisms in general, and these facial motor actions in particular, are involved and facilitate the understanding of emotional and mental states in others. In fact, facial motor actions are not epi-phenomena, but instead they have a facilitative function in the comprehension and processing of emotional information by providing us with proprioceptive feedback (e.g., Foroni and Semin 2009; Niedenthal et al. 2009; Zwaan and Taylor 2006). This feedback helps the understanding of other people's mental states, sensations and emotions as if *they were our own* (Niedenthal et al. 2010, 2007; Rizzolatti and Craighero 2004). In this sense, independently of the means of conveying emotional states (facial expressions or emotional language) the same spontaneous bodily processes are thought to facilitate access to other

people's emotions, supporting our empathetic understanding, and helping social interaction (e.g., Rizzolatti and Craighero 2004).

Interestingly, growing evidence supports the claim that embodied processes may go well beyond initial processing of information, and research has already provided an additional parallel: facial motor actions induced by both emotional facial expressions and emotional language have been shown to have a similar role in guiding our behavior and judgments (Carr et al. 2014; Foroni and Semin 2009, 2011, 2012; Winkielman, Berridge, and Wilbarger 2005).

I will now focus in the final section on a partially separate but related domain where the embodied and grounded views may be particularly insightful by providing interesting implications: namely, emotional language comprehension in a second language.

## **4 Embodied emotional language: implications for second language (L2) comprehension**

According to the embodied and grounded views, knowledge about emotions is grounded in internal systems including the motor, sensory, and autonomic nervous systems, with the link between facial muscle activity and the understanding of emotional language of particular relevance (e.g., Davis, Winkielman, and Coulson 2015; Fino et al. 2016; Foroni 2015; Foroni and Semin 2009, 2013; Niedenthal et al. 2009). However, recent work suggests that these facial actions are weaker in a second language (L2) as compared to a first language (L1; Foroni 2015; Baumeister et al. 2017; see also Pavlenko [2012] for a review). Of notice, the exact facial motor actions involved in emotional language comprehension have been tested in L1 (Foroni and Semin 2013) and in L2 (Foroni 2015), clearly supporting the difference in embodied processes involved in comprehension of emotional language in L1 and L2. Interestingly, weaker physiological reactions in L2 have also been reported for skin conductance (e.g., Baumeister et al. 2017; Caldwell-Harris and Ayçiçeği-Dinn 2009; Harris, Ayçiçeği, and Gleason 2003).

These grounded differences between L1 and L2 have important relevance if one considers the evidence and theorizations suggesting the role played by them in language comprehension (Barsalou 1999, 2010; Pulvermüller 2005), memory (e.g., Baumeister et al. 2015), judgments (e.g., Foroni and Semin 2009, 2011, 2012; Winkielman et al. 2005), and possibly empathy (see Rizzolatti and Craighero 2004). Several introspective reports, surveys, interviews, and clinical observations support the notion of "emotionally distant L2" when the L2 is learned later in life (Caldwell-Harris 2015; Pavlenko 2012), with possible differences between L1 and L2 speakers disappearing if age of acquisition of L2 is before 8–12 years and as L2 proficiency increases (e.g., Green 2003). Cognitive and behavioral effects of this emotional distance to a L2 are well documented (e.g., Caldwell-Harris 2015; Keysar et al. 2012) and evidence suggests that.

The ability to share, to communicate, and to understand emotions are fundamental for our social life. Language is a powerful elicitor of emotions as it can affect judgments (Johnson and Tversky 1983) and, therefore, have important implications for face-to-face commu-

nication (Kawakami et al. 2007). Thus, the implications for the differences in the grounded process involved in emotional language comprehension in L1 and L2 for emotion communication in multilingual and multicultural contexts are paramount. While previous models describing L1-L2 differences have not included any possible somatic base for such differences, the development and advancement of embodied and grounded theories provide a suitable framework for it and to further understand real-life implication of L1-L2 comprehension (Foroni 2015).

Initial evidence shows important *real-life implications* in marketing, forensic, and health contexts (for a review, see Caldwell-Harris 2015). For example, Puntoni and colleagues (2009, experiment 1) have shown that marketing slogans presented in L2 (vs. L1) were perceived as less emotional, suggesting possible limitation of the effectiveness of an ad in L2 if based on emotion elicitation. Moreover, differences between L1 and L2 have also been reported in the domain of morality. When judging scenarios of moral transgressions, people consider the transgression less harshly if the scenario was in an L2 (Geipel, Hadjicristidis, and Surian 2015). Caldwell-Harris and Ayçiçeği-Dinn (2009) also showed that when lying, participants reported more affective discomfort in L1 than in L2. Obviously, since L2 promotes greater cognitive and emotional distance, it may provide an advantage in certain situations where lowering the emotionality level may be desirable. Keysar and colleagues (2012) have shown, for instance, that decision-making biases are smaller in L2. Santiago-Rivera and Altarriba (2002) reviewed evidence of the advantage of an emotionally distant L2 for the description of traumatic events with language switching emerging as a therapeutic technique. On the other hand, when a higher emotionality level may be desirable, the understanding of the basis for the L2 reduction (i.e., reduced somatic reaction) could be the springboard for more successful interventions.

Together, these considerations suggest that the differences in grounding of emotional language comprehension between L1 and L2 seem to be a very promising and potentially important avenue for future investigations (Foroni 2015).

## 5 Concluding remarks

To date, a growing body of cognitive and neurocognitive evidence has been collected showing how embodied processes play a causal role in facial expression perception and discrimination and in emotional language comprehension both in L1 and L2. I focused here on spontaneous facial muscle activations observed when viewing facial expressions of others and when reading emotional language. The highlighted parallel between these two partially independent literatures provides support for the commensurability of embodied processes in facial emotion expressions and emotional language comprehension. In other words, the same facial motor effects found while observing facial expressions are also present when they are mediated by emotional language, suggesting that *reading is like seeing and both are like doing*.

Future research should pursue this idea by directly comparing processing of emotional information across different modalities within the same paradigm. A second direction where research should be developed is the exploration of possible intervention based on

the current understanding within special populations that have been reported to have reduced somatic response (e.g., facial mimicry) as well as deficit in emotion expression comprehension such as patients with Autistic Spectrum Disorder (Winkielman et al. 2009) or patients with impaired somatic responses (see Korb et al. 2016b). One possible avenue could be the induction of somatic reactions to emotional information in patients with impaired reactions by means of instruction or by activating facial muscle through low-amplitude neuromuscular electric stimulation. This non-invasive technique has already been widely used for clinical rehabilitation as well as for muscular strengthening and recovery in athletes (Maffiuletti et al. 2011). A final intriguing direction of investigation deriving from the embodied and grounding framework and the commensurability between different channels is the investigation of the possible use of one modality to influence and/or compensate for deficits like in the case of patients with facial paralysis (Korb et al. 2016a).

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## 18 Emotion and communication design

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**Abstract:** Many researchers have conducted communication design studies over the years, and numerous methods have been developed and modified to enable better design. Simultaneously, designers have investigated methods that provoke positive reactions in consumers toward design outcomes. Some scholars have reviewed the history of art and design to investigate how the likeness of an object or person was created in an artistic style by composing it with visual language elements. At the same time, investigators have suggested that the style or character of the visual language affects whether a strong attachment is felt by the consumer. According to psychological studies, this attachment is related to emotion elicited in the individual by the visual language. Some scholars have suggested that emotion is crucial in the design consumption experience and that it is essential to evoke pleasant emotions during consumption. Therefore, sense, emotion and cognition are the elements that shape the design consumption experience. These approaches have been developed as cognition-driven paradigms of user reactions to technology and the usability of design outcomes through visual language elements. However, only limited breakthroughs in visual language have been reached. More investigation is needed to explore how emotion could be applied to visual language elements to perform its corresponding functions. This review aims to conduct a content analysis using theories of emotional design and examine their relationships with designers' emotions in communication design. This study identifies how visual language influences emotional design and develops the elaboration likelihood theoretical model. In this study, we have adopted both field research and the measurement of statistics to examine the concept of the model. The ability to optimise designs for utility, ease of use, and efficiency, as well as to increase positive feelings including enjoyment, participation, trust, and fulfilment during the user experience, is essential.

## 1 Introduction

Communication design is a tool for delivering information for a commodity or service. Some scholars identify three primary purposes of visual communication design: revealing, convincing, and inspiring (Reading 2021; Suhaimi and Fauzi 2021). It has been found that these three functions work under the influence of individual emotions. In other words, communication design interacts with the audience's emotions within the design consumption process (Postrel 2003). Emotions influence individuals to form or change their attitudes. They motivate change in the audience's behavioural patterns or direct the audience to take action. This chapter investigates the relationships between emotions and communication design. The changes of emotion in communication design involve the influence of emotion on design decision making and visual language. The proposed model illustrates these interactive changes in communication. Based on this model, the functions of visual language in interacting with emotional changes are explained. In addition, some possible aspects for measuring emotion in communication design are proposed. An empirical study to examine the tools for measuring emotion in communication design with the mentioned concepts was conducted. It is found that by understanding the role of emotions in communication, designers can discover what the audience needs or expects. They can explore methods to create a design outcome that captures the audience's interest and enhances the effectiveness of information delivery. The work should help develop research on how to optimise visual communication using visual language aspects (Bourdieu and Johnson 1993; Rauhala 2003) for the needs of the audience.

## 2 The change of communication design

Changes in the economy, society and technology have reshaped the world (Bourdieu and Johnson 1993; Leadbeater and Miller 2004; Lloyd 2005). As a result of this changing environment, communication design has also had to evolve. It was tasked with the responsibility of assisting in the establishment of new orders and a completely global trend imbued with a modern spirit (Ryan 1992). It evolved from specialised skill-based craftsmanship to a broader set of knowledge and abilities (Picard, Grönlund, and Toivonen 2003). The new communication design paradigm is extremely inclusive and beneficial in many facets of life. It is involved in regular human activities from a variety of angles. The element of communication design research that revolved around audience-centred concerns was communication in branding (Currid 2007; Sennett 2006). According to some experts, the communication process should include the development of the motivated situation (Roberts 2004). They noted that the sensations and emotional shifts (Morrison and Crane 2007) induced by the design experience (Rahinel and Redden 2013) facilitated innovation, which aided the communication's durability (Bakhshi, McVittie, and Simmie 2009; Florida 2003; Lynch and De Chernatony 2004). That is to say, the brand utilised the experience it produced to meet the needs of users. These needs included but were not limited to physical requirements based on demographic information gathered through extensive research (Nixon 2003). In addition, the designer must have a thorough understanding of the values of

the target audience (Florida and Tinagli 2004). In the communications between brands and their target audience, these values are conveyed through the use of images and words. When it comes to building strong customer loyalty and repurchasing behaviour, understanding customer demands (Liu, Sparks, and Coghlan 2014; Rahinel and Redden 2013) and attitudes (Bergkvist and Bech-Larsen 2010) is vital for brands to succeed (Wang, Chen, and Hu 2008). Emotional commitment and love for a brand are the driving forces behind brand loyalty and the foundation for developing consumers' active engagement (Park, Jaworski, and MacInnis 1986). Some brands have employed themes and emotional attributes to convey meaning, while others have not (Carroll and Ahuvia 2006). A theme is a critical concept presented throughout advertising campaigns.

A typical example would be the promotion of cosmetic goods and beauty services (i.e., the design outputs) on television (Tusa 2007). Cosmetic manufacturers' advertisements do not sell items or services, but rather arouse the hopes of the target population. Similar to the argument by Packard (1957), Webster (2002) examined how the concepts of advertising affected the success of advertising. He discovered that successful concepts had the ability to increase inducement. The subconscious wishes of the audience members for accomplishing specific goals served as the foundation for this drive. Webster compiled a list of the variables that might be used to motivate people in the context of ideological principles or personal experiences; when creating a design for a particular perspective regarding the brand concept, designers take into consideration the components of symbolism. Based on social science studies, Webster claimed that symbols (i.e. design elements) might represent a variety of subjects over the same period. He gave the example of the cartoon character Hello Kitty. A kitten conveys the sensation of "playfulness and comfort". The colour scheme used for the cat photographs consisted primarily of yellow and orange, which are linked with happiness and sunshine. The round-shaped animal outlines are believed to be steady and warm in their appearance. In other words, symbols (which include design styles and design features) serve as a promise to the audience that they will be satisfied with the product or service associated with the brand. Besides, Packard identified eight probable demands that he believes would be the most effective in encouraging the audience to make short-term buying decisions. Potential needs were associated with affective responses in a subconscious manner (i.e. emotional), and this served as the cornerstone for emotional branding strategies (Packard 1957). The affective responses provided designers with the inspiration to create a prediction for fulfilling the requirements of the target audience. The relationship between design output and emotion was also examined at the same time. Through the use of an audience emotion survey, Yen and his colleagues (2014) investigated the links between the brand and the emotional reactions elicited by design outcomes. The research team invited 109 participants to take part in a survey to understand their emotional interactions derived from a brand. The participants were asked to provide individual emotional responses towards some selected product forms as well as towards the visual elements of the brand images. The research team discovered that design outcomes for emotion-linked brands with emotional design features in the area of beauty were superior to those for other brands. In their investigation, they discovered that emotional design elements have an impact on the demonstration of the audience's desire for emotional aspects. Furthermore, the majority of the design results of those emotional brands featured visual elements, such as geometric shapes, colours, and textures. The method of associat-

ing emotion by eliciting the emotional reaction of the audience was explored. In his presentation, Yen cited visual languages as an example of how brands may create emotional attachments with their customers. He proposed that visual language composition approaches be used simultaneously, as this would result in more enjoyment in the design outcomes. This particular example is the most effective in terms of evoking emotion. It enabled viewers to make a connection between the visual language (as applied to the design outcomes) and their melancholy or happiness. In this instance, emotional branding can be shown.

The strategies explored to generate the emotional reaction of the audience to a brand are derived from the viewpoints of past studies and are integrated into the current study. Although the growth of new media has altered the frequency of contact between audience and businesses, the engagement between audience and brands has become increasingly frequent. The methods for transmitting information are difficult to understand. The public now has a greater number of channels through which to comprehend the marketing strategies of brands. Though the emotional tie of the brands is not created through multimedia, it might be achieved through a targeted approach (Davis 2010). Several contact points have been used in marketing communications through multimedia to communicate with the audience, including its operating systems, its supplier markets, its services and application development. What is the strategy behind the variety of touchpoints (including the appeals to sense and reason) to strengthen the link between companies and their target audience?

According to Percy et al. (2004), one of the most effective techniques is to invite the audience to collaborate in the development of branded content and to share it with others. This is accomplished by promoting audience participation including images, texts, video, and other forms of media. The brands collaborate with content suppliers, including advertising agencies, representatives and other organisations, to give customers special experiences, providing support for activities that captivate them while also boosting the brand's capacity. The successful combination of engagements in social interactions are the responsibility of the customer services department. Interactions can later be categorised by member community (i.e., "following") or they can be processed as direct engagement (i.e., "audience") and connections (i.e., "super-fans") with a particular brand. Some major themes were identified and summarised by Percy et al. (2004):

- Integrated strategies for smartphone and site marketing are being created to support brand development.
- Social media-driven customer service initiatives could be beneficial.
- Membership schemes and brand incentive programs could extend the brand's reach to a larger audience.
- Real-time personalisation will boost audience connections.

In this new communication trend, how do designers build emotional satisfaction? How do designers manipulate the design procedures once the touchpoints or approaches are set?

## 2.1 The elaboration likelihood model

Some studies have examined how emotions affect visual communication design, explaining how emotion influences an audience's understanding of the design created by the vi-

sual elements and how the audience further processes the information presented by the visual language. After the audience obtains information, the process of persuasion begins. It is a process of guiding the audience. As Perloff (2010) discusses in his book *The Dynamics of Persuasion*, there are five persuasion viewpoints. First is a process of communication that necessitates the transmission of clear messages from one side to another. Second, visual language is arranged to influence the audience's consideration. Designers should understand their target audience well and what makes them tick before making a design attempt. Third, persuasion involves various aspects of the arrangement of visual elements. The arrangement creates product attributes such as aesthetics, interactions, functions that create persuasive visual communication. Fourth, persuasive visual communication is associated with individual attitudes and preferences. Messages which are matched with individual characteristics would increase persuasion. Fifth, the attitudes of the audience are enhanced through repeated persuasion. Repetition of a message may boost its credibility and effectiveness, and the diversity of presentation would help to avoid aggravating the audience.

The idea of elaboration likelihood explains how communications and design might affect audience attitudes as well as reactions (Petty and Cacioppo 1986). It is argued that when someone gets information, they digest the material for further clarification. The thought process of assessment, memory, and judgment is referred to as a stage of elaboration in this context. People embellish their expectations when they receive messages that are presented convincingly. During the processing route, there are two levels of elaboration triggered by messages: "central route processing" and "peripheral route processing".

Central route processing refers to the customer's concentration on the information. Customers value competent and credible messages during the decision-making process. They then say yes to buy or just leave. This means, they seek to evaluate the issue-related facts offered, choosing the central route to persuasion. This processing may be conducted in a biased manner. To resist critical messages (from the customer's point of view), the customer's opinions are formed or elaborated in central route processing, which is logical and employs data and facts to support an argument. The core path to persuasion works best when the audience is analytical and eager to digest information. In comparison, peripheral route processing is harder to define than central route processing. The peripheral route employs positive external signals to correlate the message with positivity. The peripheral method depends on emotional associations such as happy feelings and celebrity endorsements rather than facts and product excellence. Thus, the audience pays less attention to design communications when other elements influence them, such as the source's originality, aesthetic appeal, and information presentation. Critical messages and content shape the audience's attitudes in more impressive ways (Bourdieu and Johnson 1993). Central route processing is logical and enables the audience to elaborate more than peripheral route processing. Furthermore, other things influence the audience besides the message's content; the message's strength, credibility, and relevance have the ability to change the audience's perspectives, and these are all processed by the peripheral route. Peripheral route processing influences the audience, making them more receptive to persuasive messages and more likely to engage in novel design experiences.

The following examples demonstrate the "central route processing" and "peripheral route processing". Amy is a fashion lover who regularly shops on Taobao. (Taobao is an

online marketplace that allows independent businesses to build online shops catered to Chinese-speaking clients.) Peter, on the other hand, seldom makes purchases online but when he does, he looks for products that are of satisfying quality with an acceptable price. Taobao aims to encourage both types of audiences to purchase products online. For Taobao, there are some critical points. Its competitors mostly have stores to provide direct interactions with potential customers. Such interaction with knowledgeable services provided by sales personnel represents the relatively credible, traditional persuasive approach. As a result, Taobao has to provide sufficient product information for the audience to access, for example, detailed descriptions about the products as well as in-depth user evaluations.

Most audiences obtain certain degrees of “central route processing” at the level of product price. In this scenario, Amy, who represents customers interested in fashion, keeps looking for updated information about fashion products. While Amy understands the information she obtains, she (i.e. Amy) would prefer to order through Taobao rather than through less persuasive competitive stores. Amy investigates information for high-end dryers with evaluation systems and customers’ feedback on the website. After selecting the items she desires, she clicks the “Buy now with 1-Click” button. Because most of the product details are up to date in Taobao’s customer evaluation system, repeated use of the system has gained her confidence over time.

Taobao was concerned about whether casual customers would adopt the user-experience focused design. Its website design was created specifically for the processing of peripheral routes. A visual hierarchy was applied to create contact with its audience. An appealing large product photo, used as the main point of the product, is one of the most effective methods for capturing the attention of potential buyers. The product images were also shot from a variety of angles, which was a bonus. Beyond that, precise filtering options for the product’s features were made available, with a wide range of categories to choose from. Taobao made it convenient for consumers to place orders in which they were interested, while also motivating them to conduct detailed research on the prices, product evaluation, product features, and other relevant factors.

Alternatively, some customers are less motivated to buy. They are more interested in knowing whether there are any products that are within their budget. After getting a general idea of what items are available using Taobao website’s search function on the main pages, they sort the products by price, starting with the least expensive. Then they apply the ratings filter (located on the left of most websites). They choose to view only products with four or more stars on the rating scale. These casual customers are sensitive to the “low-price guarantee” when making an order.

Additionally, the label “free shipping”, presented in a bold design next to the price, appeals to the customer’s budget and is an effective technique of persuasion via the peripheral path. This reminds the penny-pincher that they are not required to pay an additional fee for getting the product delivered to their home.

As this example shows, it is not necessary to distinguish between “central route processing” and “peripheral route processing” to have the same impact on the audience, and design features are not restricted to one particular route. In this example, central and peripheral route processing worked together, as the material was frequently processed by the audience using a combination of both channels to a certain extent. Amy adopted the cen-

tral route to obtain information about the product description (e.g. about televisions), while she used the peripheral route to obtain information about the evaluation of the product on the website (excellent ratings from prior customers with similar mindsets). Thus she was persuaded by components from both pathways. Amy maintained her favourable purchasing experience on Taobao.com, whereas Peter required additional persuasion to prevent him from going down the street and checking the large stores.

Nevertheless, designers must be alert to the negative aspects of their work as persuasion works hand in hand with narrative and design. When potential customers are confronted with pop-up windows, a lengthy waiting time, or overly complicated processes for appropriate content, the designers' persuasive strategies might be undermined. Customers will not go out of their way to find out the facts. Whether visible or intangible, such distractions can be found within the entire elaboration process, regardless of their nature.

The two alternative processing routes to understanding human emotions outlined above have stimulated more significant investment in the field of visual communication design. According to Petty and Cacioppo (1986), three core elements – *message, design and delivery* – must be present to persuade an audience effectively:

- “Message” refers to “what is being said, marketing efforts, content, and copy”;
- “Design” refers to “visual hierarchy, navigation, and layout”;
- “Delivery” refers to “load time, user experience, rewards, and bells and whistles” (Petty and Cacioppo 1986: 11–13).

These three aspects provide designers with an understanding of target customers, including what type of message encourages them. On this basis, designers can devise a question list to understand the values of the audience with regards to their fears, hopes, and dreams, and moreover determine what challenges remain in persuading the audience. In addition to conducting their independent research, designers might consult past studies on persuasion in the field to improve the design.

## 3 The role of emotion in communication design

### 3.1 Designer's emotion in decision making

Several studies have investigated the close relationships between designers' emotions and the design processes (Jared et al. 2011). It is not difficult to understand that designers introduce certain levels of their own emotions during the design process instead of focusing only on the user (i.e. audience) perspective; therefore, emotions could be one of the core elements influencing designers. External interactions influence design objects, designers' emotional experience, as well as their decision making (Forlizzi, Disalvo, and Hannington 2003). However, the relationship between emotions and the designer's decision making remain unclear. Before investigating how designers make a decision, there is a need to understand how the individual processes the information they receive. With reference to studies of psychology, individual information processing involves the co-operation of two “memory systems”, “working memory” as well as “long-term memory”. Between these sys-

tems, the external stimulus creates emotional responses and leads the thinking process. The thinking process, which would later be called working memory, processes the information (or consideration of the factors involved in the process of thinking). In addition, the working memory takes recalled, long-term memory (which includes different categories like personal experience [Sennett 2006], value, knowledge and skills) as a reference in the process of decision making. Such interaction between the working memory and the long-term memory generates encouragement and appraisal for the judgement and reactions. Scherer (1984) examined how emotion is involved in the information processing process and argued that emotion comprises reactions in response to stimuli. Such emotion engenders stimuli evaluations and personal situations (Scherer 1984). Following the occurrence of a particular event, primary appraisal (referred to as “assessment of outcome”) is elicited by an individual’s primary pleasantness and goal relevance. This initial assessment results in the attribution of causality, which influences the reactions of the individuals followed by the individual’s ability to control his/her responses. To conduct appropriate decision making, the individual evaluates the results of the primary appraisal with internal or external criteria, such as the individual’s expectations or the prevailing cultural conventions, and thus arrives at a secondary evaluation (Forlizzi, Disalvo, and Hannington 2003; Vosburg 1998). Therefore, when emotional concerns are introduced into decision making, the decision-making ability will also be affected. Using Scherer’s notion of emotion, designers’ emotional concerns influence their decision-making capabilities as well as consideration of opportunities and threats (Ho 2010). Ho (2010) proposed the E-wheel model, i.e. a model that includes the roles of emotion and designers, visual language and users (i.e. audience), to explain the emotional impact on the designer’s decision making in a similar design process. Besides the theoretical studies, some studies have been carried out that provide some qualitative evidence on the influence of a designer’s emotion in decision making. Conner and Silvia (2015) carried out a qualitative study for investigating the linkages between individual emotional responses and regularities in daily behaviours. Their findings raised the question of how individual (i.e. designer’s) emotional responses would influence creativity (Ludwig 1992; Chua, Roth, and Lemoine 2014). They were curious to understand if the relationship between positive emotion and creativity could be more potent for some people than others. A total of 658 adults were invited to rate their creativity as well as their experience of 18 emotional responses. The participants were assigned to reflect daily on their experience online. According to the findings of Conner and Silvia (2015), positive emotions such as excitement, energy, and enthusiasm enhance daily creativity. The participants claimed that they gained more creativity if they were experiencing favourable emotional reactions. The participants reflected that people who were emotionally positive would communicate more readily as well as creatively.

### **3.2 Model of emotional influence in design decision making**

Ho (2010) presented the E-wheel model to describe how designers’ emotional concerns impact their decision-making capabilities and evaluation of dependent and independent variables. He also investigated how emotion influences the decision-making process. He proposed that external stimuli around designers would influence their emotional respons-

es. Designers sometimes gathered emotion and cognition (by using knowledge, skills, experience, etc.) while they were deciding how to arrange the visual language elements (Ho 2010). Designers' personal experiences, skills, values and knowledge would be recalled and used as a reference in the thinking process, according to the perspective of cognitive psychology. Therefore, designers would have to make decisions and make corresponding responses under the influence of emotion. The concepts of the E-wheel model provided some insight into how designers' emotions play a role in their design (Ruiz-Dominguez and Boujut 2007). External cues might impact designers' emotions and cause them to process information gathering and generate design ideas. This first processing is triggered by an emotional response. Then, the working memory is used to conduct the thought process necessary to examine the internal components in the design process (Ho 2010).

### 3.3 The influence of emotion in composing visual language

Understanding the role of emotion (Sternberg and Lubart 1999) in constructing visual language reveals that communication is a complex topic involving numerous disciplines of study (Villalba 2008). The challenge in creative design processes is to improve the design process and outputs effectively (Spendlove 2007). To overcome this obstacle, researchers investigated how to improve students' project experience and enhance their creative abilities so that they can manage the complex design process (Taylor 1998). Therefore, several design academics incorporated creative design learning processes (Sternberg and Lubart 1999). Educators, on the other hand, continue to face problems such as how to provide a "creativity motivating environment", "structured development process" (Tusa 2007), as well as presenting and asking information in a manner that is acceptable (Gladwell 2008). There is a need to foster learners' inventiveness and originality (Bakhshi, McVittie, and Simmie 2008). The development of technologies has resulted in learners utilising a variety of new multimedia in their everyday routine (Kalbach 2016) and their instructional approach. Such a media-driven atmosphere creates additional hurdles in terms of learning and comprehending in various ways. Thus, educators are responsible for guiding learning through innovative techniques and activities to capture students' attention (Tusa 2007). Additionally, creativity is one of the ways in which information is generated (Negus and Pickering 2004; Nayar 2013). Thus, approaches that imitate creativity boost self-learning and then advance lifelong learning skills. Creativity is the most powerful ingredient for enhancing interactive communication. The most innovative idea will always capture the audience's attention, and they will share it with others. For a long time, individual creativity was seen as a magical ability (Taylor 2008; Tolle 1999) and it has captivated thinkers for years. Psychological studies spawned the study of innovation. Ferrari, Cachia, and Punie (2009) analysed the ways in which creativity fosters communication, which they categorised as "psychometric approach", "self-expression and mystical approach", "end-product approach", as well as "cognitive approach".

The psychoanalytic approach provides evidence that emotion can influence creativity (Tusa 2007). Some scholars investigated this further. Goleman's (2004) book, *Emotional Intelligence and Working with Emotional Intelligence*, evaluated the associations between environmental interactions, emotional maturity and learning activities. These concepts are

core considerations related to emotional concerns (Goleman 2004). The emotional concern ability then developed into the theoretical foundation of emotional intelligence. Emotional intelligence is a term coined from an evolutionary psychology standpoint. The theory is based on the examination of emotional expression for survival purposes. That means the linkages between the capacity for monitoring and discriminating other people's feelings were examined (Salovey and Mayer 1990). Emotion was identified as a factor influencing the manipulation of educational approaches including "problem solving". Goleman (2004) stated that emotional intelligence has captured the attention of educators and has been implemented in a variety of fields. This has resulted in the development of several emotional ideas, including "emotional literacy", "self-motivation", and "creativity" (Goodley, Lawthorn, and Clough 2004).

The phrase "emotional intelligence" has been used to describe one of the features of policy-making processes that include the use of emotion. It is also considered to be a critical component of primary and secondary curricula in the United Kingdom. Certain courses have incorporated design methodologies (e.g., problem-solving and creativity) as tools for assisting learners in comprehending emotion and recognising the emotional shifts that occur as a result of the design experience. Previous studies have found that emotional literacy improves a learner's creativity and capacity to make sound judgments (Ford and Gioia 2000). Frederickson, Mancuso, Branigan, and Tugade (2000) focused on pleasant emotions and attempted to instil pleasant emotions in students during the learning process. They hypothesised that pleasant emotions could aid learners in making more productive and creative choices. Their emphasis on pleasant feelings was included in the redesigned curricula's creative processes across the board. It was designed to hone learners' problem-solving and creative talents.

### 3.4 Model for interaction in communication

According to the theories mentioned above, the procedure of communication is viewed as a communication system. Based on this point of view, we developed a model to illustrate how emotion enhances the design experience of interactive communication (Figure 18.1). Personality, past experiences and individual values shape the underlying emotions. These three elements include emotional concerns. The system-supported interactive communication design was modified by including the variable of emotion.

## 4 Functions of visual language

The above model explains the linkages between emotion and the communication process. Before delving more into the effect of emotion on visual language, it is vital to understand the role of language (both visual and spoken) in communication design (Leech 2014). Leech (2014) proposes five language functions: "informational", "expressive", "directive", "aesthetic" and "phatic". Leech also points out that the most critical role for conveying new knowledge is "informational", while the second most critical function is "expressive". The term "language" encompasses data (such as acoustic prosodic information, semantic labels

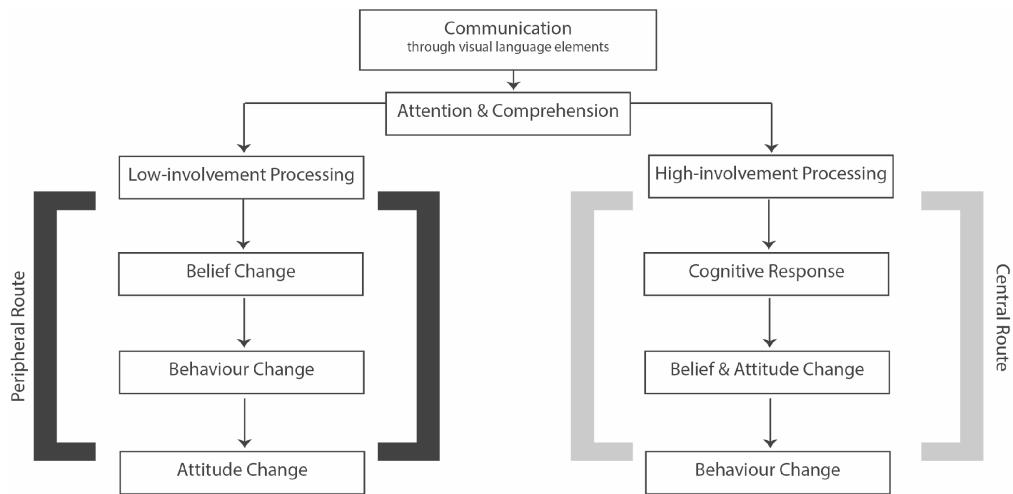


Fig. 18.1: The elaboration likelihood model.

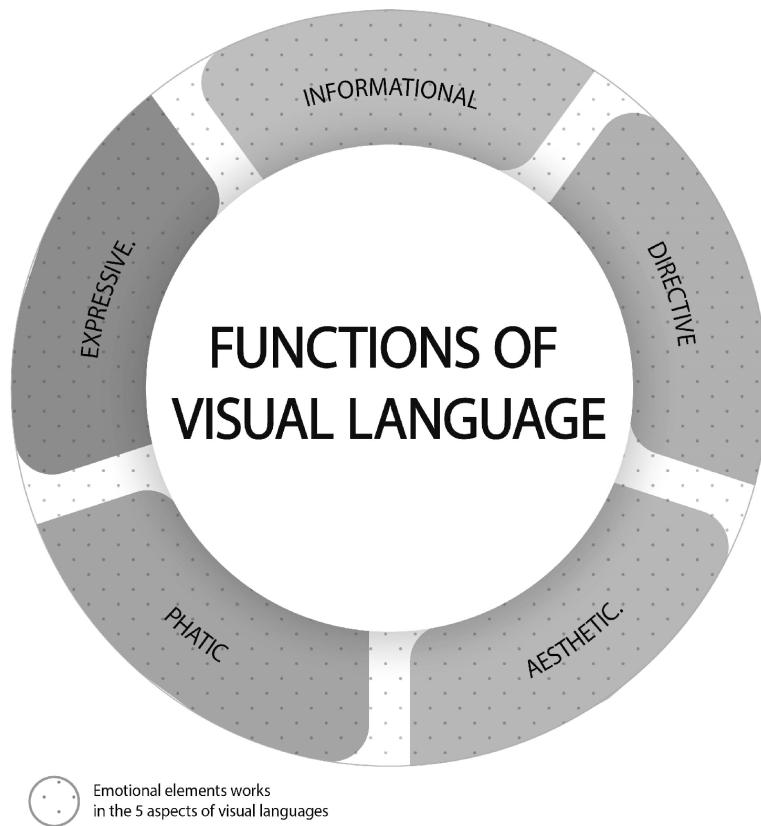


Fig. 18.2: Diagram illustrating how emotion influences visual language.

in language). Thus, emotion has a role in visual language's informal functions. Language's semantic labels entail semantic instruction, whereas emotion in visual language serves as a "directive". While sensory aspects are incorporated, the visual language is used to communicate the presenter's sentiments (in terms of "expressive") and attitudes. The aesthetic appeal (in terms of "aesthetic") enhances feeling in visual language. The visual language's presentation style is designated for broad objectives of social contact (in terms of "phatic"). As other language experts have noted, the methods employed by a presenter for swear words and exclamations are the most notable illustrations of this concept (Goatly 1997). Unsurprisingly, the five functions of language are inextricably related to emotions (Figure 18.2).

## 5 Emotion in the visual language of communication design

Based on the research conducted in "emotion and design", it was found that visual elements work as signs to deliver messages (Bühling et al. 2011), as well as to stimulate emotional change. In other words, these visual language elements contain emotions. Visual elements, such as shape, colour, typeface and space, are the material for connecting with the audience and creating their perceptions based on the communications. A skilful designer should be capable of making effective use of each visual element, with a comprehensive understanding of the audience's expectations and emotions.

### 5.1 Usage of shapes

Shapes are one of the essential visual languages. They deliver different messages by interpreting various moods and emotions. Circles mostly relate to positive messages. Thus, circular graphics are typically linked to trust and team spirit. Triangles are sometimes related to power. Thus, triangular graphics are mostly related to religion and authority.

### 5.2 Language of colours

Colour is a very subjective element in design. It elicits a response from the audience, and the method may be unique in comparison to other instances. Cultural background, personal preference and other aspects may be underlying factors. It is valuable for designers to understand how colours affect different people.

### 5.3 The message of typeface

Different fonts convey distinct narratives. Fonts depict different stories. Typography is critical in elaborating a robust identity and making a good first impression. Typography in design creates a mood. Serifs, for example, evoke feelings of authority, history, respect,

and grandeur. Sans serif fonts are linked with cleanliness, modernity, objectivity, stability and universality (Tolle 1999). The text's style and presentation inform readers. A chosen typeface paired with high-quality photographs has a significant effect on the audience in a promotional design.

Moreover, visual communication's design components might impact emotion. What role does design have in influencing the emotions of customers? How many designers influence the emotions that customers experience as a result of visual communication design? The emotions and sentiments elicited by design elements can be organised in a way that designers can understand.

## 6 Measuring emotion in communication design

The techniques to address emotional considerations include customer decision-making history and audience trip mapping. The audience or buyer's decision-making process is recorded to identify a customer journey (Wolny and Charoensuksai 2014).

According to the investigated theories, designers have attempted to build visually appealing experiences for their consumers in the past. Few designers could change customer needs or deliver an effective communication experience. In the worst cases, designers were unaware of the emotional influence of communication, thus creating some unpleasant experiences for the customers (Kalbach 2016). In terms of communication, a customer's decision-making process is systematic and made up of interactive and cumulative experiences across media, from being encouraged to interact with the communication design to the interaction process and fundamental brand loyalty. Regardless of whether the engagement experience is primarily concerned with the engagement process or with the overall experience, it depicts the path taken by the audience to participate in the essential interactions that they desire. Every one of these touchpoints generates a record of the emotions, motivations, behaviours, queries, and reactions of the customers. These represent their communication goals and expectations for the process, as well as their communication preferences, and assist designers in creating an exceptional customer experience for their clients and customers.

The presentation of the customer journey map could occur in various formats, some of which include information presented in infographics. Regardless of the presentation structure, the goal is for designers to fully comprehend their clients. These tools are practical and they assist designers in comprehending the user context and their users' backgrounds. The tools provide information on the users' desired outcomes of interactive communication and assist designers in knowing what questions to ask and how to respond. The users' experiences are summarised, and the designers' essential ability to digest users' situations and expectations are amplified. The customer journey map aids designers in improving interactive communication (through mobile applications, website designs, and social media outlets), which boosts designers' creativity. It allows designers to consider their customers' emotional concerns, wants, and questions. When designers place users' situations and expectations as the first priority, the solicited feedback from users helps designers identify problems.

Creating the customer journey map requires designers to search data for interesting insights. The importance of the insights is in helping designers understand what users are looking for. Designers could undertake surveys to generate a more structured understanding of consumers' concerns, emotional shifts and motives. They can interview frontline employees, who deal with clients the most, to learn more about users' wants. They can leverage anecdotal user experiences to organise their data and they can do this through interviewing people or publishing on social media. As designers understand how users react to social media posts, they should carefully document all data as it will be used to create the final client journey map.

Time and money impact much of the findings of customer journey research. As it is difficult to create thorough customer journey maps for each set of users, designers should concentrate their research efforts on primary audiences. They may gain insight into the demands of secondary audiences by conducting interviews with customer care agents. They can also make the most of limited resources by considering as many possible perspectives. Designers should avoid making judgments solely on assumptions, as this compromises the communication process. These efforts are worthwhile because the customer journey map allows designers to better understand users' wants. Designers study consumers' reactions, thoughts and emotions. The core material of the customer journey map is the consumers' actions, thoughts and feelings. Qualitative research (field studies, focus groups, etc.) must be used to gather all of the data. The research method should be determined by the objectives of the customer journey map. Information on touchpoints and channels should be organised as content under the headings "Touchpoints and Channels" and "Insights and Ownership". It is important to connect interactions (moments when customers interact with the design) and channels (communication options, such as a website or a pop-up store) to customers' goals and answers. These components are emphasised as determining communication quality. The goal of the journey-mapping method is to identify the differences in the customers' satisfaction before and after improving communication using Design and Emotion theories. The gaps highlight crucial aspects that are often overlooked. All research findings should be documented and analysed thoroughly as they reflect users' needs and reveal the most effective communication methods.

## 7 Empirical study to examine the tools for measuring emotion in communication design

### 7.1 Research aim

It is necessary to understand how different emotions influence and enhance communication. A field experiment on introducing emotion in communication was conducted with a total of 16 third-year undergraduate design students. These design students were divided into four groups, each with four designers. They had specialised design knowledge and had managed various design projects over the previous two years. The students possessed fundamental design expertise and were ready to experiment with new design and research methodologies.

## 7.2 Research process

This investigation was carried out in two stages. In the first stage, the designers received a lecture on how to recognise and record emotional information through an application. They observed the manipulation of the interactive design research process with an emotion extraction system. In addition, each designer was asked to present their emotion in a pre-test through the self-assessment manikin system (Bradley and Lang 1994). The self-assessment manikin system is a non-verbal, graphic depiction that has been used extensively in advertising. This assessment measures three significant dimensions: valence (happy-unhappy), arousal (active-passive) and dominance (dominant-dominated). In the second stage, half of the invited designers were asked to create a customer journey map and consumer decision-making routes during their design process. They then generated a mood board and created interactive design outcomes for two different categories of brands: transportation and beauty products.

The designers themselves determined these categories. Another half of the designers were allowed to apply their general design practices as control samples. Lastly, 20 consumers were randomly invited from the design industry. They reviewed the four design outcomes and exhibited elicited emotions (Salovey and Mayer 1990). When they consumed the interactive design, they left feedback for the designers through the self-assessment manikin system during the design testing.

## 7.3 Research results

Before the experiment began, all participating designers were requested to complete the pre-test to confirm they were all in a neutral emotional state. They rated their emotional state before they viewed any visual stimuli. The results of the pre-test found that all participants were in the “neutral affective state”.

In the testing of the design outcome, the 20 participating customers rated their emotions after they consumed the designs. The valence, arousal and dominance dimensions of four distinct sets of design results were compared. It was found that the positive emotions evoked by designers enriched design outcomes by providing better experiences. Designs that considered the audience’s emotional changes received more positive emotions and active responses, and participants felt less dominated. It was found that the communication designs that considered the audience’s emotional changes provided better communication experiences to participants (Craggs and Wood 2004). According to the feedback provided by the invited consumers, the visual language delivered messages in terms of colours and patterns. They evoked the participants’ affective responses.

# 8 Conclusion

Creativity in communication is becoming more and more relevant in design studies in the fast-moving, knowledge-based 21st-century society (du Gay and Pryke 2002). Creativity in interactive communication design is believed to contribute to societal and economic trans-

formations, as well as to daily living (Ginsburgh and Throsby 2006). Furthermore, creative processes are seen as crucial in boosting designers' creative and innovative talents (Throsby 2007). Thus, some researchers have begun to look at additional methods of improving designers' creativity, such as brainstorming to organise thoughts and actions (Dervin 1999). Designers today follow a functional approach to design, which places a premium on meeting design functions and frequently overlooks the ensuing creativity. The emotion involved in design experiences, in general, greatly influences the user satisfaction of design. Additionally, researchers discovered that emotion and social recognition have become critical components of creativity. This aspect has strengthened the influence of individual emotional changes as well as of users' memories of their experiences. Design studies on emotion and social recognition have sought to understand how to create solutions to evoke emotion and social recognition in users (Gibson 2003). The emphasis of design has evolved away from creating visually appealing outputs and towards delivering appropriate design solutions to satisfy users' needs innovatively and to shape individual experiences.

Designers are anticipated to confront greater obstacles than ever before. This study has addressed the aim of the research by explaining how emotion is linked with visual language and communication design. This is a starting point for learning about and introducing emotion and social recognition to enhance creativity. The ability to recognise and understand one's creative nature, as well as how to foster it, should be a priority for educators. To equip designers with a competitive edge, creative processes are viewed as critical for developing creative and innovative abilities. As a result, some researchers have begun to look at additional methods of improving designers' creativity, such as brainstorming to organise thoughts and actions.

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Tina Sutton

# 19 Emotion, colour, and language

- 1 Introduction
- 2 Words and colour associations
- 3 Colour and emotional dimensions
- 4 Colour associations and performance
- 5 Cross cultural differences in colour and emotional language
- 6 References

**Abstract:** Research has indicated that colours are often associated with specific emotional words and phrases (e.g., “seeing red”, “green with envy”). The current chapter will examine the relationship between colour and word valance. Specifically, the link between bright colours and positive emotions and dark colours and negative emotions will be explored. Key findings from studies using cognitive paradigms (e.g., emotional Stroop task, implicit association task, word recall and word recognition) will be discussed. In addition, this chapter will describe how word and colour associations affect performance, as well as convey information within our environment (e.g., red pen indicates failure in academic settings). Finally, cross cultural differences in colour and emotional language are examined because the associations between colours and words vary across cultures. For example, the concept envy is associated with the colour green in the United States, but with the colour *gelb* ('yellow') in Germany and the colour *fioletowy* ('purple') in Poland.

## 1 Introduction

Colour terms are often used when describing the visual characteristics of an object and have been shown to be strongly associated with specific objects (e.g., blue-sky; green-grass) (Dalrymple-Alford 1972; Klein 1964). Recently, colour terms have also been shown to be associated with emotion concepts (e.g., blue-sad; anger-red; Kaya, Naz, and Epps 2004; Sutton and Altarriba 2008), as well as emotional valence (e.g., Gilbert, Fridlund, and Lucchina 2016; Volkova, Dolan, and Wilson 2012) and arousal (e.g., Mehrabian 1978). In fact, Jacobson and Bender (1996) noted that colour terms can be used to convey emotions and colour can also impact our emotions. The current chapter will focus on psycholinguistic research examining the relationship between emotion concepts, colour terminology, and language. The development of emotion-colour associations as a result of linguistic metaphors and the acquisition of abstract concepts will be discussed, followed by the relationship between the two main dimensions of emotion (valence and arousal) and the three features of colour (hue, saturation, and brightness). The impact of colour on psychological functioning and performance across a variety of tasks is reviewed. Finally, the impact of

culture and language on potentially universal and cultural-specific emotion-colour associations is discussed.

## 2 Words and colour associations

Colour terms are typically used to describe visual characteristics of objects; however, colour terms are also meaningfully associated with both concrete objects (e.g., green vegetables) and abstract concepts (e.g., green with envy). Soriano and Valenzuela (2009) identified four potential reasons for these pairings. First, colour-emotion associations may reflect physiological experiences such as blood rushing to the face when one is angry. This results in a linguistic metonymy (using one thing to stand for something else). Second, linguistic metaphors may create colour-emotion associations. A metaphor equates one thing to another, and these conceptual metaphors allow an abstract concept to be linked to a more concrete entity.

Majid (2002) described the emotion lexicon as an interconnected network of words and phrases that include emotion metaphors. Emotional language tends to be figurative and consists of both conceptual metaphors and metonymies (Kövecses 2000). Figurative language is often useful in describing emotions. Kövecses (2000) provides numerous metaphors and metonymies for two emotions, love and anger. One metaphor provided for love is “love is fire” as represented in the sentence “I am burning with love”. A metonymy for love described by Kövecses (2000) is “blushing stands for love” as represented in the sentence “She blushed when she saw him”.

A common emotion metaphor is “seeing red” when one is angry. Fetterman, Robinson, Gordon, and Elliot (2011) examined this metaphor by priming either anger or sadness using words associated with each emotion (e.g., “anger” and “irate” for anger and “sadness” and “gloomy” for sadness) before asking participants to label an ambiguous colour stimulus as red or blue. Results revealed that after priming anger, participants were more likely to categorize the colour stimulus as red regardless of the colour actually presented. These findings suggest that the colour red is linked specifically to anger, and not to negative emotions in general because priming sadness did not produce the same results. This is consistent with the colour-emotion metaphor of “seeing red”.

A third reason for the development of colour-emotion associations is that colours can elicit emotional reactions or responses (Soriano and Valenzuela 2009). The physiological response to colour can influence psychological functioning and behaviour. The relationship between colour and performance will be examined in more detail in the third section of this chapter. Finally, Soriano and Valenzuela (2009) argue that colour words and emotional words share a similar connotative structure. Colour words carry more meaning than what they reference, and part of this meaning is emotional in nature. The emotional meaning of a colour word is mediated by experience and objects/events in one’s environment (e.g., red blood, blue sky). These connotations may vary from one culture to another, or from one individual to another; however, D’Andrade and Egan (1974) argue that colour terms across all cultures share similar affective profiles. In other words, the colour term

black would be considered negative in valence (or evaluation), highly arousing or active and dominant or potent.

Gohar (2008) investigated the relationship between colour and six basic emotions. Participants were asked to describe emotions using perceptual features (i.e., what the emotion would look like if it were a tangible object). The colour for each emotion was often provided as the first or second feature in the list. Anger was associated with the colour red, disgust with green, fear with black, happiness with yellow, sadness with blue, and surprise with bright. These associations are likely a result of the figurative language we use when describing emotions. More recently, Mohammad (2011) used crowdsourcing to develop a word-colour association lexicon. Similar to Gohar (2008), anger was associated with red (and black) and fear was associated with black (and red); however, disgust was associated with black and red (not green), joy was most commonly associated with white, and surprise was associated with red. There was also evidence that some colours had positive associations (e.g., white, green, yellow) while others had negative associations (e.g., black, red, brown), consistent with Volkova, Dolan, and Wilson (2012). Finally, Mohammad (2011) examined both concrete and abstract (emotion) words and found no correlation between imageability of the word and the strength of the colour association. This indicates that abstract concepts are associated with colours to the same degree as concrete objects.

Fugate and Franco (2019) assessed the consistency and specificity of colour-emotion associations in English speakers. In Experiment 1, participants could select up to three colours (from 23 colour squares) for 10 different emotion words: anger, calmness, contempt, disgust, fear, envy, happiness, jealousy, sadness, and surprise. In Experiment 2, five additional colour squares and 10 additional emotion words were added: alert, awe, boredom, disappointed, empathy, guilt, joy, love, pride, and shame. In Experiment 1, four of the 10 emotion words showed consistency in the colour selected. These emotion-colour associations were anger-red, fear-black, happiness-yellow, and sadness-grey. Nine of the 23 colours used were specific to select emotion terms. Red was selected for anger, followed by jealousy, fear, and envy. Grey was common for sadness, fear, and contempt. Yellow was among the top three colours for happiness and surprise, and green was among the top three colours for envy and jealousy. Indigo was specific to sadness and bright pink was specific to surprise. Disgust was the only emotion term with strong associations to the colours chocolate, dark yellow and light green. In Experiment 2, disappointment and love showed consistent emotion-colour associations (grey with disappointment and red with love). Three of the colours in Experiment 2 showed specificity. Dark red was selected for anger, followed by love and contempt. Green was most commonly selected for envy, followed by jealousy and calmness, and light red was linked to love, followed by surprise and joy. Common phrases such as “seeing red” and “green with envy” influence one’s selection in this task. Fugate and Franco (2019) suggest that we use language and linguistic metaphors to make decisions about what colour an emotion should be.

We are able to acquire abstract concepts, such as valence and emotion, by interacting with our environment and using our perceptual and sensory experiences with concrete concepts to develop abstract concepts (e.g., for reviews, see Barsalou 2008; Glenberg 2010). Lakoff and Johnson (1980, 1999) suggest that metaphors shape conceptual thought and that abstract concepts are grounded in concrete experiences and sensory experiences. Us-

ing concrete concepts (e.g., looking down) in conjunction with perceptual experience (e.g., feeling sad) to develop and represent abstract concepts (bad is down) is known as conceptual metaphor theory. Lakoff and Johnson (1980, 1999) proposed that these metaphorical associations only occur in one direction, from the concrete concept to the abstract concept. The directionality of these associations was recently tested by Huang, Tse and Xie (2018). Huang and colleagues examined brightness to valence (concrete to abstract) and valence to brightness (abstract to concrete) associations using a Stroop paradigm (Experiments 1 and 3) and a priming paradigm (Experiment 2) and found that the associations were bidirectional and depended on whether the task being used activated both concepts (brightness and valence).

### 3 Colour and emotional dimensions

Emotional words are commonly classified using a two-dimensional model consisting of valence (positive or negative) and arousal (level of activation) (Russell 1980). For example, the word “angry” would be negative in valence and high in arousal, while “calm” would be positive in valence and low in arousal. A third dimension, dominance, has also been found to be a significant predictor of emotion representation (Russell and Mehrabian 1977); however, several studies have indicated that valence and arousal alone are sufficient for describing differences in emotional stimuli (Citron 2012; Posner, Russell, and Peterson 2005).

Colour is generally defined according to three features: (i) hue (wavelength), (ii) saturation (vividness), and (iii) brightness (varying ratios of black and white quality). Valdez and Mehrabian (1994) examined how colour can influence emotional responses. Specifically, they examined emotional reactions to hue, saturation, and brightness. Ten hue groups were selected (e.g., red, green-yellow) and participants were asked to use the pleasure-displeasure, arousal-nonarousal, and dominance-submissiveness (PAD) scales (Mehrabian 1978) to rate their emotional responses to various colour samples within the same hue. Brighter colours and more saturated colours were rated as more pleasant, with brightness having a stronger effect than saturation. There was also a positive relationship between saturation and arousal; however, there was a negative relationship between brightness and arousal such that brighter colours were rated as less arousing. Dark colours and more saturated colours were rated as producing greater feelings of dominance as compared to bright colours and less saturated colours. The highest ratings for pleasure were provided for short-wavelength hues (e.g., blue, green), followed by longer-wavelength hues (e.g., red), with intermediate wavelength hues (e.g., yellow) rated as the least pleasant. There were very weak, and often non-significant relationships between hue and arousal and hue and dominance. The current section will focus mainly on the relationship between the valence of emotional words and hue, as well as the valence of emotional words and brightness.

Moller, Elliot, and Maier (2009) examined the relationship between valence and hue using a modified-Stroop task. In Experiment 1, words associated with failure (e.g., wrong, incorrect) and success (e.g., excellent, correct) were presented in red and green font and participants were asked to identify whether the word was a failure-related or success-relat-

ed word by pressing one of two keys. Five failure-related words and five success-related words were each presented four times, twice in red and twice in green. The results showed that participants categorized failure-related words faster when they appeared in red versus green and success-related words faster when they appeared in green versus red. This suggests that the negative, failure-related words are associated with red and the positive, success-related words are associated with green. The researchers attempted to replicate the findings from Experiment 1 using failure- and success-related nouns (e.g., loser, error, winner, champion). In addition, they included general negative words (e.g., ugliness) and general positive words (e.g., bravery), as well as a control condition, presenting words in white, to determine the directionality of the effects in Experiment 1. They found that red facilitates the processing of failure-related words and general negative words, with no difference in reaction time for negative words presented in green or white. This suggests that the colour red is associated with negative valence. Green only facilitated the processing of success-related words and not the positive general words, suggesting that the green association does not generalize to positive valence. Importantly, the colour of an emotional word can provide information about its valence and associations with emotional states, such as failure and success.

Gilbert, Fridlund, and Lucchina (2016) used a colour-matching procedure to examine the relationship between emotional words and colours. Participants read about a mood (e.g., "I feel happy") or emotional situation and then selected a colour circle to represent the emotion, as well as slid a bar to adjust for brightness of the colour. The selection of possible colours was unconstrained in the study. They found that emotional words with similar valence resulted in the selection of similar colours. Negative words were associated with darker colours (angry with dark red and sad with black) and positive words with brighter colours (romantic with bright pink and energized with bright yellow). The link between positive valence and brightness and negative valence and darkness has been reported in several studies with adults (e.g., Hemphill 1996; Meier, Robinson, and Clore 2004; Specker et al. 2018) and children (Boyatzis and Varghese 1994; Stabler and Johnson 1972).

In a series of three experiments, Specker et al. (2018) examined the universality and automaticity of the relationship between positive valence and brightness. In Experiment 1, participants completed an implicit association task (IAT). For the IAT, various blue colour patches were selected, half were bright and half were dark. In addition, positive and negative words, equal in arousal, were selected from the Berlin Affective Word List Reloaded (BAWL-R; Võ et al. 2009). In congruent trials, a bright colour patch and a positive word would share the same response key; whereas in an incongruent trial a bright colour patch and a positive word would not share the same response key. The results revealed a strong implicit association between positive valence and brightness. In Experiment 2, achromatic colour patches replaced the blue colour patches to rule out the possibility that the effects were a result of hue and/or saturation and not brightness. In addition, participants provided explicit emotional ratings to the colour patches on a scale of 1 (negative) to 7 (positive). Once again, a strong implicit association between positive valence and brightness was obtained. An explicit association was also reported; however, the implicit association was stronger than the explicit association. Finally, Experiment 2 (using an Australian sample) was replicated using a Japanese sample in Experiment 3. The results of the three experi-

ments support the notion that the association between brightness and positive valence is automatic, evidenced by the stronger implicit association obtained in the IAT task, compared to the explicit ratings provided. In addition, the association was obtained across two different cultural groups, Australian and Japanese, providing evidence that the link between brightness and positivity is also universal.

Meier, Robinson, and Clore (2004) examined the association between brightness and valence in a series of five studies. In the first three studies, participants evaluated the valence of 100 words (50 positive and 50 negative) presented in black or white font. In the first study, speed and accuracy was emphasized. In Study 2, speed was prioritized over accuracy, and in Study 3 responses had to be made within a 600 millisecond (ms) response deadline. The results of all three studies revealed that participants were faster evaluating negative words when they appeared in black font compared to white font. In addition, they were faster at evaluating positive words when they appeared in white font compared to black font. When the task required affective categorization (positive or negative responses), the colour of the font influenced reaction time. This is consistent with the notion that darkness is associated with negative words and brightness with positive words. In Study 4, participants were asked to respond to the colour of the words, selecting one key if the word appeared in white and another if it appeared in black. When responding to the colour of the word, the valence did not influence response times. Finally, in Study 5, participants completed a lexical decision task. Similar to Study 4, there was no interaction between colour and valence. This suggests that colours may prime response tendencies when the task requires one to pay attention to the emotional valence of the word. Meier and colleagues note that these findings are consistent with Lakoff and Johnson's (1999) claims that conceptual thought is often based on physical metaphors. In other words, emotional concepts are linked to physical representations such that the colour of the stimulus affects how we evaluate the valence of an abstract, emotional stimulus (also see Lakoff 2014).

Meier, Fetterman, and Robinson (2015) completed a large-scale replication of Study 1(b) from Meier et al. (2004) using the same set of words with 980 participants. Meier and colleagues (2015) found that positive words were evaluated faster than negative words, as well as an interaction between valence and colour. Once again, participants evaluated positive words faster when they were presented in white font (compared to black) and negative words were evaluated faster when they were presented in black font (compared to white). Brightness and valence are often associated in linguistic metaphors (as discussed Section 1 of the current chapter), and these metaphors may shape how we store linguistic emotional concepts (Lakoff and Johnson 1999; Meier et al. 2004).

Lakens, Semin, and Foroni (2012) found that the relationship between brightness and positivity only emerges when the opposite relationship between darkness and negativity is also activated. Brightness (white) and darkness (black) are treated as opposites in a brightness dimension, and positive and negative are treated as opposites along the valence dimension. The presence of both dimensions is needed to activate the relationship between positivity and brightness. This is known as the shared relational structures view. In a series of four studies, valence and brightness were manipulated within and/or between subjects to examine the shared relational structures view. Participants, without knowledge of the Chinese language, completed a Chinese ideograph translation task in which they were

asked if a Chinese ideograph (presented in black or white) was the correct translation of a positive or negative word. The results revealed that when both dimensions (valence and brightness) were manipulated within subjects, the brightness of the ideograph influenced the likelihood with which it was judged as a correct translation of the emotional word. When white ideographs were present, positive words were judged as the correct translation above the level of chance, and when black ideographs were present, negative words were judged as the correct translation above the level of chance. If valence and/or brightness was manipulated between subjects, then the benefit of brightness for positive word translations was no longer present. Negative words were always translated above chance when black ideographs were present. These findings suggest that black is always associated with negativity, but the relationship between white and positivity is influenced by contextual factors.

Colour features (hue, saturation, and brightness) have been linked to emotional valence. Particular hues activate positive (green) and negative (red) valence (e.g., Moller et al. 2009). In addition more saturated colours, and darker colours, are linked to negative valence; whereas less saturated and brighter colours are associated with positive valence (e.g., Gilbert et al. 2016; Meier et al. 2004). The relationship between colour features and emotional dimensions can impact psychological functioning and performance.

## 4 Colour associations and performance

Colour has been shown to influence psychological functioning and performance on various tasks (e.g., Stroop tasks, problem-solving tasks). Most of the literature examining colour and psychological functioning is applied in nature. For example, researchers are interested in understanding how colour affects consumer behaviour (e.g., Bellizzi and Hite 1992) and food preference (Gilbert et al. 2016); however, it is also important to understand why an association exists between colour and psychological functioning. Elliot et al. (2007) developed a broad model of colour and psychological functioning known as Colour in Context Theory (also see Elliot and Maier 2007, 2012) to explain the effects of colour on cognition and behaviour.

Colour in Context Theory highlights that colours carry specific meanings and provide information about a stimulus. The meanings associated with specific colours is a result of biology (the response to some colours in specific contexts represents evolutionarily ingrained responses) and learned behaviour, as a result of repeated pairings between a colour and a concept. Perceptual features of stimuli, like colour, are processed at an early level in the visual system and trigger an evaluative mechanism to determine if the stimulus is positive or negative, which in turn results in an approach (if positive) response or avoidance (if negative) response. The effects of colour on psychological functioning occur quickly, and are believed to be automatic (see the results of Specker et al. [2018] discussed earlier). Finally, Elliot and colleagues note that context influences colour meanings. The same colour may be associated with different thoughts and feelings in different situations (Elliot et al. 2007; Meier et al. 2012). For example, red is negative in an achievement context, but positive in an affiliation context (Elliot and Maier 2012).

In a series of six experiments, Elliot et al. (2007) examined how the colour red influenced performance in an achievement context. The first four experiments utilized a language-based task, solving anagrams, to investigate how the presence of a red, green, or achromatic (black, white, or gray) subject number in the corner of the screen would impact one's ability to solve the anagrams. In all four experiments, participants shown red solved fewer anagrams than those with a green or achromatic subject-number in the corner of the screen. Participants reported being unaware of the purpose of the experiments and were unaware that the colour affected their performance, consistent with Colour in Context Theory. Similar findings have been reported when examining the effect of colour on children's cognitive performance (e.g., Brooker and Franklin 2016).

Recent work conducted by Bertrams et al. (2019) tested the manner in which font colour affected one's perception of critical feedback. Red font is commonly used in educational settings to provide written feedback. Participants completed an attentional performance task and received feedback which included language stating that their performance was average, that they missed some details, and their attentional ability could be improved. In the red font condition, the words "average", "missed", "details", and "improvable" were written in red with everything else in black text. In the control condition, all of the text was black. Participants were asked to provide information regarding their emotional perception of the feedback and their cognitive perception of the feedback. Results revealed that participants in the red feedback condition reported that the feedback was less positive than participants in the control feedback condition. There was no difference in the cognitive perception of the feedback. Both groups rated questions about the fairness of the feedback, helpfulness of the feedback, and understanding the feedback equally. These findings suggest that providing written feedback in red font results in a less positive emotional reaction. The colour of the written words in an achievement context may be important in shaping emotional perception.

The colour red often carries a negative association, but red can also be linked to positive contexts, such as love and affiliation. When asked to provide a colour for love, red is the top response provided by the majority of participants (Sutton and Altarriba 2016a) – 76% of respondents provided the colour red for the emotion term "love" (also see Fugate and Franco 2019). Similarly, red is the most common colour response to the words "lust" (68 %), "passion" (77 %), and "romantic" (87 %) (Sutton and Altarriba 2016a). In addition, research examining attraction often finds that the presence of red increases attractiveness ratings (e.g., Elliot and Niesta 2008). The fact that the same colour can be linked to both positive and negative emotions is consistent with the premise that context influences colour meanings, and the meaning associated with a particular colour is not fixed.

Work by Sutton and Altarriba (2008, 2016b) suggests that semantic representations of emotion words (including colour associations) are automatically activated when processing negatively valenced words. Sutton and Altarriba (2008) examined colour words, colour-related neutral words and colour-related emotion words using a traditional Stroop paradigm. Previous work examining emotion words used a variation of the Stroop task, the emotional Stroop task (McKenna 1986; McKenna, and Sharma 1995), in which neutral words and emotion words are presented and participants must identify the ink colour of the words. In the emotional Stroop task, congruent and incongruent trials do not exist;

however, Sutton and Altarriba (2008) selected colour-related emotion words (e.g., sad [blue], angry [red], envy [green], scared [yellow]) which allowed them to examine traditional Stroop interference. In Experiment 1, the congruent and incongruent trials were presented in separate blocks, and in Experiment 2, the congruent and incongruent trials were mixed together within the same block. Results from both studies revealed the standard Stroop effect for colour words and colour-related emotion words. The threat evoked by the negative words automatically activated the word's semantic representation, including its colour association, slowing performance on incongruent trials.

Sutton and Altarriba (2016b) used the stimuli from Sutton and Altarriba (2008) to examine how emotion words were processed in a negative priming paradigm. In this task, there is a sequence of two trials, the prime trial and the probe trial. In the prime trial, a participant responds to the colour of the stimulus, known as the prime target. The prime also contains conflicting information, known as the prime distractor (e.g., the meaning of the word). In the following trial, the probe trial, the probe target may be related or unrelated to the prime distractor. If the probe target is related to the prime distractor (ignored repetition trial), then responses are typically slower than when the probe target is unrelated to the prime distractor (control trial) – this is known as the negative priming effect. In Experiment 1, the three word types, colour words, colour-related neutral words, and colour-related emotion words were presented in separate blocks, and in Experiment 2, the three word types were mixed together within the same block. The standard negative priming effect was obtained for the colour words and colour-related neutral words. Interestingly, the colour-related emotion words showed a different pattern of results. Facilitation was found on the ignored repetition trials compared to the control trials. The negative words were processed automatically and could not be ignored, such that the colour association of the prime distractor improved performance in the negative priming trials. When a negative emotion word is activated in the mental lexicon, associated information including expressive behaviours, physiological changes, and colours are relevant and influence subsequent processing (Sutton and Altarriba 2016b).

Researchers have also investigated how colour influences memory for emotional words using word recall (e.g., Kuhbander and Pekrun 2013) and word recognition (Mammarella et al. 2016) paradigms. Kuhbander and Pekrun (2013) examined the combined effect of colour and emotional salience on recall. Participants were asked to study 30 lists of words. Twenty-seven of the lists contained 11 words in black font and one word in red, green, or blue font, and the remaining three lists contained words all in black font. The words presented in colours were positive, negative, or neutral. Participants studied each list one at a time, and then were asked to recall the words in any order. As expected, the words in coloured font were recalled better than the words in black font because they stood out perceptually, enhancing memory for the coloured items. This is known as the von Restorff effect (von Restorff 1933). Emotional words were also recalled better than neutral words, consistent with the emotional memory enhancement effect (Kensinger and Corkin 2003). Of note was the significant interaction between colour and emotional valence. Negative words presented in red were remembered better than negative words presented in green or blue, and positive words presented in green were remembered better than positive words presented in red or blue. The colour red enhanced memory for negative words and the

colour green enhanced memory for positive words, suggesting that the association between valence and colour affects memory for emotional words.

Mammarella et al. (2016) studied the influence of colour and valence on recognition memory in younger adults (mean age of 23) and older adults (mean age of 74). In Experiment 1, 30 positive, 30 negative, and 60 neutral words were presented in red, green, and blue font. Participants had 3 seconds (s) to view each word and memorize it before completing an immediate recognition task. The researchers obtained a significant age x valence x colour interaction. For the younger adults, positive words presented in green font were remembered better than positive words presented in red and blue font; whereas negative words presented in red font were remembered better than negative words presented in green and blue font. This is consistent with the recall results reported by Kuhbander and Pekrun (2013). For the older adults, there was a positivity bias, with positive words being remembered better than negative and neutral words. In addition, positive words in green font were remembered better than positive words in red or blue font. The findings suggest that older adults are no longer influenced by the association between red and negative stimuli, but still show the positive-green association in a recognition task.

Associations between colour terms and emotional words influence performance in a variety of settings and tasks, including, but not limited to, achievement contexts, affiliation contexts, explicit colour-emotion association rating tasks, Stroop tasks, negative priming tasks, and word recall and recognition paradigms. The majority of the work reviewed has focused on colour-emotion associations in the English language; however, some studies have utilized other languages (e.g., German, Specker et al. 2018; Kuhbander and Pekrun 2013). Given cultural differences in the use of colour and differences in linguistic metaphors, it is important to examine the effect of culture on the development of colour-emotion associations.

## 5 Cross-cultural differences in colour and emotional language

Adams and Osgood (1973) examined the affective attributions (evaluation, potency, and activity) of eight colour concepts in 23 cultures. Evaluation is rated from good to bad (like valence, positive to negative), potency is rated from strong to weak (like dominance), and activity is rated from active to passive (like arousal, excited to calm). Blue was rated the highest for evaluation, followed by green and white in most cultural groups, and grey and black were rated low for evaluation. Some exceptions included a positive evaluation of black in Yugoslav Serbo-Croatian culture, a negative evaluation of green in Delhi Hindi culture, a strong negative evaluation of yellow in Hong Kong Chinese culture, and a neutral evaluation of blue in Greek culture. The colours with the highest potency ratings were black and red and the colours with the lowest potency ratings were yellow, white, and grey. Again, some exceptions to this pattern were noted. For example, black was rated as weak in Delhi Hindi culture and grey was rated as strong in Finnish culture. Finally, the colour red was rated highest for activity, and black and grey were rated as passive colours. Con-

trary to the general patterns, black was rated as active in Yucatan Spanish culture and Delhi Hindi culture. Adams and Osgood (1973) claimed that the links between colour and emotional dimensions/affective attributes seemed to be widely universal, and this could be a result of how we visually process different wavelengths of colour, commonalities in living conditions (e.g., green plants are healthy, dirty things are dark), or common cultural beliefs.

It is important to note that Adams and Osgood (1973) (and many other published studies examining emotion and culture) translated English words into other languages and these translations may not accurately reflect the concept being examined. Wierzbicka (2009, 2015) argues that many studies examining emotion and language are based primarily on the English language, reflecting an Anglocentric bias as the English language is not “culturally or conceptually neutral” (Wierzbicka 2015: 312). The language we use impacts how we think about concepts and simply translating English words into another language does not accurately reflect the complex nature of a concept. Similarly, Foolen (2012) suggests that lexical variation between languages is greater for abstract concepts, like emotion, than for more concrete concepts; therefore, it is important to consider that simply translating words from one language to another is a potential limitation that may impact the results of the study.

In an attempt to replicate and extend Adam and Osgood’s (1973) work, Soriano and Valenzuela (2009) used an implicit association task (IAT) to examine colour and emotional associations using the Spanish colour terms for red, blue, green, and yellow. For the IAT task, participants had to classify colours into their correct category (e.g., turquoise as blue) by pressing a key. The same key could also be associated with a second categorization task, such as an evaluation (good or bad) task. If the colour (blue) and association (good) are implicitly associated, then response times should be faster when they share the same key. All three of Osgood’s emotional dimensions – evaluation, activity, and potency – were examined using the IAT task. *Rojo* (‘red’) was associated with positive evaluation, high activity, and high potency. *Amarillo* (‘yellow’) was characterized as positive and low in both activity and potency. *Verde* (‘green’) was rated as positive, low in activity, and moderate for potency. Finally, *Azul* (‘blue’) was rated as negative, low in activity, and neutral in terms of potency. In general, there was a great deal of overlap between the results obtained by Soriano and Valenzuela (2009) and Adams and Osgood (1973), particularly for activity and potency. There was less overlap between the two studies for evaluation. Soriano and Valenzuela suggest that potency is strongly linked to brightness; therefore, dark colours (regardless of culture) are strong and light colours are weak. In addition, activity is linked to saturation. Regardless of culture, saturated colours are more active/exciting and less saturated colours are less active/relaxing. Evaluation, on the other hand, may rely more on context, such that viewing something as positive/negative (good/bad) varies, and the colour associated with the evaluative dimensions is influenced more heavily by cultural and interpersonal differences.

D’Andrade and Egan (1974) attempted to distinguish between a biological versus cultural (learned) association between colours and emotion. Participants from two different cultural backgrounds were asked to view emotion terms and select the colour chip(s) that corresponded best with each term. American, English-speaking undergraduates and Tzel-

tal-speaking adults from Aguacatenango, Mexico, were selected because the use of colour in each culture, as well as the linguistic metaphors in each culture, vary considerably. The emotional terms investigated were angry, frightened, happy, not good, sad, strong, very good, weak, and worried. In both cultural groups, the colour chips selected for positive terms (e.g., blue-green colours) were different from those selected for negative terms (e.g., red-yellow colours). For the term happy, relatively lighter chips (less saturated) were selected by American participants compared to the selection of darker (more saturated) chips selected by Tzeltal-speaking participants. The colour chips selected for the English words happy, good, and strong varied more than those selected for the three Tzeltal equivalent terms. The greatest variation in colour chip selection was apparent for the terms worried and angry and the greatest consensus between the two cultures appeared for the terms good, bad, strong, and weak. D'Andrade and Egan (1974) found that the emotional associations to colour were linked more strongly to saturation and brightness than to hue. They also claimed that the similarities for many of these terms lend support to the notion that colour-emotion associations seem to be the result of an innate, biological mechanism. Johnson, Johnson, and Baksh (1986) used the same methodology and word set as D'Andrade and Egan (1974) to extend their findings to an Arawakan Indian language used by the Machiguenga in Peru. The results revealed that the colours selected for positive terms (e.g., good and happy) were similar to each other, but different from those selected for negative terms (bad and sad). The major difference with the Machiguenga data was the response for the term angry was closely associated with frightened. Once again, these results suggest a great deal of overlap in colour-emotion associations across cultures, with some emotion terms showing cultural-specificity.

If the link between colour and emotional words is driven by learned associations between emotion terms and colours used in figurative language, then one might expect the association between emotional words and colour terms to vary more widely across languages. Barchard, Grob, and Roe (2017) reviewed previous research to identify common metaphors and metonymies for emotions (e.g., "happiness is bright", "sadness is dark", "anger is red") and then tested these associations with participants in the United States and India. Thirteen of the 14 associations tested were endorsed by participants from the United States, indicating that the descriptions were representative of the emotions. The majority of the participants from India also indicated that happiness was bright, negative emotions were dark, and anger was associated with red; however, some of the associations were culture-specific. For example, 66 % of the participants from the United States agreed that "sadness was blue", but only 16 % of participants from India endorsed this association.

Hupka et al. (1997) examined the associations between colours and four emotion words (anger, envy, fear, and jealousy) in five countries (Germany, Mexico, Poland, Russia, and the United States). Participants used a 6-point Likert scale (1 = not at all to 6 = very much) to rate the extent to which a particular emotion reminded them of 12 different colours. In all five countries, "anger" was associated with both red and black. In Mexico, "anger" was also associated with purple. "Fear" was associated with black in all five countries and with red in every country except for Mexico. "Jealousy" was associated with red in all five countries, and with black in every country except for Poland. In addition, "jealousy" was associated with purple in Poland and yellow in Germany. "Envy" was associated with black in

every country except for Germany. Three countries (Mexico, Poland, and Russia) associated “envy” with purple, two countries associated “envy” with red (Poland and the United States), two countries associated “envy” with yellow (Germany and Russia), and only the United States associated “envy” with green. Overall, there was greater cross-cultural agreement for “anger” and “fear” than “jealousy” and “envy”. Hupka et al. (1997) suggest that the colour associations for “anger” and “fear” may originate from common sensory experiences resulting in universality for colour-emotion associations to these terms; whereas the colour-emotion associations for “jealousy” and “envy” are a product of one’s culture and language.

Vainio (2016) examined the associations between emotions and colours in Finnish, Norwegian, Greek, and Chinese adults. The relationship between colour and emotion was assessed using the Geneva Emotion Wheel (GEW; see Scherer 2005; Scherer et al. 2013). Participants viewed a colour word and were asked to rate the intensity of each emotion that they associated with a colour word. The colours black, brown, and grey were associated with negatively valenced emotion words in all four countries. Pink was rated as a positive colour in all four countries, and yellow was rated as positive in all of the countries except Greece. In Greece, yellow is associated with positive emotions and the negative emotion “hate”. There was some overlap between the strongest colour-emotion associations across the four countries (e.g., red-love and black-sadness); however, many colour-emotion associations varied from one country to another, indicating that these associations were learned and influenced by culture. For example, colour responses to “relief”, “joy”, and “contentment” varied considerably.

The research examining cross-cultural similarities and differences among colour-emotion associations supports Soriano and Valenzuela’s (2009) notion that more than one process is responsible for the development of links between colour terms and emotion terms. Common physiological reactions to emotional stimuli, and the emotional responses produced by colour terms, may account for the consistencies we see for some emotion terms across different languages and cultures. The commonalities for many colour terms, such as anger and fear, may reflect innate, biological responses and the influence of saturation and brightness on emotional reactivity. The development of conceptual metaphors and connotation reflect culture-specific colour-emotion associations. For example, the emotion concept “envy” shows unique pairings in different cultures.

The relationship between emotion and colour is complex and is influenced by one’s culture, including the language used by a cultural group. Our understanding of abstract concepts like emotion are a result of our interaction with our environment and the use of sensory experiences with concrete concepts (e.g., Glenberg 2010). Linguistic metaphors, such as “seeing red”, often used to communicate our emotions, impact colour-emotion associations (e.g., Fugate and Franco 2019). Such literal and figurative speech related to emotion varies depending on the language the speaker uses to express themselves as language reflects both the conceptualization of emotion and our expression of emotion (Foolen 2012).

Colour-emotion associations have been shown to impact performance on a variety of tasks. In an academic context, the colour red is often considered negative and impacts one’s perception of feedback (e.g., Bertrams et al. 2019); however, the colour red is also associated with positive emotion concepts such as love and affiliation (e.g., Sutton and

Altarriba 2016a). These associations were examined among English speakers attending universities in the United States. Future work examining the impact of linguistic metaphors and colour-emotion associations in different contexts (e.g., academic, social) should include non-WEIRD (Western, Educated, Industrialized, Rich, and Democratic) samples to make psychological research more representative of the larger population (see Rad, Martingano, and Ginges 2018).

As mentioned previously, a great deal of the existing cross-cultural research in the area of cognition and emotion relies on translations of English words into other languages. Wierzbicka (2009, 2015) and Hasada (2002) point out that such work is language-specific and ignores the problem of relying on the English language to examine concepts across cultures. Future work could incorporate the use of the Natural Semantic Metalanguage (NSM) developed by Wierzbicka and colleagues. NSM relies on “universal semantic primitives”, or a set of words that are available in all languages (e.g., Wierzbicka 1992), to define the meaning of concepts and to reduce translation and definitional issues of words across various languages. In addition, Foolen (2012) notes that emotions are conceptualized and expressed differently across cultures. The incorporation of linguistic methodology such as NSM and the inclusion of more diverse samples will help to identify truly universal colour-emotion associations and cultural-specific associations.

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## **V Grammatical dimensions of emotion research**



Barbara Lewandowska-Tomaszczyk and Paul Andrew Wilson

## 20 Morphology and emotion

- 1 Emotions, affect, evaluation
- 2 Evaluative versus affective morphology
- 3 Which emotions are morphologically expressed in world languages?
- 4 Functions of affective morphological instruments
- 5 Augmentatives
- 6 Truncation/clipping
- 7 Grammatical gender shifts
- 8 Reduplication
- 9 Compounds and blending
- 10 Evaluation polarity shifts
- 11 Conclusions
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**Abstract:** The chapter explores the relationship between morphology and expression of emotional terms, and presents the conceptualization and lexicalization patterns of emotional states, events and properties accessible by means of morphological tools. In the first part a clarification of terminology referring to emotion, affect and evaluation (appraisal) is dealt with. The major part of the chapter presents a survey of morphological tools available to shape emotional meanings and forms across languages – that is, affixation, conversion, and word formation – also touching upon fixed phraseological units such as collocational patterns and idiomatic expressions. Part of this section focuses on the specificity of emotion concepts and their morphology, which involve different instruments such as affixation/diminutives/augmentatives, reduplication, etc. in the lexis of mixed, affective, emotional and evaluative character with some examples of the special position of emotionality terms (words, phrases, endearments, obscenities/vulgarisms) in typologically different languages. The function of some semantic processes such as the place of semantic metaphorical extensions are also touched upon and exemplified. Particular emphasis is placed on similarities and contrasts between English (a more analytical system) and Polish (a more synthetic, inflectional system) to show that at the morpho-lexical level languages may vary in choosing to lexicalize different facets of emotional meanings.

### 1 Emotions, affect, evaluation

Our focus is on emotions and evaluations as specific morphological means used for expressive purposes. The highly complex nature of the relationship between emotion and evaluation is discussed more fully below.

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Distinguishing among various terms referring to emotions, such as affect, feelings, mood and evaluation, is important because of the confusion that might arise from their similarity, which is confounded by the lack of precision in the definition of these terms and some interchangeable usage in scientific literature. This section endeavors to provide a definition of these terms, highlighting notable similarities and differences.

## 1.1 Affect

In comparison with the more specific term *emotion*, which refers to discrete instances of fear, sadness, joy, anger and so on, affect is relatively more abstract and general in its scope (Batson, Shaw, and Oleson 1992), having a more dichotomous focus on relatively less versus more valued percepts and their associated states (Zajonc 1980). Shouse (2005) underscores the importance of this evaluative element, which would appear to be determined by the intensity of affect (Batson, Shaw, and Oleson 1992), in how we relate to our surroundings and other individuals. The more general nature of affect means that it encompasses emotions, sentiments and feelings (Fleckenstein 1991). A number of scholars further point to the non-conscious nature of affect (e.g., Massumi 2002) which is seen to have a relatively more primal origin than emotions both in terms of phylogenetic (i.e., evolutionary development) and ontogenetic (i.e., development of a specific organism over its lifetime) development (Batson, Shaw, and Oleson 1992).

## 1.2 Emotions

A major way in which emotions differ from affect is in their complexity with regard to a number of components. Specifically, Scherer (2000) argues that emotions are based on the activation of a number of interacting components, including appraisals, bodily reactions, expressions, action and feelings. Further highlighting the intricate nature of emotions, Kleinginna and Kleinginna (1981) highlight the hormonal and neural bases of emotions, which can generate arousal and pleasure or displeasure, produce appraisals, activate physiological responses, and elicit adaptive and goal-directed behavior. According to Batson, Shaw, and Oleson (1992), adaptive and goal-directed behavior is associated with values that are in turn underpinned by one's current context, environment, experiences and culture. There are a plethora of studies that show the influence of culture on emotions (e.g., British English vs. Polish pride [Wilson and Lewandowska-Tomaszczyk 2017], fear [Lewandowska-Tomaszczyk and Wilson 2013], and sympathy, empathy and compassion [Lewandowska-Tomaszczyk and Wilson 2019]). Many scholars further point to the embodied nature of emotions that are difficult to control (e.g., Critchley, Mathias, and Dolan 2001).

## 1.3 Feelings

In lay terms, emotions and feelings are often used interchangeably; however, a more scholarly analysis reveals their distinct nature. The fundamental underlying principle is that

emotions underpin feelings (e.g., Damasio and Carvalho 2013). It is argued that emotions are active responses to the perception or recall of mainly exteroceptive stimuli and include such instances as pride, joy, shame, fear, anger, sadness, love and anger. For example, taking off in an airplane for somebody who fears flying is likely to elicit a number of physiological responses, including a tensing of muscles, elevated heart rate, sweating and adrenaline secretion. However, it is possible that a response to interoceptive stimuli might trigger a similar response in, for example, an individual who has been diagnosed with a heart defect and is experiencing chest pains. The key point to note in both cases is that these physiological changes that occur in response to action changes “are in turn sensed by the interoceptive system and mapped in the CNS” (Damasio and Carvalho 2013: 144). The crucial distinction between emotions and feelings is based on whether these changes in body state are non-conscious or conscious. In terms of these fear examples, whereas the emotion of fear is the non-conscious physiological changes to action responses, the feeling of this fear is the conscious awareness of these physiological changes. Elaborating more fully, Damasio proposes that “a feeling is the perception of a certain state of the body along with the perception of a certain mode of thinking and of thoughts with certain themes” (Damasio 2003: 86). Scherer’s (2005) viewpoint of feelings is generally consistent with that of Damasio. According to Scherer (2005), feelings represent the subjective experience of emotions and integrate the somatic and motivational patterning that are underpinned by cognitive appraisal.

## 1.4 Moods

There are a number of features that distinguish moods from other affective phenomena. Scherer (2005) identifies moods as having a relatively more dispersed focus, longer temporal existence, less of a precise cause, and lower intensity.

## 1.5 Evaluation

Evaluation is associated with the judgments, thoughts and beliefs of an attitude object (defined as “any target of judgment that has an attitude associated with it. Attitude objects may be people, social groups, policy positions, abstract concepts, or physical objects” in *APA Dictionary of Psychology*) and may be mostly represented verbally or semantically. In contrast, affect pertains to the feelings and emotional responses connected with such objects and is usually represented by non-propositional forms.

The terms *affect*, *feelings*, and *emotional responses* are not possible to differentiate rigidly outside context. Therefore, researchers analyzing language alone tend to use the terms invariably, with a stronger tendency to call these phenomena ‘evaluative’. But what these words refer to at any given point in time is determined by various situational determinants.

The problem of differentiation between emotion, affect, and evaluation is even more acute when considered on the basis of linguistic grounds. For example, Stump (1993) proposes that diminutive forms on the whole can express positive emotions such as fondness,

pleasure, etc., on the one hand, but also ironic disappointment and even sarcasm and contempt on the other. Taylor (1995: 146) remarks that one and the same expression can be ambiguous between different interpretations, accommodating even incompatible, as well as contradictory, meanings within a single category.

## 2 Evaluative versus affective morphology

Evaluative morphology also includes other derivative forms such as Augmentatives or terms taking other forms of evaluative affixation, which prototypically express engrossment in size and/or intensity, and can convey, or perhaps be conveyed by, a negative emotion or can be used in the teasing context of fondness. Affective morphology also involves a number of distinct morphological word-formation processes such as compounding, blending, clipping, etc., which form parts of expressive and evaluative meanings (Bauer 1997).

From the structural perspective, affective morphological constructions involve transformations on the lexical form, which are more systematic in some, mostly inflectional, languages, and a number of word-formation operations in other languages (Grandi and Körtvélyessy 2015a: 13).

In our chapter we use the term ‘Affective Morphology’ to cover phenomena of affective, emotional and evaluative value, as *affect* is an important element of emotional and evaluative meanings. The role of affect in emotion is underscored by, for example, constructionist theories of emotion, which propose that emotions comprise affect and other components such as conceptual knowledge (e.g., Barrett 2017). The relationship between emotion and evaluation is highly complex. Some theories propose it is the evaluative property that is represented which is central to the differences between specific emotions. For example, perceptual theory argues that it is the evaluative aspect of what is perceived that determines the type of emotion that is experienced (Johnston 2001), and for evaluative judgment theory the corresponding determinate is the evaluative aspect of what is judged (Nussbaum 2004). However, rather than locating the relationship between emotions and evaluations at the level of content, Deonna and Teroni (2015) reason that it is the specific attitudinal quality of emotions that link them to evaluations. Whatever the nature of the relationship between emotions and evaluations, the consensus of academic opinion is that they are closely associated. The concept of ‘Evaluative Morphology’, which is well known and widely used (e.g., Dressler and Merlini Barbaresi 1994; Grandi and Körtvélyessy 2015, 2015b; Jurafsky 1996; Schneider 2012), focuses primarily on (diachronic) morphological processes of grammaticalization and refunctionalization, and their expression of evaluative meanings, with less concern for emotion-related considerations.

There are two basic morphological processes involved in the morphological derivation of forms, which are labelled word formation and derivation, although in the case of emotional morphology this division is sometimes blurred.

Word formation in turn can be subdivided into compounding, blending, acronymization, abbreviation or clipping. Less frequent processes involve clipping (truncation/shortening) and re-analysis.

### 3 Which emotions are morphologically expressed in world languages?

The linguistic investigation of evaluative morphology has a long history (see Scalise 1986). Ponzonnet and Vaillernet (2018) propose that out of the basic emotion set, it is surprise, with a number of mirative (i.e., denoting surprise) morphological devices, that is probably the most frequently morphologically expressed emotion in world languages (DeLancey 1997). Affection and compassion on the one hand and contempt and dissatisfaction on the other are the second most frequent emotions expressed by morphological instruments. There are also a few other languages that possess apprehensional morphology (morphologically expressed *fear*) (Lichenberg 1995) such as the Takanan language Ese Ejja spoken in Bolivia (Vuillermet 2018), with a distinct apprehensional *fear*-morpheme used in response to an event bringing undesired consequences.

In the Takanan family of languages in Bolivia, expressive emotional devices are used with nominal and verbal classes of words. For example, the enclitic *=chidi*, shortened and pronounced with little emphasis, expresses endearment and affection, while the enclitic *=base* expresses depreciation. Another interesting enclitic, *=ichenu*, is specialized on the other hand in the expression of compassion. Two verbal suffixes – *base* and *madha* – can acquire evaluative charge and express, for example, depreciation and hostility.

Compassion seems to be more frequently expressed morphologically in the languages spoken in Bolivia. For example, a hypocoristic sense of affection and compassion is expressed in Mojeño Trinitario by the suffix *-chichi* (etymologically ‘child’) and by the suffix *-sami* in Mojeño Ignacio. In some Slavic languages, e.g., Polish, such forms as Pol. *chlópina* (*chlóp* ‘man (colloquial)’+*-ina* diminutive), possess the pejorative suffix *-ina/-yna* and express compassion, which may be clustered with a feeling of haughtiness and hubristic pride (Pol. *politowanie*). Polish, which has a synthetic, inflectional system, shows on the whole that, at the morpho-lexical level, languages may vary in choosing to lexicalize different facets of emotional meanings, from love, affection, and compassion to hurt, anger, contempt, hostility and even hate.

### 4 Functions of affective morphological instruments

Out of morphological instruments which form affective meanings, it is suffixation, and particularly, diminutive suffixation first of all that shows the highest currency in world languages. Prefixation and reduplication follow with compounding and complex word formation used less often. However, ways of expressing some positive and negative senses, which are cognitively associated with particular evaluative meanings, can be differently expressed in languages that are typologically distinct. The meanings of such prepositional forms as Eng. *in*, *with*, *to* or *up* in their prototypical uses are associated with positive evaluation, while *out*, *without*, *from/away*, or *down* present more negative image schemas, that is, basic mental structures which develop in human interaction with the outside world (Lakoff and Johnson 1980). In more synthetic language systems, the meanings conveyed

by English prepositional constructions, such as phrasal verbs, may express such senses in terms of prefixation as, for example, Pol. *odrzucić/zarzucić* lit. from + throw/behind + throw ‘give up’, prototypically associated with more negative image schemas although their actual interpretation depends also on the meanings of the basic word form (e.g., Pol. *odzyskać* lit. from + gain ‘regain’). Morphological conversion is another noteworthy morphological process in the present survey.

## 4.1 Conversion

Such processes as *conversion* are present mostly in more analytical language systems like English. Conversion refers mainly to word-class change, that is, part-of-speech change of particular forms in which category change is unmarked, although various conceptual shifts, as present in a cross-linguistic perspective, are noted (e.g., Martsa 2020). In English, conversion cases are clearly seen in emotion expressions, such as, for example, the interjection markers *boo!*, *tut!*, or *hurrah!*, which are used as speech-act verbs, in the sense of experiencing or displaying particular emotions as in to “boo the singer off the stage”, to “tut with irritation”, etc. (Martsa 2014). Words expressing different emotional states can undergo conversion, too. For example, English *care* can express various shades of states and emotions, depending on the part of word and structural properties used in a sentence. Generally, as proposed by Bram (2011), the form *care* denotes serious attention, accompanied by caution, pains, wariness, personal interest, or responsibility, and as a verb it refers to acts of *giving care* (to secure a person’s safety, well-being, etc.), to be *emotionally affected*, or to be *concerned about something* (e.g., *I can’t care less* [Bram 2011: 480]). The example of the English *bully* on the other hand (Bram 2011: 474) presents an interesting word-formation series of processes. It was used in the sense of *sweetheart*, possibly of Middle Dutch origin (*Online Etymological Dictionary*, <https://www.etymonline.com/word/bully>), as a term of endearment applied to either sex. It was only at the end of the 17th century that *bully* adopted a modern negative sense in the process of *antonymous polysemy* (Lewandowska-Tomaszczyk 2007), probably by the association with the form *bull*. The verb *to bully* signifies acts of habitual threatening behavior and intimidation and functions as an example of a metonymic (act-for-person or person-for-act) conversion.

## 4.2 Diminutives

Diminutives are regarded as the most frequent morphological forms in conveying affective meanings. The primary meaning of the term ‘diminutive’ refers to making things smaller, while the basic sense of ‘augmentative’ denotes making things larger. Nevertheless, as discussed in the above sections, it is rather infrequent for such forms to express solely the physical size of an object. They are typically combined with conveying the expression of a positive or negative attitude, stance or judgment of a speaker towards people, objects, properties or events that are described with such terms.

From a theoretical linguistic perspective, the formation of diminutives and augmentatives, as well as other types of morphological forms, can be considered from a position of

dividing the study of meaning into semantics – a context-free point of view, and pragmatics – a perspective in which contextual information shapes meaning in the process of language use. From a cognitive and cultural linguistic perspective, the use of evaluative/emotional morphological means is a language typological, cultural and situational phenomenon.

#### 4.2.1 Semantic potential of diminutives

The high potential of the category of diminutives is seen in the fact that languages form this category (e.g., Dressler and Merlini Barbaresi 1994; Wierzbicka 1984) most frequently by suffixation, followed by reduplication. The diminutive suffixes in many African and Asiatic languages come from the grammaticalization of the full lexical form ‘child’ or ‘son’ as in such diverse languages as Ewe *vi* ‘child’ > DIM -*vi*, e.g., *du-vi* ‘small village’ (Heine et al. 1991: 79–97) and Vietnamese *con* ‘child’ > DIM -*con* e.g., *bàn con* ‘small (child) table’ (Grandi 2011). Smallness can also be indicated by the element originally denoting ‘small’ as in Haitian *ti-chen* ‘puppy’ from French *petit* ‘small’ (Lefebvre 2003, 41; examples quoted after Mutz 2015).

In a number of inflectional languages (e.g., Polish), double or multiple different diminutive suffixes can be used simultaneously with the same basic lexical form, possibly to increase their emotional value (Biały 2015; Szymanek 2010). Biały, in her comprehensive monograph on Polish diminutives, quotes numerous “stacked” diminutive forms in Polish (from Grzegorczykowa 1984: 70), *inter alia*, adjectival and adverbial diminutives, which, as in the other cases, convey a sense of intensification (*intensiva*) or weakening/attenuation (*detensiva*) (Nagórko 2010: 211) such as the Polish base form *maly* ‘small’, forming a set of diminutive forms, some of which possess single or double diminutive suffixes: suffix -*utki* (*maly* > *malutki* ‘small > small-DIM.’), suffix -*uteńki* (*maly* > *maluteńki* ‘small > small-DIM.’), suffix suffix -*uchny* (*maly* > *maluchny* ‘small > small-DIM.’) (dialectal), etc. (Polish examples: Biały 2015). Some forms can acquire double or triple diminutive suffixes -*usieńki* (*maly* > *malusieńki* ‘small > small-DIM.’), suffix -*usienieńki* (*maly* > *malusieńki* > *malusienieńki* ‘small > small-DIM > small-DIM ‘very, very small’). Heltberg (1964: 94) gives examples of diminutives in Upper Sorbian, proposing that their classes in Slavic languages can be divided into basic forms, diminutives and diminutive-emotional forms as in: basic form *hrib* ‘mushroom’, diminutive -*ik*, *hribik* ‘small mushroom’, diminutive-emotional -*ičk*, *hribičk* ‘little mushroom’. Such forms are never fully synonymous with one another. They are dialect-specific and are used in particular emotive contexts. Some of them, particularly diminutives of nouns denoting food and drink, are used by waiters as attempts at partly forced familiarization (Pol. *chlebek* ‘little bread’, *piwko* ‘little beer’ – not used with reference to quantity of food or drink). Others point to more approximate senses; for example, Pol. *godzinka* ‘a little hour’ is less precise than the non-diminutive form *godzina* ‘one hour’.

English diminutives, extensively researched by Schneider (2013), have a rather limited morphological formation paradigm. They can be included in the affixation type with a set of nominal suffixes such as the most frequent: -*ie/-y* (often used for hypocoristic or endearment terms *Fred* – *Freddy*), or indicating the (smaller) size semantic element as in -*ette*

(e.g., *kitchenette*), -*let* (e.g., *booklet*, *dovelet*, *droplet*), -*ling* (e.g., *seedling*, *gosling*), -*een*, -*s*, -*er*, -*o*, -*a*. The English -*le* suffix denotes the formation of nouns, with an originally diminutive sense, e.g., *thimble*, in which the diminutive could express smallness or partitive meanings: *icicle*, (from *ice*) and *particle* (from *part*) (<https://www.yourdictionary.com/le>, accessed 15 December 2018). The diminutive suffix -*o* can play an intensifying function in otherwise less positive meanings as in Eng. *fatso*, *weirdo*, *wacko*.

The Afroasiatic language of Beja possesses a phonetic marking of the diminutive (*r > l*) and the connotative value acquired varies depending on the original sense of the basic item (Ponsonnet and Vaillermet 2018: 11).

#### 4.2.2 Cultural-connotational classification of diminutives

In her comprehensive analysis of diminutives, Nagórko (2006) proposes the following cultural-connotational classification of diminutive use, particularly in the context of Polish, which can be identified in other languages:

- Denotational use – with reference to objects (typically rendered by nouns in Polish), which are objectively smaller or less intensive than their prototypical exemplars (e.g., *ptaszek* ‘birdie’, *deszczysty* ‘little rain’)
- With reference to objects of a smaller – objectively speaking – size, a (positive) emotional element of affect is also involved (in Polish, typically Feminine nouns with the suffix -*ina/-yna*, e.g., *rączyna* ‘little hand’).
- With reference to objects, in which physical smallness is their criterial property, e.g., *szczoteczka do zębów* ‘toothbrush (dim.)’ as contrasted with *szczotka do włosów* ‘hair brush’.
- In the semantic process of particularization (concretization): e.g., *częst(ecz)ki* ‘small particles (double diminutive)’ in *częstki elementarne* ‘elementary particles (dim.)’ from the noun *część* ‘part’.
- The same mechanism operates in the formation of *Nomina Singulativa* from the mass noun, e.g., *słomka* ‘a (drinking) straw (dim.)’ fr *słoma* ‘straw’ (mass).
- Young animate (human or animal) beings -*atko* or -*ę*: *kotek/kociątko* ‘little kitten’, *wnuczę* ‘little grandchild (slightly obsolete)’.
- Children’s toys and children’s literature heroes: *pilkarzyki* ‘small football players’, *prosiaczek* ‘little pig’.
- Metaphors: *sztyjka butelki* ‘bottleneck’ (lit. small neck of bottle).
- Approximative meanings: *chwilka* ‘a little moment’, *kawałeczek* ‘a small part/portion’.
- Clearly evaluative nouns (typically negative) with the seemingly feminine suffix -*ina/-yna*, particularly negative with the masculine noun, e.g., *pijaczyna* ‘drunkard’ (masc.), *doktorzyna* ‘doctor’ (masc.). In other languages, too, there are affixes indicating the lack of professionalism. In Muna, one of the Indonesian languages, the prefix *ka-* and the full reduplication of the base are instruments to identify contempt, as in *guru* ‘teacher’ > *ka-guru-guru* ‘non-professional teacher, poorly performing teacher’ and *pahu* ‘hunter’ > *ka-pahu-pahu* ‘poorly performing hunter’, apart from the diminutive meaning (van den Berg 2015). With reference to (less productive) feminine nouns in

Polish, the suffix expresses a partly compassionate feeling: *kobieczyna* ‘woman, probably poor, looking weak, etc.’.

- With reference to adjectives, in which the diminutive expresses weakening of the intensity of the relevant property, e.g., *siwawy* ‘somewhat/a bit grey (typically of hair)’, *gchawawy* ‘silly, somewhat foolish or acting/looking silly’.

We can accept the above classification as a repertory of a more universal schema of diminutive use in world languages (e.g., Appah and Amfo 2011), particularly those with a developed inflectional system of diminutive formation. They also fall within a classification of evaluative processes proposed by Körtvélyessy (2015) into four basic cognitive categories: SUBSTANCE, ACTION, QUALITY, CIRCUMSTANCE. Numerous other languages of the world (e.g., Arabic in Taine-Cheikh [1988] for the Hassâniyya Arabic dialect spoken in Mauretania) possess the morphologically expressed diminutives which are used either in the meliorative or pejorative sense, showing that it is not only a feature of European languages.

The most frequently occurring prefixation instrument in English involves the derivational nominal prefixes *mini-* and *micro-* in official style, the addition of the lexical forms *miniature* and *petite* in some more restricted uses, and *teeny*, *teensy*, *teeny-weeny*, *teensy-weensy*, etc., used as ‘familiarity markers’ in informal language and when talking to children.

The discussion of diminutives presented here confirms Grandi’s (2011: 6) proposal, which presents two sets of diminutive categorization criteria according to two dimensions, viz., the denotational criteria (BIG-SMALL scale) and the GOOD-BAD scale in the connotational criteria set. The concept of smallness is often related to the meaning of *offspring*, as, for example, in the Korean suffix *-aki* ‘a baby’, which can appear as the palatalized *-aci* as in *songaci* ‘calf’ from *so* ‘cow/bull’ (Koo 1999). The general scheme unifying the diminutive categorization into two sets of dimensions can be notionally related to Anna Wierzbicka’s semantic postulates concerning basic semantic primitives: BIG versus SMALL, and GOOD as opposed to BAD (Wierzbicka 1999: 36).

#### **4.2.3 Affective meaning of diminutives**

Although, as indicated in Section 4.2.1 above, diminutives – semantically – refer to smaller objects and show an etymological relation to the meaning of ‘child’, in their affective sense they are used in a range of different contexts, related by ‘family resemblance’ links. In other words, their categorial structure is of a polysemic and radial nature (Jurafsky 1996; Lewandowska-Tomaszczyk 2007).

The cognitive link between the concept of smallness and affection develops into a number of both emotionally positive meanings as well as those that are gradually more negative. In the ‘small baby’ context, the experiential emotional frame is that of love, care and affection, and yet, by the same token of smallness, the whole background knowledge is activated, which is associated with meanings such as ‘slight’, ‘modest’, ‘poor’, ‘humble’ as well as the negatively loaded ‘undersized’, ‘insufficient’, ‘inadequate’ and ‘trivial’.

Such meanings are associated with a range of less positive emotional scenarios, namely *shame*, *embarrassment*, *disappointment* and even *humiliation*, particularly when diminu-

tives are used in jocular or ridiculing contexts, in the sense of ‘smaller than expected’ or ‘smaller than an accepted norm’. In contrast, augmentatives convey denotational information on a larger size of an object, while connotationally they can express negative evaluation and be accompanied by negative emotions. With respect to shame cluster emotions, there are a number of contextual factors that determine whether negatively loaded diminutives elicit shame, humiliation or embarrassment. As Hartling and Luchetta (1999) explain, although both shame and humiliation have an effect on the global self, and hence are damaging to the essence of one’s very being, humiliation is characterized by being degraded by an individual who is in a more dominant position, whereas shame focuses more on a negative evaluation of the self by oneself. Similar to humiliation, embarrassment arises from an interaction with others; however, embarrassment is often viewed as potentially less damaging as it involves criticism of an aspect of one’s behavior as opposed to one’s whole self.

Such meanings can also evoke (in language reception) or reflect (in language production) the meanings of pity or compassion or both of these, and when mixed with a sense of superiority in the emotion experiencer, it is known in languages such as Polish *politowanie*, which can be considered a *face-threatening* act (Brown and Levinson 1987) and taken as an insult.

## 5 Augmentatives

Augmentatives are considered a later development than diminutives and their historical sources are more diversified (Mutz 2015). In some East Asian and African languages, augmentatives develop by the grammaticalization of the form meaning ‘mother’ (Malay/Indonesian – *ibu* augmented to mean ‘principal, chief, main, most important’ as in the compounds *ibu djari* lit. mother finger ‘thumb’, *ibu kaki* lit. mother foot ‘big toe’ (Matisoff 1992) or ‘woman’ Sotho *sefate-hadi* ‘big tree’, with the Proto-Bantu form \**kádi* ‘woman’. Another regular mode of evaluative meaning formation in this class is the addition of the originally independent lexical component denoting bigness such as Lat. *macro-* or *super-* of locative origin. In some such cases, the denotational element related to (big) size is colored by an appreciative meaning, even admiration, as in the case of some Polish adjectives (*wielgachny*; *wielgašny* [colloquial, dated] ‘enormously big’ from *wielki* ‘very big’). However, on the whole, one of the typical properties of augmentative meanings is the expression of pejorative rather than positive evaluative senses. Even when the denotational meaning changes in some augmentative cases (Pol. *matka* ‘mother’ vs. *macocha* ‘stepmother [aug.]’), the form is considered connotationally negative, conveying the feeling of distance, cold, lack of concern, and severity. With their negative connotations, augmentatives are prototypically used in exaggerated, often offensive or ridiculing contexts, frequently with an intention to hurt the addressee.

Nevertheless, in some languages such as Spanish there are also recorded meaning polarity modulations for augmentatives. For example, although the suffixes *-ón* and *-ote* are generally augmentative terminations, they are used as denotational diminutives ([https://www.123teachme.com/learn\\_spanish/augmentatives\\_diminutives\\_1](https://www.123teachme.com/learn_spanish/augmentatives_diminutives_1), accessed 5 May 2019).

- calle* ‘street’ > *callejón* ‘narrow street, alley’  
*carro* ‘cart’ > *carretón* ‘little cart’  
*isla* ‘island’ > *islotे* ‘little barren island’  
*torre* ‘tower’ > *torrejón* ‘turret’

## 6 Truncation/clipping

Truncation or clipping is used in morphology to refer to the word formation process which consists in the reduction of a word to one of its parts (Marchand 1969).

Besides proper names, which are frequently clipped (*Jennifer* > *Jenny*, *Stephen* > *Steve*), common nouns are also subject to truncation. Such clippings (e.g., *doctor* > *doc*, *professor* > *prof*) often express the speaker’s familiarity with the designatum (Plag 2003: 89), so they might be treated as diminutives in some contexts, or maybe point to contextual informality.

## 7 Grammatical gender shifts

Emotional meaning conveyed by a particular grammatical category, that is, *grammatical* or *categorial meaning*, is also rooted in the use of a relevant grammatical form of lexical items. Languages differ with regard to the degree of correspondence between grammatical categories and relevant semantic dimensions. In Polish the following set of suffixed forms express a range of affective meanings: *baba*, *babka*, *babsztyl*, *babsko*, *babcia*, *babunia*, etc. (Lewandowska-Tomaszczyk 2010). *Baba* indicates an older, frequently unpleasant and simple woman. It needs to be noted that the change of grammatical gender is also connected with the addition of a particular augmentative suffix. These two instruments with an augmentative suffix (-*tyl* or -*sko*) and the change of grammatical gender (into Masculine in the former and Neuter in the latter) bring about a particular evaluative affective effect, indicating unpleasantness on the one hand, but also disappointment, anger and contempt on the other. The form *babka* presents a polysemous sense – either as a diminutive of *baba* ‘woman’, itself having a negative evaluation, or ‘granny’, or alternatively in the colloquial sense of a ‘young, typically attractive, woman’. *Babunia* with the diminutive suffix, conveys care and affect, on the one hand, but indicates a rather more advanced age than *babcia*, on the other. The change of grammatical gender, combined with the augmentative affixes -*sko* (Neut.) and -*tyl* (Masc.), attributes further negative properties. While *baba* (Fem.), though rather negative on the whole, is more neutral in emotional expression, both (Neuter) *babsko* and (Masc.) *babsztyl* denote slight, contempt, etc.

We find similar morphological patterns in other languages such as, for example, Italian; however, the evaluative patterns can fluctuate. Some suffixes can change the sense into a pejorative one, as in Italian *-accia* in *donna* ‘woman’ > *donnaccia* ‘prostitute’ (Zamponi and de Reuse 2015: 624). With the simultaneous change of the grammatical gender of the basic noun, e.g., *donna* ‘woman (Fem.)’ into the augmentative *donnone* (Masc.), the change of the evaluation of the referent from neutral/positive to negative is also conspicuous – *domnone* ‘large, obese woman’ is used with reference to a fat, ugly woman.

In a number of cases, the change of gender to Feminine results in meaning pejorization (e.g., Japanese pejorative suffix-*me*, cf. Labrune 2012). Polish *ciapa*, *fajłapa* and *gapa* all possess the Feminine endings and denote a clumsy, blunt person with no wit or energy, ‘dawdler, slowpoke, etc.’.

It is interesting to note that in Cushitic, one of the languages of Sudan, there is a shift of gender to feminine with regard to body parts, geographical names, toponyms and artifacts (Vanhove and Ahmed 2018: 11). However, while geographical and place names acquire additional affective and familiarity values, artifacts receive negative marking.

On the whole, in the languages of a tripartite grammatical gender system, diminutives (related to smaller objects and often from the grammaticalized meaning of ‘child’) retain the default neuter gender. In contrast, particularly in two-gender linguistic systems, they tend to be of the feminine gender (Maltese, some Afro-Asiatic languages) (Gaeta 2015). The change from the base form to the diminutive or augmentative (e.g., in Berber all augmentatives are masculine and are derived from feminine forms, cf. Abdel-Massigh 1971: 116) is always accompanied by the change of the evaluative polarity and its use involves an emotional context.

## 8 Reduplication

In linguistic literature there is a distinction maintained between *repetition* (occurrence of identical words) and *reduplication* (repetition of a lexical morpheme within one lexical item).

Reduplication is mainly used for the processes of emphasis and intensification of some meaning component by means of a cognitively iconic repetition. Intensification can refer to denoting either smaller parts, properties, objects, etc., to make them look even smaller or large ones to make them even larger, as exemplified below in the material from pidgins and creoles.

In pidgin and creole systems, the instrument of reduplication is a frequent morphological process to achieve an evaluative meaning, e.g., *piti-piti* ‘very small’ Martinika Creole, or *fain-fain* ‘very much’ West African Pidgin English (examples from Turchetta 2015). Kouvenberg and La Charité (2005: 534–535) on the other hand provide examples of the derivation of augmentatives to convey the meanings of intensification, as in Caribbean Creoles *fek* ‘(to be) light’ versus *fekfek* ‘(to be) very light’.

While reduplication can be combined with affixation (e.g., Muna, Tagalog), as noted by Körtvélyessy (2015: 187), reduplication can be used for both diminutivization and augmentivization and might also be used with ideophones (viz., Choctaw, Modern Greek, Nivkh and Telugu).

## 9 Compounds and blending

Compounds and blending are particularly creative morphological instruments in some languages such as English. Examples of compounds with a pejorative meaning include *loud-*

*mouth, numbskull, blockhead, lily-livered, gobshite* ‘a stupid, foolish or incompetent person’. There are also many English compounds with a positive or a mixed positive-negative meaning, such as *kind-hearted, easy-going, fun-loving, level-headed* and *happy-go-lucky*. *Hangry* and *mansplaining* are English blends with a negative affective charge that have become more commonly used recently. More recent and less well-known blends highlight the creative power of this technique (e.g., *cellfish* ‘an individual who talks on his or her cell phone even when doing so is rude or inconsiderate of other people’; *askhole* ‘someone who asks many stupid, pointless, obnoxious questions’). English blends with a positive meaning include *bromance*, which describes the complicated love and affection shared by two straight males, *chillax*, a mixture between the terms *chill-out* and *relax*, and *bedgasm* ‘a feeling of happiness experienced when climbing into bed at the end of a very long day’ (*Urban Dictionary*). In numerous other languages, blends and compounds are frequent processes, e.g., in Armenian *hastlik*, thick/heavy DIM – ‘plump’ (Dum-Tragut 2009: 665).

The use of metonymic (Ruiz de Mendoza 1997), metaphoric (Lakoff and Johnson 1980) and metaphoronymic (Goossens 1990) instruments in their compound formation (e.g., *loud-mouth, numbskull, blockhead*) is striking.

In such languages as English the insertability of derogatory (mostly obscene) expletives such as *bloody, blooming, frigging, fuckin(g), (god)damn*, etc., into a word is observed in affective contexts: *Abso-blooming-lutely!* (Aronoff 1976: 69–70).

## 10 Evaluation polarity shifts

In a diachronic perspective, one can observe the change in lexical polarity, either from negative to positive (*amelioration*) or from positive to negative (*pejoration*). This can refer both to positively or negatively inherently marked items, for example, or, in some less frequent cases, even to grammatically marked polarity items such as, for example, the development of the positive sense of *anymore* with a meaning similar to *nowadays*, as in, for example, *Pantyhose are so expensive anymore that ...* (Murray 1993; <https://ygdp.yale.edu/phenomena/positive-anymore>, accessed 1 May 2018).

Some changes require more time to establish their new meanings; for example, the change of the sense of *nice* from Middle English ‘stupid’ (Lat. *nescius* ‘ignorant’, <https://www.etymonline.com/word/nice>) to the modern positive meaning of *attractive, friendly, kind*, contrasts with the form *silly*, which transformed from the sense of ‘blessed’ to the modern pejorative ‘foolish’. Some such transformed forms are gender-governed and are less positive for females, as, for example, in the case of the modern sense of Eng. *master* ‘a man in charge’ versus *mistress* ‘a woman having extramarital sex’, originating historically from basically neutral ‘chief, teacher, leader’ and ‘a female teacher, governess’, respectively (*Online Etymological Dictionary*). Gender power imbalance is also visible in some languages to such an extent, that, for example, in Egyptian Colloquial Arabic, unlike English, it is only female intimate body parts and not male ones that can be used as a strong verbal abuse addressed to others (Zawrotna 2014: 317).

Some words are more contextually determined, although they may exhibit some predilections towards positive or negative contexts. The form *tremendous* used to apply predomi-

nantly to negative phenomena, but nowadays it is significantly more frequent in positive contexts, for example, “tremendous collection/victory/success” (British National Corpus, henceforth BNC). The slang, inverted meanings of *bad* and *wicked* have surprisingly distant origins, as reported by O’Conner and Kellerman (2015):

- (1) *She sutny fix up a pohk chop ‘at’s bad to eat.*  
(George Ade’s *Pink Marsh*, 1897)
- (2) *“Tell ’em to play ‘Admiration’!” shouted Sloane. “Phoebe and I are going to shake a wicked calf.”*  
(F. Scott Fitzgerald’s *This Side of Paradise*, 1920)

However, the positive meaning of *sick* was introduced more recently in 1983: “...it was a sick party and there were tons of cool people there” (*Oxford Dictionaries*). A reverse shift in affective meaning is observed with the word *notorious*, which was diachronically developed from a positive semantic prosody to a negative one in its contemporary meaning (Lewandowska-Tomaszczyk 1996; Louw 1993), *notorious unfriendliness/Nazi sympathizer/verbal debility...* (BNC).

Family names can also be a source of emotionally marked derivation processes. This can be seen in some Slavic names such as Old Ruthenian Монславъ [Moislawъ] (Pol. Męslaw ‘famous of/praising valiance/bravery’) (Karpluk 2001: 113), in which pride and admiration are clustered. Some other nicknames are also formed, whose sources are, sometimes malicious, emotionally loaded words which typically express the exaggeration and frequent ridicule of a property, e.g., Pol. *Szepiela*, coming from *szepiotać* ‘to stutter’, ‘stammer’, or *Szlap* from *szlapać*, *czlapać* ‘to lumber, shuffle along’ (Cieślikowa 2001: 91).

Derogatory and contemptuous meanings are also expressed by adding suffixation, for example, to nouns of national origin, such as the Polish suffix *-ol*, *Angol* ‘Englishman’, *ubol*, also *ubek* ‘officer of UB (communist) Security Service’ (Lubaś 2001:165).

Taboo words and euphemisms should also be mentioned in this context as exponents of strong negative emotions and affect, identified even in such surveys in which no context is provided (Burridge 2012). Taboo words and expressions refer to objects and activities whose denotations are considered generally insulting, offensive or taboo (e.g., c\*\*\* and f\*\*\*) and they refer mainly to death and disease, bodily excretions, sex, gods, deities (blasphemy) and evil spirits. With time, some such forms can undergo the processes of *semantic bleaching* and lose part of their pragmatic force; they become routinized and less conspicuous, as, for example, in the case of Eng. *bloody*.

Euphemisms are forms used to substitute taboo words, which frequently undergo the process of tabooization themselves, as can be observed in the successive substitutes of the forms as in *abnormal* > *handicapped* > *physically/mentally disadvantaged*, etc. They are identified as early as in a 14th century Yiddish epic in which the substitution of euphemisms for divine referents in nonsacred contexts is used. This has led to successive steps of tabooization of consecutive euphemisms (Frakes 2014).

In some other cases, originally taboo lexical forms can be used in both – negative and positive – polarity contexts, but typically one of these starts dominating in the long run. The word *gięy*, also spelled *buey* (originally a castrated bull [an ox], used for meat, sacri-

fice, and/or labor), for example, is considered a Mexican profanity and used as an insult, but it has been co-opted by young Mexican Spanish speakers as a colloquial term of endearment (<https://www.nytimes.com/2009/11/03/world/americas/03mexico.html>, accessed 20 April 2019).

## 11 Conclusions

As mentioned in the first section of the present chapter, there are a number of emotive meanings that can be expressed by affective morphological instruments. Mirative senses of surprise parallel the expression of affection and compassion on the one hand and contempt, dissatisfaction, pity and humiliation on the other.

Morphological processes involving the expression of emotions and attitudes are immersed in situational and cultural contexts.

The plethora of studies demonstrating a cultural basis to emotion representation points to the important role of socialization. The importance of context in emotion is underscored by appraisal theories that foreground the evaluation of potential benefits and threats within situations and therefore highlight the primary importance of the underlying appraisals of valence and pleasantness. Context in this respect can be determined by the relationship between the speakers, the topic of conversation, and the location. For example, during a conversation between two good friends, one of them might disclose a humorous occasion in which they acted in a silly way and the other might refer to them as a “numbskull”. In this case, there is no malice and “numbskull” might be used as a term of endearment, as opposed to a heated argument between two individuals in which the same term is used with the intention to cause hurt. It is therefore clear that morphological devices should not be considered in isolation and if one is to achieve full understanding of their intended meaning one needs to be cognizant of context.

Creative word formation processes are frequently encountered in slang and the language of young people. Gaeta (2015) quotes, for example, a new formation, *nang*, which is used by young people to express strong appreciation in Multicultural London English. This form gives rise to numerous new morphological forms such as *nangry* ‘super angry’ or *nangtastic* ‘really cool’, etc. They are used occasionally in verbal games, and can signify joy and satisfaction provided by unconventional behavior and non-commitment to the rules.

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# 21 Interjections and other emotional communicative acts

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**Abstract:** The chapter defines the notion of interjection: a holophrastic vocal signal, that is, a single unitary sound sequence that conveys a whole speech act, comprised of performative and propositional content, in a deictic way, i.e., by leaving a part of the content to be retrieved from contextual information. “Wow!” means “I inform you that I am pleasantly surprised by this event”, where what is the surprising event is to be understood from context. A taxonomy of Italian interjections is presented, distinguishing them according to their performatives: informative, interrogative, requestive, and optative. Among the informative ones, many interjections convey the Speaker’s positive and negative emotions, but others convey other kinds of mental states, like the acquisition of new, expected or unexpected beliefs. Finally, the chapter moves to other ways to convey negative emotions, different from interjections: bad words, curses, imprecations, and insults. They are defined and described in terms of their syntactic, semantic and pragmatic features, and in terms of the emotions that trigger them and those they express or communicate.

## 1 Introduction

Interjections have been traditionally considered a case of emotional communication. And they are so indeed, at least in a great part. Yet, not all interjections express or communicate *stricto sensu* emotions, rather they more generally convey mental states, only some of which are emotional states. On the other hand, a language is endowed with many other ways to convey emotions, besides interjections: we sometimes exploit communicative acts such as curses, insults, imprecations, and among them, some are expressed by interjections, but others are not.

This chapter illustrates what are interjections, both emotional and non-emotional ones, providing a definition of this class of peculiar “words”, overviewing their cognitive and semiotic, syntactic, semantic and pragmatic features, providing examples mainly drawn from English and Italian, and finally proposing a semantic taxonomy of Italian interjections and highlighting their rich semantics. The second part of the paper focuses on other communicative acts that – sometimes in the form of interjections, sometimes not – convey and/or are triggered by negative emotions: bad words, imprecations, curses, and insults. Their syntactic, semantic and pragmatic features are described, while highlighting their differences, the emotions that trigger them, those they express, and those they aim at causing in others.

## 2 Perspectives on interjections

Interjections, these strange sorts of words like *oh*, *wow*, *Heaven!*, *shit!*, ever since the Grammars by Elius Donatus (1981) and Priscianus Caesariensis (1981), have been classified as a specific grammatical category: a part of speech. Yet, their very classification has always caused perplexities, since from some points of view they were considered utterly “linguistic”, while on the other hand they looked somewhat different from “language proper”.

Whereas Greek grammarians considered them a subtype of adverb, according to Caesariensis (1981) Latin interjections like *heu!* ‘alas!’ or *papae!* ‘wow!’ bear the meaning of a motion of the soul; and in Donatus’ (1981) words “*Interiectio est pars orationis affectum mentis significans voce incondita*”: the interjection is a part of speech meaning an affect of the mind, which conveys such meaning in a “primitive”, unstructured way (*incondita*).

This definition makes reference both to a semantic feature of interjections (their affective meaning), and to their cognitive-semiotic structure: their being a primitive kind of language. In addition, the very name of this part of speech comes from a syntactic characteristic of it: etymologically, the term interjection derives from Latin *inter-jicere* (‘to throw something within, in the middle of [a sentence or discourse]’): in fact, the interjection can be inserted before, after, or within the body of a sentence without “disturbing” its syntactic compositionality, or it can even stand alone, in the total absence of linguistic context, without setting syntactic relations with its surroundings.

Both the distinctive features of the interjection and its manifold nature may be accounted for just by the above aspects: first, that it is an utterance which can stand alone and be inserted at any point in speech; second, that it works as a somewhat “primitive” way of communicating; third, that it mainly conveys affective contents.

### 2.1 A holophrastic and deictic item

The “syntactic” feature of being possibly inserted at virtually any point in speech can be linked to another aspect of the interjection, its being a “holophrastic” item, that is, a unitary sound sequence that by itself conveys a whole speech act (Poggi 1981, 2009), comprised of performative and propositional content. For example, the Italian interjection of

surprise *toh!* is equivalent to saying: “I inform you that this event makes me feel surprise”. In other words, the interjection encodes the Speaker’s attitude (Ameka 1992a); moreover, it is context-bound, namely, a deictic item (Ameka 1992a), since it is produced in reaction to a linguistic or non-linguistic context and can only be interpreted by reference to it: one can understand what caused surprise to the Speaker saying *toh* only if knowing what event that Speaker is referring to.

## 2.2 A “primitive” item?

Some aspects that make interjections closer to other “primitive” phenomena of language, such as onomatopoeia, have been studied by structuralist linguists in the 20th century (Karcevskij 1941; Elwert 1965) and later (Tsai and Wang 2003). In fact, several interjections are onomatopoeic, i.e., imitations of the sounds produced by some action, e.g., *yuck* for disgust; but though classes of onomatopoeic interjections can be singled out (Tsai and Wang 2003), there is no total overlap between interjection and onomatopoeia, since not all interjections are onomatopoeic, nor are all onomatopoeias interjections (Poggi 1981).

From a lexicological point of view, Wundt back in 1900 distinguished interjections into primary ones (e.g., *wow!*, *oh!*, *yuck!*), those that only have a meaning as interjections, and secondary ones (e.g., *Heaven!*, *shit!* *fuck!*), which exploit words belonging to other categories, but using them as interjections. On the phonetic side, the former often deviate from the phonological norms of the language they belong, allowing non-canonical phonemes (e.g., *tsk tsk!*) or phoneme combinations (*psst!*), but also applying as distinctive prosodic features that are not so in other parts of the same language (Poggi 1981; Ameka 1992a, 1992b; Norrick 2008). For instance, differences in melodic contour that do not distinguish two lexical items in a non-tonal language, may distinguish two or more meanings of a single interjection of that language.

As to the semiotic status of the interjection as a sign, its difference from articulated verbal language is seen as an opposition between expressing and describing (Poggi 1981), or between showing and saying (Wharton 2003). This issue is also tackled by the attempts to distinguish interjections from other forms of emotional language, namely affect bursts. Scherer (1994) defines affect bursts as “very brief, discrete, nonverbal expressions of affect” and sets a continuum in degree of conventionalization between what he calls “raw affect bursts”, physiological or reflexive sounds like laughter or sneeze, “affect emblems” like *yuck*, and “verbal interjections” like *Heaven!* (Scherer 1994: 170). Schröder (2003), while stressing the fuzziness of boundaries among such signals, considers as affect bursts both non-speech sounds like laughter and interjections with a phonemic structure, like *Wow!*, but he does not include in the “affect burst” category the “verbal” interjections (the “secondary” ones which can occur also as a different part of speech), like *Heaven!* or *No!* Yet, as contended by other scholars, while raw affect bursts like laughter are universal (Sauter and Eimer 2010; Sauter et al. 2010), interjections, not only secondary but also primary ones, are highly culturally standardized vocalizations (Scherer 1994).

## 2.3 Not only emotional meanings

The emotional import of interjections and their nature of proto-speech vocalizations is confirmed by neuroscientific studies (Dietrich et al. 2008): functional magnetic resonance imaging (fMRI) demonstrates that both the emotional prosody and the lexical content of verbal interjections elicit hemodynamic activation in the superior temporal cortex, in the insula and in cortical and subcortical structures engaged in the control of innate emotional behavior.

Yet, unlike what has generally been claimed since ancient grammarians' speculation, several works have pointed out that besides conveying emotions, interjections also bear other kinds of meanings.

Ameka (1992a) distinguishes three types of interjections: (i) expressive, like *yuck* or *ouch*, which convey emotions or other states of mind like surprise, pain, disgust; (ii) phatic, which express the Speaker's mental attitude towards the ongoing discourse, like *mhm* or *yeah*; (iii) conative, directed at the Interlocutor, like *sh* to ask people to be quiet (Ameka 1992c). Goddard (2004) distinguishes volitive (like *Shh!*), emotive (like *Yuck*), and cognitive ones (like *Gee!*) and, in the wake of Wierzbicka (1992), represents the meaning of interjections in terms of Natural Semantic Metalanguage (NSM), providing comparisons between interjections of different languages, like English versus Mandarin, in the same semantic area. Norrick (2008) focuses on the function of interjections as pragmatic markers, which include, as found by previous works, discourse markers (Schiffrin 1987; Aijmer 2004), attention getters, floorholders, back-channels and other pragmatic functions (Kockelman 2003). Heritage (1984) contends that in many languages some interjections are devoted to convey change in epistemic state. More generally, Poggi (1981) and Caron-Pargue and Caron (2000) point out an important function of interjections: to display the Speaker's current cognitive functioning.

Studies and taxonomies of interjections have been proposed for Italian (Poggi 1981), German (Ehlich 1986; Graf 2010), French (Zerling 1995; Kleiber 2006), Russian (Šaronov 2008), Q'eqchi' Maya (Kockelman 2003), English (Ameka 1992a; Wierzbicka 1992, 2003; Jovanović 2004; Goddard 2014). Some of these taxonomies mainly focus on the emotional meaning of interjections (e.g., Jovanović 2004), while others strongly stress their social, discursive and situational functions. Also, semantic analyses of single interjections have been carried out (Spitzer 1922; Nencioni 1977; Goffman 1981; Poggi 1981; Heritage 1984; Norrick 2008; Golato 2010; Goddard 2014; Koivisto 2015; Weidner 2016; García-Ramòn 2018; Endo 2018; Vazquez Carranza 2016; Polanco Martinez 2018; Pauletto, Ursi, and Ericsson Nordgrén, forthcoming), witnessing their rich and sophisticated semantics.

## 3 Interjection: a holophrastic word

As seen from previous literature, the main issues tackled in the domain of interjections highlight some peculiarities of this part of speech: (a) its relative syntactic independence from other words or even sentences in discourse; (b) its being a "primitive" kind of communicative signal, and (c) its emotional content. But the feature that most characterizes the

interjection is the fact (Poggi 1981; Huddleston and Pullum 2002) that it is a particular kind of word (or non-word?): it is equivalent to a whole utterance, bearing the meaning of a whole sentence.

Notwithstanding its being included in grammars as the ninth part of speech, the interjection differs from all other grammatical categories of the so-called “articulated” language in that it conveys a whole communicative act by itself. All other parts of speech only fill in one slot of the semantic and syntactic structure of a sentence: verbs and adjectives are predicates, nouns are arguments, articles are determiners of arguments, and so forth; but the interjection bears the meaning of a whole speech act, comprised of both performative and propositional content.

Therefore, an interjection can be defined as a holophrastic signal, in that it conveys the information of a whole sentence (*holos phrasis* ‘entire sentence’). In fact, a different way to convey the same meaning of an interjection is not a synonym, but a paraphrase: what is equivalent to an interjection is not a single word, but a whole speech act, that is, a communicative act including the meaning of both a communicative intention and a proposition. For example, *Ouch!* can be paraphrased as “I am feeling pain”, or more precisely “I inform you that I am feeling pain”. This speech act has a performative of information, and the information provided concerns the fact that the Speaker is feeling some unpleasant physical sensation. *Hey!*, in one of its meanings, means “Pay attention!”, that is, “I ask you to pay attention”: a requestive speech act, where the requested action is for the Hearer to pay attention to the Speaker (and to what the Speaker is further going to ask him).

Other communicative signals, for example in visual modalities, are holophrastic in the same way as an interjection is: in the universal lexicon of facial expressions (Ekman and Friesen 1971) the *inner parts of eyebrows raised* mean “I inform you I am feeling sad”; in the cultural lexicon of Italian symbolic gestures, *right hand palm down repeatedly moving fingers down* means “I ask you to come here” (Poggi 2007); *gazing into someone’s eyes* means: “I am addressing you”. But unlike these signals in the facial, gestural, or gaze modalities, an interjection is a signal in the vocal modality.

Thus, our definition of interjection is the following: an interjection is a culturally codified vocal signal (Poggi 2007, 2009), that is, a perceivable signal in the speech modality (a sequence of sounds) or in a written transcription (a sequence of graphemes) which is linked in a stable way, in the long-term memory of the speakers of a language, to the meaning of a whole speech act. In brief, it is a signal conveying, in a culturally codified manner, information including both a performative and a propositional content. Not only the propositional content, but also the specific performative is then “incorporated” in the interjection, that is, it makes an integral part of the interjection’s meaning. This definition allows us to distinguish an interjection both from elliptical sentences and from affect bursts.

### 3.1 Interjections versus elliptical sentences

Often, in everyday communication we use a single word – one belonging to the other grammatical categories: a noun, a verb, an adverb – in the place of an entire sentence. For instance, I can use the noun *beer* both in response to a bartender asking me,

- (1) *What are you having tonight?*

and in response to a tourist asking me:

- (2) *What did this old factory produce?*

In these cases, the very same noun *beer* means, respectively:

- (3) *Pour me some beer.*

as an answer to (1), or else

- (4) *This old factory once produced beer.*

as an answer to (2).

The same noun stands for two utterly different speech acts: a performative of request and one of information concerning totally different contents.

An interjection, instead, always has the same meaning in whatever context, because the link of that sound sequence is codified as corresponding to that meaning in a stable way, just like any vocal lexical item.

## 3.2 The deictic nature of interjections

Defining the interjection as a holophrastic signal entails that, as pointed out by Ameka (1992a) and Wilkins (1992), whether we call it a word or a sentence, the interjection is a deictic signal, i.e., one which, to be thoroughly understood, requires one to take contextual information into account. In fact, while in the meaning of an interjection both the performative and the propositional content are steadily codified, a piece of information remains to be completed and must be retrieved from context. *Hey!* means “I (the Speaker) ask you (the Interlocutor) to pay attention to something”, but to understand who is asked to pay attention, and what s/he should pay attention to, one has to be present in the same spatio-temporal context in which the interjection is uttered. *Wow!* means “I (the Speaker) inform you that I am pleasantly surprised/amazed”, but to understand each particular occurrence of *Wow!* one should know what the specific surprising event is: for instance, what is the previously uttered sentence to which this is a response. In other words, every interjection somehow calls into consideration a contextual piece of information that we may call its “reference element”; and to retrieve this, one must take the physical or verbal context into account. For example, with interjections conveying a mental state of the Speaker (like *wow!*), the reference element is the event that causes that mental state, while with those requesting some action (*Hey!*) it can be the point or the object of the action requested.

## 3.3 Interjections versus affect bursts

What is then the difference between affect bursts and interjections? As seen above (Schröder 2003; Sauter and Eimer 2010; Sauter et al. 2010), the phonetic structure of affect bursts

like a *sigh* or *laughter* is the same, and they are produced, perceived and interpreted the same way in all cultures. In this they are equivalent to the facial expressions of primary emotions found by Ekman and Friesen (1971). This marks a clear-cut distinction of vocal affect bursts from interjections, whose lexical and phonetic forms differ from culture to culture.

For example, when English speakers feel hurt they go *ouch!*, while Italians go *ah!*; when acknowledging something, English says *oh* while Italian says *ah*. Therefore, interjections – not only the secondary ones like *heaven!* or *shit!*, but also the primary ones like *wow!* or *oh* – are clearly on the “affect emblem” pole of the continuum. Gestural emblems are gestures codified with a culturally shared specific meaning (Ekman and Friesen 1969; Poggi 2007), whereas the facial expressions of basic emotions are “codified” on a biological basis, hence universally spread across cultures; much like gestural emblems, interjections are language-specific, too; that is, they are codified with a given meaning in a given culture, as opposed to “raw affect bursts” that are fairly language-independent and universal. Actually, both affect bursts and interjections are in some sense “codified”, that is, the link between a given phonetic production and its meaning is represented in a stable way in the speakers’ minds; yet, while this coding is biologically based for affect bursts, interjections are codified on a cultural basis: they are stably represented in a Speaker’s mind only thanks to cultural modeling and learning. Being thus conventional, the interjections must conform their phonetic features to ones of the specific language to which they belong. Only in some cases, and only for primary interjections, some phonetic rules of the reference language do not apply to some interjections: for example, although Italian is not a tonal language, the meanings of the interjection *ah* – whether new information is accepted as new but not so surprising, or else it is unexpected – are distinguished by two different intonations: flat versus rising-falling.

## 4 *Inter-iecta: syntactic aspects*

Again, an interjection’s relative syntactic freedom stems from the fact that the interjection is a holophrastic item – a whole speech act – hence an “autonomous” part of speech. Actually, this particular kind of word can be “thrown into” the discourse. First, not being syntactically linked to any phrase in the sentence, unlike all other parts of speech it can stand alone. A greeting, like *hello!*, or an acknowledgment of retrieval from memory, like *oh!*, can occur in total absence of linguistic context. Second, the interjection can be inserted in various positions in a sentence, even within a phrase, for instance between article and noun in a noun phrase, like in (5).

- (5) *I am the... hmm ... girlfriend of your cousin.*

Yet, as shown by James’ (1974) analysis of the syntactic aspects of Interjections and Hesitations, and by Norrick’s (2008) work on Interjections in first position as pragmatic markers, for semantic and pragmatic reasons the position of an interjection within or besides a sentence is not completely free: its meaning and its pragmatic value determine its being ut-

tered at the beginning, in the middle or at the end of the sentence, or finally as completely detached from it. For example, the Italian interjection “*tòh*”, when it means “what I am telling you is trivial”, can only be uttered at the end of the sentence.

- (6) *Chi vuoi che sia al telefono. E' Giovanni, tòh!*  
 ‘Who do you think is calling on the phone? It's John, actually!'

On the contrary, the same interjection when expressing surprise or acknowledgment of a just assumed belief generally precedes the sentence which contains their “reference element”.

- (7) *Toh, hai ridipinto le persiane!*  
 ‘Wow, you have repainted your shutters!'

Finally, interjections expressing doubt or hesitation are preferably uttered in the middle, as seen in (5), but are not acceptable at the end of the sentence.

- (8) \**I am the girlfriend of your cousin ... hmm ....*

## 5 The lexicon of interjections

Since, in the above definition, interjections are codified signals, just like other words in our mental lexicon, wondering how they are represented in our mind leads us to acknowledge the distinction made by all scholars, since Wundt (1900) on, between two classes of interjections: primary and secondary ones.

*Oh!, uh!, wow!* are primary interjections, close to Goffman's (1981) “response cries” and to Scherer's (1994) affect bursts. Being so close to “instinctive” vocalizations, their phonological structure is hardly similar to that of the language they belong to, even if there is always some kind of “normalization” to make them homologous to its phonological system.

Secondary interjections, instead, like *God!* or *well* are simply words of an “articulated” language, belonging to other parts of speech, that are used – and codified in the mental lexicon – also as holophrastic utterances. Therefore, they obviously maintain the phonological structure of their language, with the only difference that they are uttered with the intonation of a whole sentence.

Secondary interjections, then, are a case of polysemous lexical item, in that they have (at least) one meaning as an “articulated” item (belonging to another grammatical category) and (at least) one as a holophrastic item – i.e., as interjection. Often a semantic connection can be found between the two meanings, since the holophrastic one may derive from repeated elliptical uses of the “non-holophrastic” reading.

Take the secondary interjection *già* in Italian. Besides being an interjection, *già* is an “articulated” word, namely an adverb meaning ‘already’. The reading as an adverb is used in this sentence:

- (9) B: *Maria si è già svegliata.*  
 ‘Maria has already woken up.’

But in the following case, *già* is an interjection.

- (10) A: *Ricordati che devi chiamare Maria.*  
 ‘Remind you have to call up Maria.’  
 B: *Già.*  
 ‘Uh uh’

In (10), *già* as interjection is roughly a synonym of a confirmation like *sì, è vero* ‘yes, this is true’. More precisely, it means: “I inform you that I am presently retrieving something I already knew from my long-term memory”; “I did not have this in mind at the moment, but now that you remind me of it, I remember that I did know it”.

Thus, there is in fact something in common between the meanings of *già* as an adverb and as an interjection, respectively: the adverb means that “a certain event has occurred (also) before the moment in which the Speaker is speaking”. But in the holophrastic *già*, too, a certain event has occurred before a given time: this event is the presence, in the Speaker’s mind, of some belief (B’s having to call Maria).

It is then plausible that the use of *già* as an interjection derives from its use as another type of word: for example, in a sentence like

- (11) *Questa cosa la sapevo già (ma al momento non ci pensavo)*  
 ‘I did know this *already* (but I was not thinking of it at the moment)’

the use of *già* as an adverb might have been repeated several times, until finally remaining as an elliptical sentence, which has then become codified as a holophrastic word conveying “This is a belief I already assumed in my memory”.

The word formation process in this case might have been a mechanism through which a whole sentence containing the adverb *già*, and often occurring in dialogue, got condensed into a single word. This sort of “condensation” might be a general device for the evolution of secondary interjections starting from non-holophrastic words.

One feature that interjections share with all other lexical items is their polysemy, since each of them may have more than one meaning; yet, as in all cases of polysemy, the two or more meanings can be traced back to one and the same semantic element. For example, in Italian *no!* as a requestive interjection conveys a prohibition: “I forbid you to do this!”, used for instance when a baby is approaching a dangerous object. But it can also be uttered when coming to know of very tragic news; in this case it is as if we were trying to forbid destiny to let such a tragic event happen: “I forbid you to let me know of such a thing!”. Which means, in its turn: “I can’t / I do not want to believe this!”.

A typical case in which a new meaning stems from another is when a same indirect meaning is recurrently implied by the literal meaning of an interjection: for example, *hey!* is a request for attention, but if the Interlocutor is doing something wrong, requesting his attention by *hey!* may indirectly mean a reproach or a warning of not doing so. That recurrent indirect meanings become codified widens the number of possible readings of interjections. Yet, this does not imply that their semantics is undetermined or non-systematic.

## 6 The meanings of interjections

As we have seen above, several taxonomies of interjections have been proposed for specific languages. Here we present a taxonomy of Italian interjections, whose subtypes, though, can fit items in other languages. Interjections are classified according to the principles and categories of a socio-cognitive model of mind, social interaction and communication (Poggi 2007) based on the notions of goals and beliefs.

Since, according to our definition, the interjection is a holophrastic word, i.e., it incorporates both a propositional content and a performative, interjections can be classified in terms of their performative into four classes. Let us see some Italian examples.

1. Informative: whose goal is to let the Hearer know the mental state (whether cognitive or emotive) occurring in the Speaker; (e.g., *ah* can mean ‘this belief is new to me, and I am coming to believe it’; *uffa* can mean ‘I am tired/bored’).
2. Interrogative: asking the Hearer to provide a belief to the Speaker; (*eh?* can mean ‘what did you say?'; *beh?* can mean ‘why is this so?’).
3. Requestive: asking the Hearer to perform an action; (*ehi* ‘please, pay attention to me'; *via!* ‘go!').
4. Optative: asking a Third Entity (the fate, a deity) to have something positive or negative happen; (e.g., politeness formulas like, e.g., *buonanotte* ‘goodnight’, invocations like *Dio!* ‘God!', *mamma* ‘mother!', and imprecations like *merda!* ‘shit!').

As contended by previous work, not all interjections convey emotional meanings. Tables 21.1–21.4 display a taxonomy of Italian interjections, where only those in bold either directly convey emotions (e.g., *puâh* of disgust or *ahimè* of displeasure) or are anyway emotionally loaded (e.g., *cavolo* as an assertive answer), while all others are not cases of emotional language. First, there is a difference between the interjections with a performative of information (Table 21.1) and those of other classes. In general, informative interjections make up part of the class of “Mind Markers” (Poggi 2007), those verbal or body signals that convey information on the Speaker’s Mind: beliefs, goals and emotions. But even within this class, as illustrated in detail below, it is not only emotions that are conveyed by interjections, but mental states in general.

Moreover, in the other classes of interjections, mainly the requestive but also the interrogative and optative ones often refer to mental states, actions, or events concerning not so much the Speaker, but the Hearer. Like with Ameka’s conative interjections, mainly directed at the Auditor (Ameka 1992a).

Among informative interjections (Table 21.1), some inform about the Speaker’s cognitive state (Heritage 1984; Caron-Pargue and Caron 2000), namely about the relations between incoming and previously assumed beliefs, while others inform about the current state of the Speaker’s goals, whether they are fulfilled or thwarted.

Starting from the interjections about the Speaker’s beliefs, *Ah* conveys that the incoming belief is new for the Speaker, who is coming to assume it right now; *già* (literally, ‘already’) tells that the belief has already been assumed, or at least it was potentially available (for example, it could have been drawn through inference) in the Speaker’s mind.

Various interjections confirm an incoming belief, by saying that the Speaker already knew it from another source: *davvero* ‘indeed’, *eh* ‘yes, just so’, *öh* ‘just so, and even more so!’, *okay*, *sì* ‘yes’, *altro che!* ‘definitely yes’.

*No* ‘no’ and *macché* ‘definitely not’ communicate that the Speaker assumes the incoming belief to definitely not be true. *Mah* and *boh* ‘I don’t know, I’m not sure’ tells she is doubtful, and *chissà* ‘who knows?’ that she does not know, while *bah* ‘gee, I don’t know’ pretends ignorance but in fact implies perplexity and possibly disapproval. *Che?* ‘what?!’, *no!* and *bum!* ‘I can’t believe it!’ express incredulity, but *bum!* does so by alluding, through iconic onomatopoeic imitation of a shooting gun, to the Italian idiom *spararla grossa* ‘to shoot a hard blow’, which means “You’re telling a big lie”. *Beh*, *ehm*, *dunque* ‘well’ express hesitation – a sort of indecision about what one should do or say – while *oh*, *tòh*, *no!*, *però*! ‘wow!’ express surprise, the emotion felt when a new incoming belief disconfirms previous expectations.

Let us come to the informative interjections concerning the state of the Speaker’s goals. According to the socio-cognitive model adopted in this work (Castelfranchi 2000), an emotion is a complex subjective state, encompassing feelings and cognitive, physiological, expressive, motivational aspects, that is triggered any time an important adaptive goal of ours is (or is likely to be) achieved or thwarted, with achievements causing positive emotions and thwartings negative emotions; the function of emotions, in fact, is to monitor the state of achievement or thwarting of our adaptively important goals. In this perspective, depending on what goals are achieved or thwarted, one feels different emotions. In Table 21.1, some interjections triggered by Speakers’ thwarted goals concern various kinds of physical suffering: pain (*ahi*), cold (*brrr*), disgust (*bleah* ‘yuck’), fatigue (*uffa*); then, mental suffering: boredom (*uffa*), displeasure and desperation (*ahimé!* ‘alas!’, *peccato!* ‘what a pity!’, *no!*), disappointment (one meaning of *bèh?* ‘but why?’), worry (*nc*), indignation (*ohibò*), contempt (*puàh*). Other interjections inform that a goal of the Speaker has been fulfilled: a specific goal, like to succeed in doing something (*là!* ‘there!'), to be introduced to some person (*piacere* ‘nice to meet you’) or to meet somebody one has not seen for a long time (*uée!*), to experience a pleasant taste (*iùm!*), to find out some solution to a problem (*eureka*), to see some rival’s goal thwarted (*ha!*, *tiè!*). Finally, *öoh!* and *ecco* ‘wow!, that’s it!’ can tell a goal is fulfilled, without specifying which one, while *ohilà!* *uehilà!* convey happiness to meet someone, and *iuhù*, *evviva*, *hurrà!* specify that the satisfaction for goal fulfilment is particularly intense.

The beliefs requested by interrogative interjections (Table 21.2) concern the Speaker’s beliefs and goals. *Eh?*, *no?*, *vero?* ‘is that true?’ are requests for confirmation, often used as tag questions. *Eh?* and *come?* ‘what?’ ask for an information already provided but not heard well; *beh?* asks for an explanation.

Among requestive interjections (Table 21.3), some specify the requested action, like *aiuto* ‘help’, *silenzio* ‘shut up’, *sciò* (a rude form of ‘go away’). Others are “pure” incitements: they solicit someone to become active, but without telling what to do: *dài* ‘come on’, *prego* ‘please’, *su* ‘come on!’. Sometimes a specific performative is marked: *dèh* ‘prays’, *svvia* ‘encourages’. Other incitements do not specify the requested action but are marked as to “verbal aspect”, soliciting to start (*via!*, *sotto!* ‘go!’), to stop or end (*stop*, *basta* ‘that’s enough’), to repeat (*bis* ‘do it again!’), to go on (*avanti* ‘go on’). *Ehi*, *ehilà*, *aho*’ are requests for attention.

A fourth class of performatives is that of optatives, defined (Poggi 1981, 2009) as expressions of desire: speech acts in which the Speaker does not address a human interlocutor but makes appeal to some Third Entity – a god, fate, fortune, to which the Speaker attributes the power to make events occur or not – to bring about some positive or negative event for Speaker or others. The optative interjections (Table 21.4) include most routine formulas: greetings like *buongiorno* ‘good morning’ – which means “I express my desire for you to spend a beautiful day”; *ciao* ‘hello’, *arrivederci* ‘goodbye’; politeness formulas, like *grazie* ‘thanks’, *salute!* ‘Gesundheit!’, *congratulazioni* ‘congratulations’; wishing formulas, like *auguri* ‘wishes’ and interjective idioms, like *in bocca al lupo* (an apotropaic way of wishing good luck: literally ‘get into the wolf’s mouth’).

Within optative interjections, besides these that generally wish (express the desire to happen) something good to the Interlocutor, we have a class of interjections we call “ejaculative”, namely, invocations, like *Gesù* ‘Jesus’, *mamma* ‘mummy’ – generally, vocatives that may have become interjections possibly starting from elliptical sentences that invoke help from superhuman entities; and imprecations, like *accidenti!* ‘damn!’ or *merda!* ‘shit!’.

**Tab. 21.1:** Informative interjections (“emotional” interjections in **bold**).

Type	Specific meaning			Examples
Beliefs	Understanding			<i>Ah</i>
	Acknowledgement			<i>Già</i>
	Confirmation			<i>Caspita, davvero, diamine, eh, mhm, öh, okay.</i>
		Negation		<i>Appunto, anzi! <b>Cacchio, cavolo cazzo, certo, diavolo, ostia!</b></i>
				<i>Proprio, sì, sicuro, vero, <b>altro che! Macché, see..., ñc, Affatto, no</b></i>
		Ignorance		<i>Bah, boh, chissà, mah</i>
		Incredulity		<i><b>Bum!, che!</b> No!</i>
		Doubt or hesitation		<i>Beh, èeh, ehm, mhm, mah</i>
				<i>Allora,cioè,così,dico,dunque...</i>
		Surprise		<i>Ah, ih, oh, öh, olla, toh, uh, <b>caspita, caspiterina, cribbio, diamine, ullallà</b></i>
				<i><b>No!, Accidenti, boia, cacchio, capperi, cazzo...</b></i>
Goals	Thwarted goals	Physical disease	Pain	<i>Ahi, ahia, ahio, uhi</i>
			Cold	<i>Brrr</i>
			Disgust	<i><b>Bleah, Puàh</b></i>
			Fatigue	<i>Aùff, uffa</i>
	Psychic Suffering		Boredom or annoyance	<i><b>Uffa, uh</b></i>
			Resignation	<i><b>Pazienza!</b></i>
			Contempt	<i><b>Puah, pfui, poh</b></i>
			Displeasure or desperation	<i><b>Ahimè, ohimè, no!</b></i>

Tab. 21.1 (continued)

Type		Specific meaning	Examples
Achieved goals	Generic	Regret	<i>Peccato</i>
		Worry	<i>Nc</i>
		Shudder	<i>Aah! Noo!!</i>
	Specific	Indignation	<i>Èeh, ohibò, ooh</i>
		Disappointment	<i>Acciderba, accipicchia, alé, beh?, caspiterina, cribbio, diamine</i>
		Satisfaction	<i>Vacca, la Madonna</i>
Exultance	Generic		<i>Aah, òh, òoh, ecco, meno male, uàò</i>
			<i>Evviva, hurrà, iuhù, Alleluia, osanna</i>
	Specific		<i>Aah, eureka, ha iùm, maramèo, tiè, uéel!, ohilà! uehilà! vivaddio, ecco, là, piacere, mi rallegro</i>

Tab. 21.2: Interrogative interjections.

Type	
Requests for confirmation	<i>Eh?, nevvero?</i> <i>Davvero?, no?, vero?</i>
Requests to tell or repeat	<i>Eh?, beh?, che?, come? Cosa?</i>
Requests for explanation	<i>Beh?</i>

Tab. 21.3: Requestive interjections.

Type			
Generic requests	Attention requests		<i>Ahò, ehi, ehilà, ohé, uehi</i>
	Pure incitements		<i>Alé, avanti, coraggio, dài, prego, su</i>
Marked as to performative	Pray		<i>Deh</i>
	Encourage		<i>Orsù, suvvia, coraggio</i>
	Forbid		<i>No</i>
Marked as to aspect	Start		<i>Marsch!, sottol!, via!</i>
	Go on		<i>Avanti</i>
	Do again		<i>Bis</i>
Miscellaneous			<i>Altolà. Arri, pardòn, scc..., sciò, ss..., tè tè, aiuto, allegria, avanti, calma, cuccia, largo, perdonò, permesso, prego, pietà, pista, pronto, scusa, silenzio, soccorso, sveglia, vergogna, via, va là</i>

**Tab. 21.4:** Optative interjections.

Ejaculations	Invocations	<i>Gesù, Madonna, mamma, Maria, misericordia</i>
	Imprecations	<i>Cribbio, perbacco, perbaccolina, perdiana, Boia, cacchio, cavolo, Cristo, dannazione, diavolo, Dio, maledizione, merda, ostia</i>
Formulas	Greetings	<i>Arrivederci, addio, buonanotte, buonasera, buongiorno, ciao</i>
	Wishes	<i>Auguri, in bocca al lupo, cento di questi anni</i>
	Politeness formulas	<i>Complimenti, congratulazioni, condoglianze, grazie, rallegramenti, salute, salve</i>

As is clear from Tables 21.1 to 21.4, where only the “emotional” interjections are in bold, not all interjections convey emotions. First, interrogative and requestive ones are all not emotional; within informative ones, the only ones *stricto sensu* emotional are the interjections conveying fulfillment or thwarting of goals, like satisfaction (*òoh!*) or exultance (*iuhù!*), versus displeasure (*ahimè!*), regret (*peccato!* ‘what a pity!’) or resignation (*pazienza!* ‘patience’), worry (*Nc*) or annoyance (*uffa*), indignation (*ohibò!*) or disappointment (*ac-cipicchia*).

## 7 Non-emotional interjections

Several interjections do not convey affective states proper, but cognitive states having to do with the acquisition and processing of beliefs, such as understanding and acknowledgement (*ah, già*), confirmation (*eh*), negation (*no, macché*), ignorance (*boh*), incredulity (*bum!*), doubt or hesitation (*beh, èeh*), and finally surprise: which is in fact classically considered an affective state, but one making up part of the so-called “cognitive emotions” (Poggi 2008; Miceli and Castelfranchi 2015): those triggered by the acquisition/non-acquisition or processing of beliefs.

### 7.1 A window on our cognitive processes

As pointed out by Poggi (1981), Heritage (1984), Caron-Pargue and Caron (2000), many interjections are a window onto the Speaker’s cognitive processes, in that they mark beliefs’ acquisition, retrieval, assessment of incongruence. Several works in this domain have analyzed specific interjections, like *ah* for Italian (Poggi 1981), *oh* for English (Heritage 1984), as well as German *ach* and *achso* (Golato 2010), Finnish *aa* (Koivisto 2015), Polish *aha* (Weidner 2016), and Japanese *a* and *aa* (Endo 2018). In all these languages, often two very similar interjections convey different states of knowledge, for instance receiving totally new information versus retrieving it from long-term memory or assessing the new information as surprising (Poggi 1981), or indexing epistemic incongruence (Garcia-Ramòn 2018); and sometimes these differences in cognitive states are conveyed by different intonations or durations of the same interjection. In Italian, *ah* with a flat tone means “I am now coming to know this information”, but with a rising-falling tone it means “I come to know this and

it is surprising”, while a flat-rising-falling *ahaa* it means: “I thought it was different, but now I see it is just the way I thought” (Poggi 1981). The Spanish “cognitive operator” *hum*, when uttered by the Hearer, has two different uses – one to take time before answering, and one to acknowledge incoming information, as a backchannel of continuation – and the intonation distinguishes between the two uses. When used by the Speaker, instead, a longer duration of *hum* signals rephrasing (Solís García and León Gómez 2018).

## 7.2 Interjections of surprise

Surprise – which is, in fact, a “cognitive emotion” triggered by the clash of new information with a previous opposite expectation – can be expressed by many interjections. In Italian, they can be constructed through various mechanisms. First, there are semantically dedicated interjections, like *tòh*, that means “this fact surprises me”; *no!* (in its reading as informative interjection) corresponds to “I can’t believe it”, hence it conveys surprise by expressing incredulity; *però!* means “I didn’t believe it was like this”, surprise with a nuance of admiration. Yet, when surprise is particularly intense, more vivid or enhanced ways to construct interjections are adopted.

A first device are vocatives: calling at someone as a witness of the event in question, to remark how peculiar it is. For instance, secondary interjections like *gente!* ‘people!’, *ragazzi!* ‘boys!’, possibly born as simple requests of attention, now definitely express surprise.

The second – external force – is a curse or an appeal to some force to which one attributes the responsibility for that event, or the power to neutralize it: imprecations like *boia!* ‘executioner’ and invocations like *Cristo!* or *mamma!*. In fact, an imprecation is a curse toward some object that caused some negative event with consequent anger and aggression, or toward a deity to whom the Speaker attributes the cause of that event; an invocation is a request for help from some deity when feeling helplessness or impotence before some event.

A third device to shape interjections of surprise – dysphemism – is to express the high intensity of the felt mental state by resorting to lexical items whose form or meaning is particularly crude or aggressive. Dysphemism (the opposite of euphemism) means making some negative contents even more crude and rude, and interjections like *boia!* ‘executioner’, *miseria* ‘misery’, *vacca* ‘cow’, *merda* ‘shit’ are dysphemistic as to their meaning; others like *corbezzoli* ('good gracious!', literally, 'arbutus!') are dysphemistic as far as the acoustic aspects of the signal are concerned; finally *cazzo* ‘cock’ is dysphemistic from both points of view.

Out of these three types of interjections, those stemming from vocatives can be used only to express surprise or disappointment, while those deriving from external force and dysphemism can be used both as informative interjections of surprise and disappointment and as optative ones, namely as invocations or imprecations. Moreover, among all three types some, like *cazzo!* ‘cock!’, *diavolo!* ‘devil!’, *diamine!* ‘heck!’, *perbacco* ‘by gosh!’, can also work as an emphatic confirmation, corresponding to “Of course!” or “Definitely so!”.

## 8 Other forms of emotional communication

So far, we have seen how several emotions can each be expressed by one or more specific interjections: a particular kind of communicative act. Let us now focus on a few specific emotions and ask what kinds of communicative acts they can trigger: not how an emotion is expressed, but what expressive or communicative acts are generally caused by these emotions. In particular, we will deal with negative emotions, and their possible consequent aggressive verbal displays.

When an important goal of someone is thwarted by some event (that one believes is) caused by another person, one may feel negative emotions like frustration, anger, contempt, or indignation, and these may give rise to various kinds of aggressive communicative behaviors: curses, imprecations, bad words, insults.

### 8.1 Aggressive signals

We may define an aggressive signal as one that expresses or communicates the Sender's goal of damaging the Addressee, i.e., of thwarting one or more of his or her goals. Therefore, against the backdrop of these signals a relevant character may be present, who may overlap with the Addressee or not: the Target, i.e., the person the Sender wants to damage.

Although all of them are in some way aggressive, curses, imprecations, bad words and insults may be triggered by different emotions, arise from different antecedents, and each carry a particular type of blow to the Target in social interaction. They can be distinguished from each other in several different ways.

First, they differ as to their pragmatic structure, that is, the type of action they perform. Curses, imprecations and insults are whole speech acts, whether interjections or complete or elliptical sentences. Bad words, instead, are single lexical items, conveying only a part of a speech act – for instance, a noun like *shit*, an adjective like *idiot* (which can also be used as an insult, but only in some conditions), a verb like *fuck* or *damn*, a noun phrase like *the hell* – but what they have in common is that they all mention meanings subject to communicative taboo, such as objects or properties linked to the intimate, sexual, scatological sphere, or anyway to domains implying strongly negative evaluations or violations of the private sphere.

Further, curses, imprecations, insults and bad words also differ both for the types of events and consequent emotions that can precede and trigger them, and for the emotions they express. In fact, we must consider on the one hand the “source emotion”, i.e., the emotion felt by the Sender that impulsively triggers his uttering the signal, and on the other the “expressed emotion”, the one conveyed by the signal. For example, an insult may be motivated by anger or revenge toward the other, but what it expresses is contempt.

To sum up, these “aggressive” signals can be distinguished in terms of several criteria that are summarized in Table 21.5; but to find them out, we first provide an overview of the specific characteristics of curses, imprecations, bad words and insults.

## 8.2 Curses

A curse is a communicative act – a speech act or a body communicative signal, like *pointing a middle finger*, and if a speech act, either a complete sentence or an interjection – through which a Sender communicates to an Addressee that he wants some very bad event to happen to him. A verbal curse may be expressed in two ways:

- a. an imperative speech act, by which the Sender orders the Addressee to do a somehow self-defeating action himself, like in
  - (12) *Go to hell!*
  - (13) *Fuck off!*
- b. an optative speech act (Poggi 1981, 2009) in which the Sender, although addressing the Addressee, makes appeal to a Third Entity to let a very bad event occur to the Hearer. Like in:
  - (14) *May you sink in the sea!*

Or in the biblical curse by Noah to Canaan (Genesis, 9:25):

- (15) *Cursed be Canaan! The lowest of slaves will he be to his brothers.*

Here the Sender wants something bad to happen to the Addressee, and to express this desire uses a modal verb of power (*may*) in an optative mode (or a subjunctive mode, in languages where optatives are not morphologically marked): a typical phrasing of an appeal to a Third omnipotent Entity considered able to fulfill the Sender's desire.

A particular kind of curse are what we may call “elliptical optative curses”: semantically optative sentences elliptical of the verb and of the optative structure, where the only remaining part is the object of the curse. Take the following speech acts, typical of some Italian dialects:

- (16) *La potta de to' ma'*  
‘your mother’s vagina’; used in Genova
- (17) *L'anima de li mortacci tua*  
‘the soul of your dead ancestors’; used in Rome

These sentences (16) and (17) may be considered elliptical of words mentioning the cursing intention, as brief forms for, respectively:

- (18) *May your mother’s vagina be cursed*
- (19) *May the soul of your dead ancestors be cursed*

In both imperative and optative curses, the Sender wants something bad to happen to a Target; but while in imperative curses the Target is also the Addressee, in optative ones

the Addressee – at least apparently – is the Third Entity, while the Target is another person, often (though not always) the one present in the situation as the Sender's actual Interlocutor. In some sense, the Sender in the optative curses is apparently addressing the Third Entity, but indirectly he is addressing the Target/Interlocutor. Furthermore, for both imperative curses and optative curses, their literal meaning is to order or to wish, respectively, a highly destructive action or event on the Target, but this in turn is aimed at communicating: "I do not want to have any more social relationships with you!". A curse is then an act aimed at cutting any relation with the Addressee.

What events and emotions do generally trigger curses? A typical antecedent is that the Target of the curse performed some misdeed to the detriment of the Sender. This serious unjust damage gives rise to three mental states in the Sender: first, an emotion of anger, typically triggered by a sense of injustice; second, a desire for revenge, sometimes so overwhelming that no human might fulfill it, and that could be adequately performed only by some omnipotent Entity. This is the point of wishing such a disrupting event on the other. But anger is too short term an emotion to be felt for such a person and such a misdeed; what leaks from the curse is a more long-term indestructible feeling, hate; a sort of long-term anger. It is hate that triggers, in its turn, a goal of cutting any future relationship with the Target, who made himself guilty of such a misdeed.

Therefore, in optative curses the literal goal is to ask a Third Entity to have something bad happen to the Target, while in imperative curses the Sender asks the Target himself (who is in this case the Addressee) to perform a self-defeating action; but in both cases the ultimate goal of this act is to communicate the Sender's rejection of the Target.

### 8.3 Imprecations

An imprecation can be seen as an optative curse or an insult addressed to some inanimate object or, again, to a Third Entity that one makes responsible for an unlucky event. As with some curses, in the imprecation the Target may not be the Addressee. The imprecation *Damn!*, for example, means: "I make appeal to a Third Entity (Addressee) to make Target be damned".

What events and emotions trigger an imprecation? Typically, I might implore *Damn!* when stumbling in the dark and banging on a chair, or if a storm is approaching just when I am going for a picnic. In such cases I am cursing the chair or the weather: that is, by a somewhat animistic attitude, I am making them responsible for a misdeed to my detriment. This does not necessarily trigger revenge or hate, but simply anger – an emotion sometimes felt only due to goal frustration, not necessarily about injustice on the part of other people.

In a curse, the Sender, whether or not making an appeal to a Third Entity to have something bad happen to the Target, addresses the Target to communicate he does not want to have anything more to do with him. In an imprecation, instead, the Sender does not address a person to tell him he wants something bad for him; rather, he makes an appeal to a Third Entity, or anyway to the Entity he considers responsible for the damage received, and does so in an aggressive way, for instance by using bad words or even by insulting the Entity itself.

A Sender may perform an imprecation whenever he is surprised or disappointed and needs to express his mental state in an intense way. This is also the case in which he may resort to dysphemism, like seen above (Poggi 2009).

The main difference between curse and imprecation is in their communicative status. A curse is necessarily an act of communication: the Sender has the conscious goal of making the Target understand that Sender is feeling an emotion of anger and hate towards him, that he wants bad things to happen to the Target, or the Target to do things bad for himself, and that he wants to cut off any social relationship with him. An imprecation instead may be simply the “expression” of an emotion, in the etymological sense of *exprimere* ‘to throw out’: the Sender may only have the goal of giving vent to his anger or disappointment about some unlucky event. So, the imprecation does not necessarily have an Addressee proper, not always being communication to others. Sometimes, its Addressee is a Third Entity, but often in this case the literal meaning of the speech act is a curse or an insult, while the indirect meaning is one of imprecation. For example, in Rome *mangaggia* derives from *male ne abbia* ‘let him have something bad’: clearly a curse, but nowadays only felt as an imprecation. Just like *porco Giove* ‘you pig Jupiter’, which has the form of an insult (see below) to a Third Entity, but is used as an imprecation.

## 8.4 Bad words

Unlike curses and imprecations, bad words (tabooed words) generally are not complete communicative acts, but only words or phrases – therefore, only fragments of communicative acts – that mention body organs or body actions linked to physiological (e.g., sexual or excretory) functions or refer to other tabooed semantic areas, such as death, disease, economic resources, in other words several contents protected by norms of privacy.

They are mainly phrased in a low sociolinguistic register, that is, low or rude versions of the terms, for instance not the scientific but the popular nouns or verbs for those organs and actions: *fuck* is a bad word, *have intercourse* is not (Galli de' Paratesi 1969).

Bad words differ from curses and imprecations because they are not whole communicative acts, they do not stably incorporate a specific performatives: a bad word can be uttered in speech acts with different performatives. For example, *bloody* can be used in an interrogative sentence:

(20) *Where did you put my bloody coat?*

Or in an imperative sentence:

(21) *Give me that bloody book.*

Or in an informative one:

(22) *I hate this bloody weather.*

Yet, often bad words are used as interjections (e.g., *shit!*); in this case they are holophrastic and convey a whole speech act of imprecation. Further, they can be used within imprecations and curses to make them even more aggressive. On the other hand, both curses (e.g., *fuck!*) and imprecations (see ex. [16] above) often make use of bad words to enhance their aggressiveness.

A bad word, both if used as a whole speech act or within one, may simply have the goal of adding emphasis to the act itself, but may also express or communicate anger and possibly a goal of aggression stemming from an unwelcome event, in this case addressing the one held responsible for it. Bad words are a case of “dysphemism”, that is, words loaded with a strong negative evaluation and aggressive import. Such aggressiveness partly dwells in their very meaning but also often in their harsh sound: for instance, the sensation of friction or obtrusion perceived in a word like *cazzo* ‘cock’, if simulated or reproduced by the Addressee, thanks to mirror neurons, may give him the same sensation of harsh production as for the Sender. This is why these words, bad in meaning and in sound, often make up part of curses, imprecations and insults, enhancing their load of aggression. Yet, they must be carefully distinguished from them.

## 8.5 Insults

An insult is an act of communicative aggression, a deliberate attack on another person's image: a whole communicative act produced by a Sender who has the deliberate intent of offending a Target. The Target may be a person, a group, even an object, for example the symbol of an ideology or an institution – like when the flag of a country is burned by citizens of a rival country. In order to offend the Target, the Sender attributes to it a very negative property, in such a way as to include it into a category that is degrading for it; and does so to spoil the Target's image and (in case of a person) the Target's self-image, too.

### 8.5.1 The intention of offending

People, in order to interact, make up an image of each other. The image is the set of evaluative and non-evaluative beliefs that one has of another person, and its function is to allow one to decide with whom to have positive interactions. Therefore, to project a positive image becomes a very important adaptive goal for people, since it determines their interactions with others. An even more important adaptive goal is for one to have a positive self-image – a good image of oneself – because this in turn makes one self-confident, it allows one to strive for important goals, and may cause others to have a positive image of oneself. Since the function of emotions is to monitor the achievement/thwarting of our adaptive goals, any time our goals of image or self-image are achieved or thwarted, we feel emotions like pride or shame, respectively. Feeling offended, too, is an important negative emotion triggered by the thwarting of the goal of image. To feel offended (Poggi and D'Errico 2018) means to feel a negative emotion because some communicative or non-communicative ac-

tion, or even a general attitude or an inferable mental state of another person toward us, explicitly evidences, or implicitly implies, that the person has a bad image of us. The other's act or mental state results in aggression towards our image, since it explicitly points at or implicitly entails the attribution of a negative property to us: this is seen as a true blow to our image, a lack of respect, an undeserved aggression, especially when the other is relevant to us, as we would like to have a positive social relationship with him or her.

Actually, people may feel offended by something that is not intended to offend; or else, on the contrary, they may not feel offended if the launched negative evaluation is not negative for them, or if it is not true, or irrelevant for the image they want to project. But what characterizes an insult as such – its definitory condition – is not the realism of the evaluation, nor the relevance for the Target's actual image, but the intention of offending. In an insult, the Sender intentionally attributes a very negative property to the Addressee, while also metacommunicating his deliberate intention to offend him (Castelfranchi and Parisi 1980; Castelfranchi 1988).

### **8.5.2 A negative property and a degrading category**

To attribute a very negative property to the Target, the Sender attacks the core of identity, that is, he communicates he considers him as belonging to a “degrading category”, one primarily and prototypically characterized by that negative property. In order to attribute to you the negative property of *stupidity*, I find a category of entities that is highly characterized by that property, say, a *goat*: so, I insult you by calling you “*Goat!*”. The degrading category is one considered on a lower – less noble – level than the one the Target (at least according to the Sender's assumption) pretends to belong: for instance, a category of people of a lower race, a lower social class, or even non-humans, animals, objects. The insult is thus typically constructed through the devices of dehumanization or mechanization (Bar-Tal 1990): the act of reducing the Target to a degrading category, possibly extending to the most severe in this scale of degradation, non-existence, which is evoked in insults like “*You're a nullity*”, or in deliberately and ostentatiously (that is, meta-communicatively) ignoring the Target.

An insult is then an act intentionally aimed at offending the Target by communicating a highly negative evaluation of the Target through characterizing it as belonging to a degrading category; such negative evaluation is communicated to the Target himself, who is the necessary Addressee of the insult, but also possibly, at the same time, to other Addressees – to an audience – in order for the offense be made public and even more degrading for the Target. This may be done both by words and by body acts – e.g., the gestures of *third finger up*, or *spitting* on the other – and both in direct and indirect ways. Here we focus on verbal insults.

### **8.5.3 Direct verbal insults**

As mentioned above, an insult is a whole communicative act intended to offend another person. Yet, apart for some cases, it is not a holophrastic item like an interjection, but

rather an elliptical sentence, where what is explicitly expressed is not the performative but the propositional content, or only part of it. An insult in fact is either an informative act or a vocative by which the Sender attributes a very negative property to the Target and/or includes the Target into a degrading category. In its most typical cases, the insult may take the following forms:

1. An informative sentence like “You are X” (*you are idiot*), where X is an adjective mentioning the negative property.
2. An informative sentence like “You are an X”, where X is
  - a. either a nominalized adjective (*you are an idiot*) conveying the negative property;
  - b. or a noun (*you are an animal*) conveying the degrading category.
3. An adjective or a noun used as a vocative “You X!”, that is, one used to summon the Target: (*idiot!*).

All the above cases attribute a negative evaluation to Target T, but 1 and 2a only do this, and do so directly, while 2b and 3 attribute to T a negative property indirectly, through assigning him to a “degrading category”, one considered inferior to one T pretends to belong – an animal, an inanimate object, a person of a lower class or race. But insults of the types 1 and 2a, where the property is phrased by an adjective, may simply attribute to T a single negative property among others, not necessarily permanent, nor characterizing T as such. In 2b and 3, however, the mentioned property, being phrased as a noun, becomes not only one among all, but the one defining feature of the Target: what characterizes him the most. In fact, while an adjective generally denotes a single property, a noun names a category of entities, and when calling someone or something by that noun one attributes to him or it all the defining properties of that category. A noun is a worse insult than an adjective. Yet the vocative, insult no. 3, is the most serious of all, since here the Sender summons the other, and asks for his attention, just by calling him by that noun, and making it his name. This is therefore the most aggressive – and most prototypical – form of insult.

#### **8.5.4 Indirect verbal insults**

A verbal insult may be performed in either a direct or an indirect way. An indirect insult is a communicative verbal (or body) act in which the negative evaluation of the Target cannot be understood by applying the bare lexical and syntactic rules of the language, but can only be inferred by taking into account, along with the literal meaning, the contextual or cultural knowledge shared by Sender, Target and Audience.

Two types of indirectness of insults can be distinguished: syntactic and pragmatic indirectness.

##### **8.5.4.1 Syntactic indirectness**

An insult is syntactically indirect when the insulting meanings (negative evaluations about the Target) are in fact expressed, but somehow “understated”, concealed within the syntactic structure of the sentence. What is the canonical syntax of an insult? In Italian, for example, when the insult is not phrased as a vocative (see case 3 above) but as an informative

sentence, the negative property or the degrading category must be asserted in the main clause, and not simply caught from the presuppositions contained in a subordinate clause, a modifier, or an attributive adjective. Compare these sentences (Poggi, D'Errico, and Vincze 2015):

- (23) *Renzi dice balle, e Di Maio le demolisce.*  
‘Renzi tells lies, and Di Maio destroys them.’
- (24) *Di Maio demolisce le balle di Renzi.*  
‘Di Maio destroys Renzi’s lies.’

A sentence like (23) is directly insulting, in that the negative property of Renzi (telling lies) is explicitly asserted in the main clause “Renzi dice balle”. (24) instead (the real sentence drawn from the corpus) is a *syntactically indirect insult* since the negative property is not part of the assertion, but is only presupposed: “Renzi’s lies” presupposes that “Renzi tells lies”.

Again, if the negative property is mentioned by an adjective, this must be used with a predicative function, not simply an attributive function.

- (25) *Renzi, sei un cittadino condannato.*  
‘Renzi, you are a condemned citizen.’

is a direct insult, while

- (26) *Tre avvocati milanesi hanno brutte notizie per il condannato Renzi.*  
‘Three attorneys from Milan have bad news for the condemned Renzi.’

is only indirectly insulting, because the adjective *condannato* ‘condemned’ is used with an attributive function (as marked in Italian by the adjective preceding the noun), hence it is a presupposed, not an asserted information. This sentence can in fact be considered an insult, but only an indirect one.

#### 8.5.4.2 Pragmatic indirectness

An insult is pragmatically indirect when the insulting meaning can be caught only by applying a more or less elaborate path of inferences to go from the literal meaning to the insulting one. Of course, indirectness may be a matter of degree: an insult can be more or less indirect depending on how far it is from the above canonical form of insult, and on the number and types of inferences necessary to understand the insulting property or category. See the following pragmatically indirect insults:

- (27) *(I giornalisti) vomitano commenti.*  
‘The journalists vomit remarks.’

This insult to journalists is pragmatically indirect since it can be only understood by going through an inferential chain: what journalists remark is dirty filthy stuff → journalists produce only disgusting stuff → journalists are bad themselves.

Here is a typical indirect insult by the Roman actor Alberto Sordi:

- (28) *Sei maggiorenne ormai, è ora che tu sappia di chi sei figlio.*

‘You’re an adult now, it’s time for you to know who you are a son of.’

standing for “son of a bitch”. And now one circulating among teenagers on Facebook:

- (29) *Faccio prima a saltarti che a girarti intorno*

‘It takes less to jump over you than to walk around you.’

which stands for “fatty”.

### 8.5.5 The meanings of insults

Why is an insult offensive? because it launches a very negative evaluation at the Target with the intention of attacking the Target’s image (Poggi, D’Errico and Vincze 2015). Our image is the set of evaluative and non-evaluative assumptions that others have about us, and each evaluation is conceived of with respect to a specific criterion of evaluation. People judge each other vis-à-vis several criteria, giving judgments such as ugly, intelligent, unreliable, friendly, weak, charismatic. The evaluations we receive from others are important because they contribute to the construction of our image, and what image others have of us is a cause for very strong emotions, like pride, shame, embarrassment, or feeling of offense. Therefore, insults can be classified in terms of the criteria of evaluation that are considered relevant for the different possible images that people want to present of themselves and pretend from others. More, they are a cue to the values that are considered relevant in a given domain: sissy will be an insult in a group of machos, but less so among sub-cultures, e.g., transsexuals where masculinity is not as prized.

Recent studies on insults and other acts of discredit during political debates (Poggi, D’Errico and Vincze 2011; Poggi and D’Errico 2022) have revealed the following criteria in terms of which politicians discredit and even sometimes insult each other:

- Competence: the politician’s quality of expertise, knowledge, reasoning, planning capacity. This field includes negative evaluations – and corresponding insults – like *stupid, ignorant, subnormal*.
- Benevolence: ethical qualities, which for politicians are instantiated by honesty, trustworthiness, care for the electors’ and not for one’s own interests, sincerity and veracity. This area includes insults like *Lei è un bugiardo e un mascalzone!* (‘You’re a liar and a rascal!’)
- Dominance: the skill to influence other people and to impose one’s will. Concerning this criterion, people may be evaluated negatively in two opposite directions. An insulting sentence evoking lack of dominance, specifically high submissiveness, is for example launched by a journalist by calling the spokesman of a very rich politician *his butler*.

In everyday talk, these categories of insults are somewhat more articulated. For instance, insults in the category of competence, beside nouns like *capra* ‘goat’, *idiota* ‘idiot’, *coglione* ‘asshole’, include a subclass of mental sanity (*non sei normale* ‘you’re not normal’), *stai fuori* ‘you’re outside’), one of social skills (*sei una palla* ‘you’re boring’) and one of sexual adequacy (*finocchio* ‘pansy’, *frigida* ‘frigid’). Benevolence, besides *figlio di puttana* ‘son of a bitch’, *bastardo* ‘bastard’, includes a subclass of sexual morality (*cagna* ‘bitch’, *troia* ‘slut’). Dominance, besides a subclass of insults referring to a lack of dominance, like *ridicolo* ‘ridiculous’, *inutile* ‘useless’, includes one of excessive dominance, mentioned in insults like *boss* or *dictator*.

Finally, a criterion of evaluation adopted in everyday interaction, for instance on Facebook among teenagers, more frequently than in politics, is an aesthetic one. Various types and reasons for ugliness are launched as insults: from *quattrocchi* ‘four eyes’ for kids with glasses, to *ciccione* ‘fatty’ or *fai schifo* ‘you suck’. Yet, in some Western countries like Italy, possibly as a reaction to the era of euphemism and the urge of being politically correct, this criterion is used even in the political arena, at least through indirect phrasing:

- (30) *Esteticamente incompatibile con Venezia.*

‘Aesthetically incompatible with Venice’.

(This is a comment uttered by Gino Strada, the founder of the humanitarian association Emergency, when Renato Brunetta, a very short right-wing politician, ran as a candidate for Mayor of Venice)

#### **8.5.6 Insults versus other aggressive signals**

To sum up, an insult differs from an imprecation or a curse because it is not an optative nor an imperative but an informative act (or even, only a vocative, as we have seen), which mentions a negative evaluation of the Target and communicates it explicitly to the Target and/or the Audience, with the further goal of offending the Target. As in imperative curses, here the relationship is not mediated by any Third Entity but is only between Sender and Target, who may (or even must) be also the Addressee; yet the content of the communicative goal is not an action – like in curses – but a negative evaluation of the Target.

As to the emotions and feelings expressed or communicated, an insult is a communication of disesteem and lack of respect towards the Target; in a sense, as argued by other authors (Vogel 2015) it is connected to disgust; but disgust for objects becomes contempt when addressed to a person (Miceli and Castelfranchi 2018). Moreover, while in imprecations the emotion of anger may be simply expressed as a spontaneous way to give vent to the Sender’s feelings, in an insult the Sender deliberately aims at communicating one’s disgust and contempt to the Target.

### **8.6 Bad words, imprecations, curses, and insults**

Table 21.5 summarizes the differences among these aggressive communicative signals. While bad words are single lexical items, to be inserted in different communicative acts,

on the other hand imprecations, curses, and insults are complete communicative acts (row 2). The characters of imprecations are only the Sender and a Third Entity, who counts as the Addressee, while in curses the Addressee may be either the Third Entity or the Target, and insults may imply an Audience, but the Addressee is the Target (rows 3–4). Curses can be only communicative, while bad words and imprecations can also be merely expressive, that is, only aimed to give vent to the felt emotion, not necessarily to let another know of it, and insults are not only communicative but even meta-communicative (row 5). Bad words and imprecations have the goal of giving vent to anger, whereas curses wish a negative event to befall the Target, or they order the Target to do something bad for himself, possibly to take vengeance and finally cut off relations with it; on the other hand, insults attack the Target's image and self-image, to take vengeance on it (row 6). Imprecations are optative communicative acts wishing a negative event to befall the Target, curses are imperatives or optatives, respectively ordering one to do something self-defeating, or wishing him misfortune, while insults are information or vocatives mentioning a negative evaluation of the Target, thus assigning it to a degraded category (rows 7–8). Finally, as to felt and expressed emotions, both bad words and imprecations are triggered by and express anger and disappointment; for curses revenge and hate are both the source and the expressed emotions, while insults are triggered by revenge and express disgust and contempt (rows 9–10).

**Tab. 21.5:** Bad words, imprecations, curses, and insults.

		Bad word	Imprecation	Curse	Insult
1	Example	<i>Bloody</i>	<i>Damn!</i>	<i>May you sink! Go to hell!</i>	<i>Idiot!</i>
2	Type of action	Single word	Communicative act	Communicative act	Communicative act
3	Characters		Sender, Third Entity	Sender, Target, Third Entity	Sender, Addressee, Target, Audience
4	Addressee		Addressee = Third Entity	For imperatives Addressee = Target get For optatives Addressee = Third Entity	Addressee = Target
5	Expression/ Communication	Expression, Communication	Expression, Communication	Communication	Communication + metacommunication
6	Goal	If expressive, to give vent to anger. If communica- tive, to commu- nicate aggres- sive intent.	If expressive, to give vent to anger. If communicative, to communicate aggressive intent.	Negative event for Target Revenge over Target To reject relation with Target	Attack Target's image Attack Target's self-image Revenge over Target

**Tab. 21.5 (continued)**

	<b>Bad word</b>	<b>Imprecation</b>	<b>Curse</b>	<b>Insult</b>
7	Performative	Optative	Imperative or Optative	Informative or Vocative
8	Propositional content	Tabooed object, action or event	Negative event for Target	Target's action negative for himself or negative event for Target
9	Felt emotion	Anger	Anger, disappointment	Revenge, hate
10	Expressed emotion	Anger	Anger, disappointment	Revenge
				Disgust, contempt

## 9 Conclusion

Emotions are an essential part of our lives because they monitor the achievement or thwarting of our most important adaptive goals: when these are at stake, our pleasant or unpleasant feelings, the physiological changes in our body, our expressive displays and our readiness to action, are all functional in order to confront the external events that challenge our goals. Expressing or communicating our emotions is a way to do so by sharing our feelings with others either to give or to get help in coping with the situation. Interjections, along with other facial or bodily displays of emotions, such as facial expressions, gestures or posture, are one of the most primitive but still perfectly functional tools both to give vent to and to share our internal mental states. With the advent of articulate language, other tools emerged both to convey our emotions and to induce emotions in others. A case of this are the communicative acts of curses, imprecations and insults, and the use of bad words, quite effective ways to express our negative emotions and aggression towards others. These are the primary weapons of hate speech, a mode of communication particularly spread in social media in the first decades of the third millennium.

A present trend in research on communication is right to study how aggression flows within and across social media; but such data could also provide interesting corpora to test the adequacy of the distinctions presented above among curses, imprecations, insults, bad words, and to see if and where the category of interjections overlaps with those communicative acts: which curses and imprecations, for instance, are expressed by interjections. One more possible line of research made possible by the wide data provided by social media, is to see what graphic devices are equivalent to interjections. For example, both emoticons and emojis may generally be considered holophrastic signals, hence a sort of graphic interjection. A thorough analysis of such devices might allow a comparison of the respective semantics of graphic versus vocal interjections.

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## 22 Morphosyntactic structure and emotion

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**Abstract:** Emotion predicates (EPs) have drawn substantial attention in the studies of the syntax-semantics interface. As a unique class of verbs, EPs display a diverse and intriguing range of morpho-syntactic variations associated with semantic distinctions. The traditional dichotomy of Stimulus-subject vs. Experiencer-subject EPs is revisited with an investigation of the lexical semantic properties of EPs in Mandarin Chinese, which sheds valuable new light on cross-linguistic comparison of lexicalization patterns. The Chinese emotion lexicon is unique in three respects: (i) the Stimulus-subject vs. Experiencer-subject distinction is blurred in a number of Chinese EPs; thus, the same utterance *wǒ hěn wúliáo* can be interpreted as ‘I am bored’ or ‘I’m boring’; (ii) the causative construction is resorted to for deriving the Chinese equivalents of English Stimulus-subject verbs (such as *excite*, *surprise*) that are lexically missing in Chinese; (iii) the eventive vs. stative distinction that is neutralized in English is lexically and syntactically differentiable in Chinese with different semantic profiles. The Chinese-specific properties of EPs point to a new dimension of form-meaning mapping principles characteristic of emotion predication and call for a re-examination of the typological variations of EPs and their correlation with the topic-comment construction.

## 1 Introduction

Chinese and English are very different in emotional predication. Chinese lacks lexical equivalents to most English predicates that lexicalize a Stimulus-as-subject, such as *interest*, *amaze*, and *please*. It also shows a variety of form-meaning mismatch so that the same expression *tā hěn wúliáo* 他很無聊! may be ambiguous and render totally opposite meanings: ‘He’s bored’ or ‘He’s boring’. These interesting observations suggest that the Chinese emotion lexicon operates with distinct lexical and grammatical principles that differ greatly from those in other languages. The study aims to depict how various facets of emotion are conceptualized, lexicalized and grammatically encoded in Mandarin Chinese. It is revealed that Chinese emotion predicates demonstrate a distinct and complex range of lexicalization patterns and polysemous relations. The linguistically unique and heterogeneous behavior

of the Chinese emotion lexicon constitutes a converging core of linguistic interface. By teasing out the salient features at the morphological, syntactic, and semantic levels and identifying the possible array of form-meaning associations as well as analyzing the isomorphic relation in lexical-constructional correlations, the study provides insightful accounts of the intriguing interactions between multiple layers of linguistic realization and offers a full-scale characterization and representation of the Chinese emotion lexicon. As emotion constitutes a converging core of experiential and linguistic saliency, the study ultimately makes a significant contribution to the study of “affect”, one of the most pertinent and currently prevailing issues in neurolinguistics and natural language processing.

## **2 The Chinese emotion lexicon: a linguistic window to the Chinese mind**

The uniqueness of the Chinese language is manifested in multiple, intricate dimensions. Among them, the linguistic expression of emotion proves to be a central and fascinating area that shows striking differences of the Chinese language from other languages. Emotion, as a central domain in the human perceptual system, has drawn substantial attention in linguistic studies (Croft 1986; Dowty 1991; Grafmiller 2013; Jackendoff 1991, 2007; Levin 1993; Lyons 1980; Pesetsky 1995; Talmy 1985, 2000; Van Voorst 1992). As Wierzbicka (1992, 1999, 2009) observes, emotion terms are semantically diverse and cannot be neatly matched with concepts in other languages or cultures. In other words, the emotion lexicon shows the least cross-linguistic universality and the most language-specific and culturally varied characteristics. Given the typological distinctiveness of Chinese, there is a crucial need for a comprehensive investigation of the “Chinese way” of expressing emotion in lexicon and grammar. The present research is devoted to providing a full-scale, in-depth analysis of the Chinese emotion lexicon from a frame-based (Fillmore and Atkins 1992) constructional approach (Goldberg 1995, 2005). By teasing out the peculiar form-meaning mapping principles that are characteristic of the emotion lexicon, the research offers a solid ground for language-specific characterization and cross-linguistic comparison of emotion verbs and verb classes (cf. Levin 1993). Through untangling the intriguing interplay of linguistic realizations in emotion-related frames, the research contributes to the building of frame taxonomy for the ongoing project on the construction of Chinese VerbNet (Liu and Chiang 2008).

## **3 Studies of lexicalization patterns**

Emotion is essential to human experience and constitutes the semantic core of any language. As Langacker (1999) asserts, emotional experiences may be treated as conceptual archetypes that provide the cognitive foundation for linking grammatical constructs with semantic particularities. At the discourse level, conventionalized expressions of emotion are highly consistent in showing metaphorical and metonymic embodiment of physiologi-

cal reactions (Kövecses 1998, 1999, 2000; Lakoff 1987; Lakoff and Kövecses 1987; Radden 1998; Ye 2002; Yu 2002). At the lexical level, however, languages vary greatly in their lexicalization patterns of encoding emotional distinctions (Filip 1996; Jackendoff 1990, 2007; Levin 1993; Talmy 1985, 2000).

Emotion predicates (henceforth EPs) are traditionally termed as mental verbs (Croft 1986), verbs of psychological state or psych-verbs (Jackendoff 1990; Levin 1993), psychological predicates (Filip 1996; Jackendoff 2007; Postal 1970), or verbs of affect (Talmy 1985, 2000). The classes of verbs are linguistically important as they pose intriguing questions for argument assignment and syntax-semantics interface studies (Croft 1986; Dowty 1988, 1991; Jackendoff 1990, 2007; Kiparsky 1987; Levin and Rappaport Hovav 1995; Pesetsky 1987, 1995; Van Valin 1990, 2005; Van Voorst 1992; Zaenen 1993). Under the different accounts lies a fundamental issue, i.e., in what ways are emotional experiences conceptualized and lexicalized and to what extent may languages vary in distinguishing Eps? According to Liu (2016), there are at least four different schemes of distinction found in the literature, which will be reviewed below.

### 3.1 Two-way distinction: subject-role selection

A preliminary distinction is the bipartite division of Experiencer-as-subject vs. Stimulus-as-subject. Talmy (2000: 98) illustrates the two lexicalization patterns with the contrast in *frighten* and *fear*:

- (1) a. Stimulus as subject: *That frightens me.*  
b. Experiencer as subject: *I fear that*

While verbs may lexically select a default subject role, they are allowed to switch the role of subject with morphological derivations in English (Talmy 2000: 98):

- (2) Switch of subject with grammatical-derivational means:
 

<b>Stimulus as subject</b>	→	<b>Experiencer as subject</b>
<i>It frightens me.</i>		<i>I'm frightened of it.</i>
<i>It pleases me.</i>		<i>I'm pleased with it.</i>
<b>Experiencer as subject</b>	→	<b>Stimulus as subject</b>
<i>I fear it.</i>		<i>It is fearful to me.</i>
<i>I like it.</i>		<i>It is likeable to me.</i>

Further noted is that derivations in English are more commonly found with Stimulus-headed verbs such as *frighten/interest* than with Experiencer-headed verbs such as *fear/like*. This leads Talmy to suggest that “while possibly all languages have some verbs of each valence type, they differ as to which type predominates” (Talmy 2000: 98). English is considered to favor lexicalizing the Stimulus as subject, as the bulk of its lexical items focus on the Stimulus. In contrast, Atsugewi (a Native American language) was mentioned to be predominantly Experiencer-oriented, since all its verb roots lexicalize exclusively an

Experiencer as subject. For instance, the verb root *-lay* ‘to consider as good’ only takes an Experiencer-subject; if the subject changes to a Stimulus, the verb root will have to undergo a morphological change in taking the suffix *-ahw*. Cross-linguistically, languages may differ in their preferred or predominant selections of subject roles in the emotion lexicon.

Talmy’s dichotomy in subject selection serves as a convenient scheme for a preliminary typological categorization. Languages such as Spanish align with English in an interesting way as they show a Stimulus-prominent grammatical pattern. It is well known that the “like/love” verbs in Spanish agree with the Stimulus that occurs after the verb, but not the Experiencer which occurs at the subject position:

- (3) a. *Me encanta este perro.*  
‘I like this dog.’
- b. *Me encantan estos perros.*  
‘I like these dogs.’

Although the Experiencer *me* in the above examples occurs at the beginning of the sentence, it is the Stimulus at the postverbal position that the verbs formally agree with in number. In addition, the Experiencer-subject *me* in both examples appears in the dative case as a recipient of the emotional state, not in the nominative case. On the other hand, Chinese seems to align more with Atsugewi in showing an Experiencer-prominent pattern as it lexicalizes more Experiencer-subject verbs and lacks lexical equivalents of the English Stimulus-subject predicates as detailed in Section 4.

However, it is also cautioned that the boundaries of the emotion or “affect” categories may be too “encompassive or misdrawn” and there may be “smaller categories following more natural divisions that reveal more about semantic organization” (Talmy 2000: 100). It is further explicated that among English EPs, the subcategory of “wanting” verbs (e.g., *like, love, want*) all have Experiencer subjects, which may be a widespread, if not universal, tendency across languages. But there are also a few languages, such as colloquial Yiddish and Samoan, that take the opposite direction to have a non-Experiencer subject for wanting verbs (example 59 from Talmy [1985: 101]):

- (4) a. Yiddish  

$$\begin{array}{cccc} Mir & vilt & ziX & esn \\ \text{me-IO} & \text{wants} & \text{REFL} & \text{to-eat} \end{array}$$
- b. Samoan  

$$\begin{array}{ccccc} 'Ua & sau & ('iate & a'u) & le & fia & 'ia \\ \text{ASP} & \text{come} & (\text{to}) & \text{me} & \text{the} & \text{want} & (\text{to})\text{eat} \end{array}$$
  
 ‘A desire for eating has come on me (I feel like eating).’

It is fair to say that in subject-prominent (as opposed to topic-prominent) languages such as English and Spanish, the semantic role of the subject is a key factor to distinguish emotion predicates. Languages differ in their lexicalization patterns in terms of the dichotomy of Experiencer-as-subject vs. Stimulus-as-subject verbs.

### 3.2 Three-way distinction: variation on case marking

Filip (1996) reports a three-way case marking distinction in Czech. The Experiencer role may be marked with three different morphological cases: nominative, accusative or dative, giving rise to three different subclasses of EPs:

- (5) Three different case markings on Experiencer in Czech:

- a. *Václav<sub>NOM</sub> miluje Marii<sub>ACC</sub>.* (Nominative-Exp)  
‘[Václav] loves Mary.’
- b. *Václav<sub>NOM</sub> baví Marii<sub>ACC</sub>.* (Accusative-Exp)  
‘Vaclav amuses [Mary].’
- c. *Václav<sub>NOM</sub> schází Marii<sub>DAT</sub>.* (Dative-Exp)  
lit.: ‘Vaclav lacks [to Mary].’

According to Filip, a similar tripartite division can be found in other Indo-European languages, including French (Legendre 1989), Italian (Belletti and Rizzi 1988; Perlmutter 1984), Dutch (Zaenen 1988), Russian (King 1995), Bulgarian (Slabakova 1994), and in South Asian languages (cf. Verma and Mohanan 1990). All these languages have a rich system of morphological marking of case roles, and thus the three-way distinction can be readily used to distinguish three lexical subclasses of emotion verbs. The three distinct lexical subclasses can then be accounted for as displaying different clusters of semantic features along the Proto-agent vs. Proto-patient paradigm (Dowty 1991). Among the three groups, Nominative-Exp verbs subscribe an agentive Experiencer-subject, while Accusative-Exp verbs take the Experiencer as a Patient-object, and the Dative-Exp verbs are in between: the Experiencer is in dative case, showing a different semantic relation and deviation from the prototypical Agent vs. Patient opposition.

### 3.3 Four-way distinction: variation on argument realization

Levin (1993: 188–193) looks into English psych-verbs in terms of their argument realizations, and distinguishes four subclasses: (a) *amuse* verbs: transitive verbs describing the bringing about of an emotional change to an Experiencer-object; (b) *admire* verbs: transitive verbs with an Experiencer-subject; (c) *marvel* verbs: intransitive verbs with an Experiencer-subject and a Stimulus in PP; (d) *appeal* verbs: intransitive verbs with a Stimulus as subject and Experiencer in PP:

- (6) Four-way distinction on English psych-verbs:

*amuse* verbs:

- a. *The clown amused the children.*  
(Trans., Cause as subject, Experiencer as object)

*admire* verbs:

- b. *The tourists admire the paintings.*  
(Trans., Experiencer as subject, Stimulus as object)

*marvel* verbs:

- c. *She marveled at the beauty of the Grand Canyon.*  
(Intrans., Experiencer as subject)

*appeal* verbs:

- d. *This painting appealed to her.*  
(Intrans., Stimulus as subject)

It is worth noting that Levin further indicated, following Grimshaw (1990), that some of these verbs, such as *amuse*, allow the subject argument to receive an agentive interpretation, while others, such as *concern*, only allow a stative reading. It is further suggested that this eventive vs. stative distinction could be the base for further subdivision of psych-verbs.

### 3.4 Five-way distinction: morphological variants

Taking both verbs and adjectives into consideration, Jackendoff (2007: 220–21) makes a five-way distinction for emotion predication. He arrays five distinct types of morphosyntactic variants, with semantic shading from profiling the Experiencer to profiling the Stimulus:

- (7) Morphological variants of English psychological verbs and adjectives:
  - a. Exp-Adj            *I'm bored.*
  - b. Exp-Adj-Stim    *I'm bored with this.*
  - c. Exp-Verb-Stim    *I detest this.*
  - d. Stim-Verb-Exp    *This bores me.*
  - e. Stim-Adj-(Exp)    *This is boring (to me).*

Under the assumption that “morphologically related items often share a semantic core” (Jackendoff 2007: 224), the varied frames are unified with the same conceptual function of X BE [Property Y]. A subtle distinction is further made between inherent meaning (*I'm just plain bored.*) and directed meaning (\**I'm just plain interested.*). Citing Ekman and Davidson (1994), Jackendoff asserts that certain EPs encode pure, internal feelings, such as *happy*, *sad*, *calm*, and *nervous*; but most others are directed emotions such as being *attracted*, *disgusted*, *interested*, and *humiliated*. This distinction bears significant implication in the account of emotion near-synonyms in Chinese (Liu 2002).

## 4 Emotion predication in Chinese: what is unique in Chinese emotion predication?

Given the above schemes of lexical distinctions, questions concerning the Chinese EPs will inevitably arise: What is unique in the lexicalization patterns characteristic of the Chinese

emotion lexicon? What is the predominant pattern in terms of subject roles in Chinese? What kinds of lexical distinctions are made in Chinese? Based on previous studies (Liu 2009, 2016; Liu and Chang 2009), three key findings may serve as the ground-breaking evidence to answer these questions.

**Finding 1:** While English allows subject-role switches with morphological derivations, Chinese, a non-inflectional language, attains such switches solely through constructional variation:

(8) Switch of subject with constructional means in Chinese:

Stimulus as subject	→	Experiencer as subject
a. <i>zhèjiàn shì xià le wǒ yītiào</i> ‘This matter frightens me.’		<i>wǒ xià le yītiào</i> ‘I’m frightened (of it).’
b. <i>zhèjiàn shì lìng wǒ hěn mǎnyì</i> ‘This matter pleases me.’		<i>wǒ dùi zhèjiàn shì hěn mǎnyì</i> ‘I’m pleased with this matter.’
Experiencer as subject	→	Stimulus as subject
<i>wǒ hàipà zhèjiàn shì</i> ‘I fear this matter.’		<i>zhèjiàn shì lìng wǒ hàipà</i> ‘This matter is fearful to me.’
<i>wǒ xǐhuān zhèjiàn shì</i> ‘I like this matter.’		<i>zhèjiàn shì lìng wǒ xǐhuān</i> ‘This matter is likeable to me.’

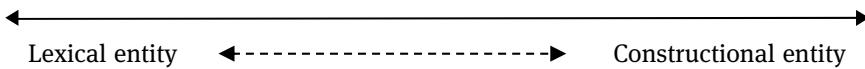
Except for *xià* ‘frighten’, Chinese lacks corresponding lexemes for Stimulus-subject EPs such as *please, interest, be fearful, be likeable*. Thus, a causative template with an overt causative marker (*lìng* 令/ràng /*shǐ* 使/jiào 叫) is called upon for a semantic-role shift. Due to the lack of lexical equivalents, the “Chinese way” of expressing the English counterparts of Stimulus-subject verbs, resorts heavily to grammatical templates, as further illustrated below:

(9) Syntactic templates preserved for Stimulus-subject predicates in Chinese:

- a. Causative [*lìng-rén-V*] “CAU-person-V<sub>Exp-S</sub>”: 令人+ V<sub>Exp-S</sub>  
*lìng-rén-xīngfèn* ‘exciting’, *lìng-rén-jīngyà* ‘surprising’, *lìng-rén-hàipà* ‘frightening’
- b. Transitive [V<sub>trans</sub>-*rén*] “V<sub>trans</sub>+person”: V<sub>trans</sub> +人  
*xià-rén* ‘scary’, *qì-rén* ‘annoying’, *mí-rén* ‘charming’
- c. Modal [*kě*<sub>potential</sub> +V] “V-able”: 可+V  
*kě-lián* ‘pitiful’, *kě-hèn* ‘hateable’, *kě-ài* ‘lovable’, *kě-xiào* ‘laughable’
- d. Possessive [*yǒu* + N<sub>mental</sub>] “have-mental N”: 有+N<sub>mental</sub>  
*yǒu-qù* ‘have-fun, interesting’, *yǒu-yìsī* ‘have-sense, interesting’, *yǒu-wèidào* ‘tasteful’

The semi-lexicalized forms can be viewed as *lexicalized constructions* or *constructionalized lemmas* in the sense of Construction Grammar (Goldberg 1995, 1997, 2005). The interplay between lexical and constructional entities in Chinese clearly manifested the continuum of lexicon and grammar:

- (10) The form-meaning mapping continuum:



While the lack of morpho-derivations in Chinese can be readily explained by typological variation in morphological structure, the lack of Stimulus-subject verbs calls for a deeper explanation.

**Finding 2:** The lack of morphological distinction in Chinese has another important consequence. A number of Chinese EPs may cross the subject-role dichotomy in denoting dual or multiple meanings. In other words, most Chinese EPs are ambiguous in predicated either the Experiencer or the Stimulus. The predicates such as *wúliáo* 無聊, *mǎnzú* 滿 and *tǎoyàn* 討厭 all have more than one meaning and allow the subject to play the role of either Experiencer or Stimulus without formal alternation:

The dual meanings of *wúliáo*:

- (11) *wǒ hěn wúliáo*  
1p.s DEG bore  
a. 'I'm bored.' → "I" as Experiencer  
b. 'I'm boring.' → "I" as Stimulus

An extreme case with as many as six different senses can be found with the verb *fán* 煩 'annoy, trouble, perplex', which allows six different roles of the subject:

- (12) Multiple meanings of *fán*:

- a. *tā hěn fán.* – Experiencer S  
3p.s DEG annoy  
'He is annoyed.'
- b. *tā hěn fán* – Stimulus S  
3p.s DEC annoy  
'He is annoying.'
- c. *zhèjiàn shì ràng tā hěn fán* – Causative Stimulus A  
this-CL matter cause 3p.s DEG annoy  
'This matter made him perplexed.'
- d. *zhèjiàn shì fán sǐ tā le.* – Transitive Stimulus A  
this-CL matter annoy dead 3ps LE  
'This matter bothered him to death.'
- e. *tā hěn fán zhèjiàn shì* – Experiencer A  
3p.s DEG annoy this-CL matter  
'He worried about the matter.'

- f. *lǎobǎn yìzhí fán tā.* – Affector A  
 boss always bother 3p.s  
 ‘The boss has been bothering him.’

Pertaining to the observation is an intriguing question: what is the possible range of form-meaning mismatch manifested in Chinese? While a detailed account can be found in Liu (2016), there are some interesting cases worth mentioning here as in Finding 3 below.

**Finding 3:** Chinese is sensitive to the contrast between stative vs. eventive predication (or “inchoative” in Croft [1986] and Dowty [1991]), as illustrated in Jackendoff (1991: 140):

(13) Stative vs. eventive predication in English:

- a. *Thunder frightens Bill.* (stative, non-volitional)  
 b. *Harry (deliberately) frightened Bill.* (eventive, volitional)

The semantic distinction is lexically and grammatically marked in Chinese. A stative predication is normally expressed in a causative sentence pattern with one of the overt causative markers (*líng*, *ràng*, *shǐ*, or *jiào* ‘to cause/make’). An eventive predication is normally expressed as a direct transitive sentence:

(14) Stative vs. eventive predication in Chinese:

- a. *dàlēi ràng Lǎo-Wáng xià yītiào* (more stative, non-volitional)  
 thunder CAUSE Old-Wang frightened a-jump  
 ‘The thunder frightened Old-Wang.’  
 Lit.: ‘The thunder made Old-Wang frightened.’
- b. *tā gùyì xià Lǎo-Wáng yītiào* (more eventive, volitional)  
 3p.s deliberately frighten Old-Wang a-jump  
 ‘He deliberately frightened Old-Wang.’

Verbs that are more eventive in meaning (e.g., *jīnù* 激怒 ‘infuriate/irritate’) may participate in the highly transitive *BA*-construction and the *BEI*-passive alternation. The eventive predication involves a more agentive and volitional subject role than that of the Stimulus and can be viewed as a sentient Affector, a notion that deserves finer inquiries (cf. Liu and Hu 2013; Van Valin and Wilkins 1996). Hence, the thematic relations involved in emotion predication needs to be expanded in Chinese to cover Affector-Affecatee relation in a more eventive sense.

The expansion of semantic relation is also needed to explain an interesting pattern of form-meaning mismatch in Chinese excessive emotion expressions where the emotion-bearer can be positioned either before or after the EP. In the example below, the English expression “I’m delighted to death” may be expressed in two different ways in Chinese:

(15) “I am delighted to death” can be expressed in Chinese with either structure:

- a. *wǒ gāoxìng sǐ le*  
1p.s glad dead LE  
'I am delighted to death.'
- b. *gāoxìng sǐ wo le*  
glad dead 1p.s LE  
'I am delighted to death.'

Notice that in (15a) the emotion-bearer occurs before the EP as a subject, while in (15b) the emotion-bearer occurs after the EP as an object. To explain this form-meaning mismatch, Liu and Hu (2013) provide a constructional account that views the two varied expressions as two different constructions involving different semantic roles. It is proposed that (15a) is an instantiation of the Excessive Degree Construction, wherein the emotion-bearer is depicted as a sentient Experiencer, while (15b) is an instantiation of the Excessive Impact Construction, wherein the emotion-bearer is viewed as an Affectee, similar to the role of “patient” under an excessive emotional impact.

## 5 The Chinese paradigm: EPs and the topic-comment construction

After laying out the unique lexicalization patterns of Chinese, we might want to ask why Chinese is the way it is in emotion predication. Why are most Chinese EPs potentially ambiguous and flexible in use? It has been mentioned that due to the lack of morphological distinctions of verb meanings, the Chinese emotion lexicon becomes extremely polysemous. It is also documented in other studies that Chinese emotion verbs may cause ambiguity problems in translation (Basnight-Brown and Altarriba 2014; Tseng, Chang, and Tokowicz 2014). Isomorphic verbs can be used in multiple ways with semantic distinctions along the parameters of subject roles and transitivity. In general, there are five types of semantic correlation in Chinese EPs:

Type 1: Experiencer-subject verbs that can be used intransitively or transitively, such as *kělián* ‘pitiful, pity’, *hàipà* ‘afraid, fear’, *mǎnyì* ‘satisfied (with)’, *dānxīn* ‘worried (with)’ and *wéinán* ‘embarrass’, put sb. in difficult situation’:

(16) Intransitive to Transitive Exp-subj EPs:

- a. *tā hěn kělián*  
3p.s DEG pitiful  
'She is pitiful.'
- b. *wǒ hěn kělián tā*  
1p.s DEG pity 3p.s  
'I pity her.'

Type 2: Stimulus-subject EPs that can be intransitive or transitive, such as *tǎoyàn* ‘loathe’:

(17) Intransitive to Transitive Stim-subj EPs:

- a. *tā hěn tǎoyàn*  
3p.s DEG annoying  
'She is annoying.'
- b. *wǒ hěn tǎoyàn tā*  
1p.s DEG distain 3p.s  
'I dislike her.'

Type 3: Intransitive EPs that can have Experiencer-subject or Stimulus-Subject, such as *wúliáo* ‘bored or boring’ and *fán* ‘annoyed or annoying’:

(18) Exp-subj or Stim-subj intransitive EPs:

- a. *tā hěn wúliáo*  
3p.s DEG pitiful  
'She is bored.'
- b. *zhèběn shū hěn wúliáo*  
this-CL book DEG boring  
'This book is boring.'

Type 4: Transitive Stimulus-Subject EPs that can be used intransitively with an Experiencer-subject, such as *gǎndòng* ‘touch, touched’, *kùnrǎo* ‘trouble, troubled’:

(19) Intransitive Exp-subj and Transitive Stim-subj EPs:

- a. *tā hěn gǎndòng*  
3p.s DEG touched  
'She is touched.'
- b. *zhèběn shū hěn gǎndòng tā*  
this-CL book DEG touch 3p.s  
'This book touched her.'

Type 5: Transitive Stimulus-Subject EPs that can be used as eventive Affector-subject EPs, such as *cìjī* ‘stimulate, sting’ and *dǎrǎo* ‘bother, trouble’:

(20) Transitive Stim-subj and Affector-subj EPs:

- a. *zhègè shì hěn cìjī tā*  
this-CL news DEG bother 3p.s  
'This news stimulated him.'

- b. *bié cìjī tā le*  
 NEG stimulate 3p.s  
 'Don't stimulate him!'

In addition to the lack of morphological distinctions, there is another important feature in Chinese that contributes to the semantic ambiguity or polysemy of a number of EPs. Chinese is known for its basic sentence type being Topic-Comment, instead of Subject-Predicate. According to Li and Thompson (1976), in a topic-prominent language, the semantic role of the topic is not subcategorized by the verb. In other words, there is no semantic restriction imposed by the verb to the topical element. That is why Chinese emotion verbs may be free in subject roles and allow dual or multiple interpretations without contextual selection. I would therefore like to propose that the semantic flexibility of EPs in Mandarin as introduced above is correlated to and can be accounted for by the fact that Chinese is topic-prominent, instead of subject-prominent. The lexical subcategorization of subject roles in English EPs is much more relaxed in Chinese, which allows a more flexible role assignment to the topical element given its preference of a topic-comment construction. On the other hand, the unique behavior of Chinese EPs manifests and provides a revealing piece of evidence for the fact that Chinese may indeed be topic-prominent.

## 6 Conclusion

The study highlights and characterizes some of the unique behaviors of Chinese emotion predicates. Through a preliminary comparison with Indo-European languages, it critically identifies the Chinese-specific form-meaning pairing properties realized in the Chinese emotion lexicon. The wider range of semantic relation encoded in Chinese emotion predicates helps to show that emotion can be conceptualized differently from the traditional Experiencer-Stimulus paradigm and incorporate a more volitional and eventive paradigm in line with the Agent-Patient or Affecter-Affectee thematic relations. In sum, the semantic-to-syntactic flexibility in Chinese EPs may demonstrate an important typological facet of topic-prominent languages. This study provides a preliminary overview to highlight some important morpho-syntactic distinctions in emotion predicates, with a focus on the unique behavior of the Chinese verbal lexicon. However, more detailed and comprehensive comparisons may be needed to explore the cross-linguistic typological distinctions in lexical and grammatical encodings of emotion predicates, as well as the interrelationship between the behaviors of emotion verbs and other language-internal grammatical mechanisms.

## Acknowledgments

This research is a continuous effort as part of a long-term pursuit in analyzing and representing the Chinese verb lexicon, previously supported by Taiwan Ministry of Science and Technology (MOST, formally NSC).

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## **VI Semantics and the expression of emotion**



Cristina Soriano

## 23 Affective meaning in language

- 1 Introduction
- 2 Affective meaning
- 3 Affective meaning in sounds
- 4 Affective meaning in morphemes
- 5 Affective meaning in syntax
- 6 Affective meaning in the lexicon
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**Abstract:** Affective meaning is pervasive in language. In this chapter we discuss its presence at multiple levels of linguistic analysis, with special attention to the lexicon. In a first introduction to the phenomenon, we explain and illustrate two types of affective meaning (denotative and connotative) and three ways to account for it (categorical, dimensional and feature-based approaches) transversal to all levels of analysis. We then illustrate how affect is communicated in phonology, morphology, the lexicon, and syntax, with examples from different languages. The discussion of the lexicon is further organized around two variables: (a) the word's grammatical class, where we discuss emotion concepts such as nouns (e.g., *joy*), verbs (e.g., *to embarrass*), adjectives (e.g., *sad*) and adverbs (e.g., *surprisingly*); and (b) the word's figurativeness, where we analyze affective meaning in literal (e.g. *to rage*) and figurative expressions (e.g., *to erupt*) and discuss the privileged link between figurative language and emotion.

### 1 Introduction

This chapter presents an overview of the ways in which language communicates affective meaning. Affective meaning is here understood in a broad sense as affective information either encoded or perceived in language. This meaning is assumed to stem from extra-linguistic as well as linguistic experiences, i.e., both from our interactions with the world and with the linguistic context in which words (or other linguistic constructions) are used (cf. Vigliocco et al. 2009).

Affective meaning can be hard to study and describe. One of the reasons may be that the affective meaning of many units is often only (fully) specified in context (Besnier 1990: 429; White 2015). A second reason may be that the nature of emotion and other affective phenomena (moods, attitudes, etc.) is not yet fully understood. We currently lack a consensual definition of emotion within psychology or across disciplines, and in linguistics the phenomena studied as “affect” are many and diverse (e.g., subjectivity, engagement, atti-

tude, vividness...). To address these difficulties, we will focus on linguistic constructions with rather stable affective meanings. In addition, the term “emotion” will be reserved for cause-driven affective episodes (such as those designated by the English words *angry* or *surprised*); otherwise, the word *affect* will be used as an umbrella term. When reporting studies, the specific phenomena described as “affective” will be specified. Finally, several ways to define and describe affective meaning will be explicitly operationalized for this chapter (Section 2).

In Sections 3 to 6 we will address affective meaning at four levels of linguistic analysis: linguistic sounds, morphemes, syntactic structures, and the lexicon. Examples of affective meaning will be provided for each level and in several languages. However, the chapter cannot provide an exhaustive repertoire. More comprehensive overviews of grammatical and discourse phenomena associated to affect can be found in Ochs and Schieffelin (1989), Besnier (1990), Soriano and Ogarkova (2009), Majid (2012) or Foolen (2012, 2015, 2016), *inter alia*.

## 2 Affective meaning

### 2.1 Affective denotation and connotation

The broad notion of affective meaning endorsed in this chapter touches on both the referential and the expressive/emotive functions of language (Jakobson 1960: 350–377). Therefore, we will be concerned with “emotion talk” and “emotional talk”, that is to say, with the language *about emotion* (i.e., the affective denotation of linguistic units), and language *as emotion* (i.e., the affective connotation – non-referential meanings – of linguistic expressions not primarily intended to denote emotion) (cf. Grondelaers and Geeraerts 1998: 357). We will be concerned with linguistic resources (e.g., intonation, interjections, intensifiers, swear words, etc.) used to signal the speaker’s affect and/or to elicit an affective response (both phenomena tend to go hand-in-hand). In doing so, we will be addressing phenomena pertinent to semantics and pragmatics.

Connotation has been traditionally considered the major locus of affect in language. In Besnier’s opinion, “affect is most commonly expressed covertly in natural discourse” (Besnier 1990: 428) and implicit affective meanings (connotation) are more effective psychologically than the explicit meanings (denotation), because they may operate outside conscious awareness (Besnier 1990: 428). Connotative meaning can change depending on context, but some constructions are more resilient to change than others. For example, within the lexicon we find “affect-laden” words (e.g., *war*, *cancer*, *death*, *rape*) that have a particularly marked affective value and are, thus, often used in experimental settings to elicit an affective response. In everyday use, the negative connotations of these words can be avoided through vagueness by using a more generic term (a hyperonym, like *disease* or *illness* instead of *cancer*) (Grondelaers and Geeraerts 1998) or using a euphemism (e.g., *African American*). Conversely, when the goal is to emphasize negative affect, dyphemisms can be used (e.g., *nigger*). Some of the negatively connotated words constitute the subgroup

of swear words or curses (e.g., *shit, asshole*), including insults and expletives. Others belong to the subgroup of taboo words, or words to avoid (e.g., *vagina, dildo, anus*).

In spite of the importance of connotation, historically much more attention has been paid to denotation in linguistics. Emotion denotation is most straightforwardly found in the lexicon. Many words indeed refer to emotions directly (e.g., *anger, fear*). It would be logical to expect all languages to have words for the so-called “basic emotions”, supposed to be universal (Ekman and Friesen 1971; Ekman, Levenson, and Friesen 1983). However, this is not the case (cf. Hupka, Lenton, and Hutchison 1999). According to Wierzbicka (1999) only a few true universals can be identified in the affective lexicon, such as the existence in all languages of a word like the English *feel*, or the existence of words partially overlapping (but not identical) in meaning with the English *fear, shame* and *anger*.

While many words refer to emotions directly, just as many – if not more – refer to emotion indirectly through metonymy by profiling one aspect of the emotional experience, such as the associated behavior (e.g., *aggressive, laughter*) or the eliciting stimulus (e.g., *offended, success*). We could refer to these as “emotion-related” words (Pavlenko 2008: 148), which are only sometimes considered emotion words proper. For example, Ortony, Clore, and Foss (Clore, Ortony, and Foss 1987; Ortony, Clore, and Foss 1987) propose to distinguish between affective experience proper (e.g., *happy, cheerful, worried*) and other mental states that would only *indirectly* (i.e., metonymically) imply affect, such as cognitive conditions (e.g., *certain*), physical and bodily states (e.g., *aroused*), or objective descriptions (e.g., *abandoned*). Irrespective of whether or not we can consider metonymic affect words as emotion words proper, referring to emotion metonymically is a normal and pervasive phenomenon, responsible in fact for the appearance of some of the basic emotion words referred to above. For example, it has been proposed that basic emotion concepts such as fear, anger and sadness have their origin in the labeling of somatic experience (Leff 1973: 300–301). The reason is that a common Indo-European root \*Angh-, designating a generic state of unpleasant arousal (and related to the notion of constriction/tightness), would have eventually specialized into several more specific words designating psychological experience instead, such as anger (the very word *anger*), fear (e.g., *anxiety*) and sadness (e.g., *anguish, agony*). Similar words can be found in other languages too, like French *angoise*, or German *Angst*. The etymological origin of other English emotion words also links them metonymically to one or another specific aspect of the emotions designated, as is the case with *happy*, which etymologically refers to “success/fortune”, *pleased* and *sad*, related to “calmness”, or *grief*, related to “heaviness” (Györi 1998: 106–116). Some of these associations hold true across languages, like the link between heaviness and sadness, which also applies to Russian *grust* ‘melancholy’ (Györi 1998). This suggests that some aspects of emotional experience, such as a feeling of heaviness or a feeling of tightness/constriction, may be salient cross-culturally and have given rise to modern-day emotion words in many languages.

Connotation and denotation are sometimes hard to tell apart. This is particularly evident in the study of interjections, i.e., words or expressions that express a spontaneous feeling, such as *oh, ah* or *wow*. According to Wharton (2016), “what is conveyed by an interjection is highly context-dependent [...] and is also descriptively ineffable. Utterances of *wow* or *aha*, particularly when they function as stand-alone utterances, might convey a

vast range of different emotional states, each of which is hard to describe independently of their context of use” (Wharton 2016: 25). While indeed the meanings of interjections are not rigid, some are more prototypically associated to specific emotions than others, as in the case of *phew* (relief), *yippee* (joy), *ugh* (disgust), or *ouch* (pain). Others are indeed more vague, and we can only speak of a positive or negative connotation.

In sum, both connotation and denotation require attention when accounting for the affective component in language. Furthermore, they are not always easy to differentiate. Therefore, in this chapter a reference to affective meaning will address either of them, unless only one is specified.

## 2.2 Describing affective meaning: categories, features and dimensions

Three main strategies to describe affective meaning can be identified in the literature: the categorical, the dimensional and the feature-based approach. The *categorical approach* describes the affective meaning of a unit by indicating what emotion category (e.g., disgust, joy) the unit is typically associated to. This approach can be applied at most levels of linguistic analysis. For example, associations have been reported between back vowel sounds like /u/ in *ugh* and dislike or disgust in English (Jespersen 1922); the Dutch modal particle *maar* and resignation (Foolen 2015: 248); the English lexico-syntactic construction [what + a + NP] and surprise (Krawczak and Glynn 2015); or the English slang word *pissed* and anger.

A second strategy to account for affective meaning is to describe it in terms of semantic features – what we could refer to as the *feature-based approach*. Semantic feature is understood in this chapter in two ways. First, as features suggestive of affective qualities, like “rigid”, “harsh” or “gentle”. For example, phonemes like /b/ and /k/ seem to be cross-culturally evocative of the (affect-laden) notions “round” and “sharp/jagged”, respectively, a phenomenon known as the bouba-kiki effect (Köhler 1929; Ramachandran and Hubbard 2001). Second, when describing the meaning of emotion words (e.g., *anger*, *joy*), semantic features often refer to the cognitions motivating those emotions, and to their prototypical effects (e.g., Iordaneskaja and Mel'čuk 1990; Wierzbicka 1999). Emotional cognitions and effects are known in the psychology literature as two of the “components of emotion” (e.g., Fontaine, Scherer, and Soriano 2013), the most typical ones being (i) appraisal (the cognitive assessment of the events triggering the emotion), (ii) bodily reactions, (iii) expressions (in face, voice, gestures), (iv) action tendencies (i.e., behavioral impulses), and (v) subjective feeling (the general tone of the experience for the emoter). Features pertaining to the regulation/display of the emotion or its socio-cultural nature may also be used (see Ogarkova [2013] for a review of cross-lingual variation in the emotion lexicon along these parameters). In other words, the meaning of emotion terms is often described through features pertaining to all these components of emotion. For example, in a study of the meaning of emotion words in over 20 languages and cultures, the emerging cross-cultural semantic profile of the word “surprise” included features about appraisal (e.g., being caused by a sudden, unpredictable event), bodily changes (e.g., faster breathing and heart rate), ex-

pression (e.g., jaw drop and raised eyebrows), and feeling (e.g., a short-lived sensation of energy rush) (Soriano, Fontaine, and Scherer 2015: 440–450).

Semantic features are sometimes described as sufficient and/or necessary, but in the definition of emotion concepts the most widespread approach is to consider them as simply *prototypical* or probabilistic (i.e., neither compulsory, nor sufficient to define the meaning of a word by themselves) (e.g., Alonso-Arbiol et al. 2006; Fehr and Russell 1984, 1991; Russell 1991b; Shaver et al. 1987). Features are also often arranged into a script, a sequence of subevents. In the tradition initiated by Anna Wierzbicka, known as Natural Semantic Metalanguage (NSM), the sequential temporality of the script is backgrounded, and greater emphasis is placed instead on the necessity to spell out semantic features in terms of alleged universal semantic primitives, such as “know”, “be”, “good” or “bad” (e.g., Wierzbicka 1999). The meaning of English *surprise*, for example, would be defined in this framework by features such as “I didn’t know before that it will be like this” and “I know it now” (Goddard 2015: 297–299).

The third way to describe affective meaning is in terms of (affective) semantic dimensions – the *dimensional approach*. The most frequently quoted affective dimension is valence, also known as evaluation, polarity, or axiology, depending on the field. Valence is the dimension according to which things can be characterized on a continuum between good (positive/pleasant) and bad (negative/unpleasant). The distinction seems to be universal in language (Hupka, Lenton, and Hutchison 1999; Osgood, May, and Miron 1975; Russell 1991a; Wierzbicka 1999). Valence is undoubtedly the most important affective dimension. In studies where more than one dimension is found, valence still explains the lion share of the variance (e.g., Fontaine, Scherer, and Soriano 2013). And in linguistic studies of affective meaning, valence is often the only dimension discussed (e.g., Foolen 2016). Some even claim valence is what affective meaning (and experience, for that matter) is essentially about (e.g., Ortony, Clore, and Collins 1988). In other words, affective meaning/experience is first and foremost the representation of something as good or bad. Countless examples can be found in the literature in which affective meaning is simply characterized as positive or negative valence. One of them is the notion of “semantic prosody”, which can be understood as the connotations acquired by a word as a result of frequently co-occurring with other words carrying a positive or negative load. Oster (2010), for example, reports studies on the negative connotations of the English verb “happen” and of the adverb “utterly” because they typically describe negative events or entities.

The second most quoted affective dimension is arousal, also referred to as activation. It captures the distinction between aroused (active/activated) and relaxed (passive/deactivated). For example, the word *fear* denotes high arousal, while the arousal denoted by *sadness* is low. Valence and arousal are often discussed together as part of the so-called “circumplex model of affect”, according to which all emotion concepts can be differentiated according to those two dimensions, anywhere in the world (Russell 1980, 1983).

The third most quoted affective dimension is power, also known as potency, control or dominance. It opposes the notions strong (powerful/dominant) and weak (powerless/submissive). For example, the word *anger* denotes high power, while the power implicit in *fear* is low. The first to identify these three dimensions were Osgood and his colleagues (Osgood, Suci, and Tannenbaum 1957), who labelled them evaluation, activity and potency,

respectively. Using a technique called semantic differential, where concepts are evaluated on a large number of bipolar scales (e.g., loud-soft, strong-weak, slow-fast), they demonstrated that all concepts (not only emotion ones) communicate implicit information about the three aforementioned affective dimensions, this being true across languages and cultures (e.g., Osgood, May, and Miron 1975).

More recently, a large cross-cultural study on the meaning of emotion words has identified a fourth dimension, novelty, capturing the distinction between the novel/unexpected and the familiar/expected in the representation of emotion (Fontaine et al. 2007; Fontaine, Scherer, and Soriano 2013; Gillioz et al. 2016). This work also highlights the connections between the four dimensions and the components of emotion, revealing, for example, that arousal depends mostly on the body component, and novelty on the appraisal one (Fontaine and Scherer 2013: 123).

Dimensions can be used to describe affective meaning at all levels of linguistic analysis. For example, studying phonemes in poetry, Auracher and colleagues (2010) discovered plosive sounds to be perceived as positive and arousing, while nasal sounds were perceived as negative and deactivating; within the study of morphology, the Dutch suffix *-sel* has been found to imply a negative evaluation (Foolen 2012: 354); and the lexico-syntactic construction known as “shm-” reduplication (e.g., *fancy, schmancy; baby, schmaby*) is used to convey negative attitude. Countless examples can also be found in the study of the lexicon, many stemming from the interdisciplinary field of sentiment analysis, which brings together linguistics, psychology and computer science in an attempt to automatically detect affect in texts. Much of this work relies on large inventories of words whose affective meaning is described as a score on one or more of the aforementioned dimensions. Examples of these widely used lists include Bradley and Lang (2010) and Warriner et al. (2013) for English; Ric et al. (2013) for French; Ferré et al. (2012) for Spanish; or Kanske and Kotz (2010) for German.

The dimensions of valence, power, arousal and novelty are assumed to reflect the way humans understand emotions (e.g., Fontaine, Veirman and Groenvynck 2013; Posner, Russell and Peterson 2005; Russell 1991a: 438), but their study in the definition of emotion words is already justified from a strictly linguistic point of view, since they are key to differentiating words paradigmatically and to ensuring correct syntagmatic co-occurrences (Iordanskaja and Mel'čuk 1990).

So far we have provided a brief overview of the ways we can understand and describe affective meaning. Some examples have also been offered from different levels of linguistic analysis. In the following sections, more examples will be provided as each level is addressed in more detail.

### 3 Affective meaning in sounds

The affective meaning of verbal sounds can be described at the level of segmental units (phonemes) and suprasegmental units (prosody). In the first case, the most studied phenomenon is sound symbolism, i.e., sounds that represent/evoke an idea, very often an affective one (see Nuckolls [1999] and Hinton, Nichols, and Ohala [1994] for reviews). Some

affective patterns of sound symbolism seem to be widespread; the phoneme /l/, for example, seems to be cross-culturally associated in literature to tenderness, softness and soothing (Fónagy 1961; Masson 1953; Tsur 1992), whereas /r/ evokes roughness or harshness (e.g., Chastaing 1965, 1966; Fónagy 1963). Sound symbolism has also been associated to size. Lapolla (1994) reports a cross-linguistic association of acoustically grave sounds with the concept “big” and acute sounds with the concept “small”, which could have affective implications because “big” and “small” are often associated, respectively, to the concepts “powerful” and “powerless” (Schubert, Waldzus, Giessner 2009) and to “important” and “unimportant” (Goatly 2007). A similar finding is reported by Miron (1961, in Osgood 1962: 22), who found acoustic high frequencies to be associated to smallness and impotence in a study of nonsense syllables in English and Japanese. Additionally, he found front consonants (phonemes articulated toward the front of the mouth, e.g., /p/) to be perceived as more pleasant than back consonants (e.g., /g/). Congruently, Myers-Schultz et al. (2013) report that “one of the most consistent findings [in the literature] is that nonsense words consisting of front phonemes [...] are perceived as smaller, faster, lighter, and *more pleasant* than nonsense words consisting of back phonemes” (Myers-Schultz et al. 2013: 1106, emphasis added).

Regarding English specifically, Myers-Schultz et al. (2013) sustain that the reason for the affective valence of words may lie in the acoustic, rather than the articulatory features of their sounds. Specifically, they found that an upward shift of the first two frequency components in words predicts positivity, while a downwards shift predicts negativity in English. Jespersen (1922) had also observed that in English back vowels like the /u/ in *ugh* are often found in words expressing dislike or disgust (*blunder, dull, much*). Sound symbolism has been studied in other languages, too. In Hungarian, for example, Fónagy (1963) described the /r/ as wild, pugnacious, manly and hard. In French /r/ is perceived as rough, strong, hard, etc., in contrast to /l/, which is smooth, weak, light-weighted (Chastaing 1965, 1966). And in Swedish the clusters /bj-/ , /fj-/ , /pj-/ convey a pejorative meaning (Abelin 1999).

Associations to affect have also been found in prosody. It has been traditionally assumed that prosody can only express physiological arousal; however, prosody can differentiate between emotions as well (Bachorowski and Owren 1995; Scherer et al. 2011). The relevant prosodic features include intonation (i.e., changes in pitch), rhythm (tempo), loudness, length/duration, stress, and timbre (i.e., voice quality) (see Scherer [2003] for a detailed analysis). For example, loudness is associated to stress, anger, fear and joy, while quiet speech is associated to sadness (Johnstone and Scherer 2000). Loudness also signals intensity (although not always – cf. Majid 2012: 433). High pitch is associated to fear, happiness (Scherer, Clark-Polner, and Mortillaro 2011), stress and anger (Johnstone and Scherer 2000), while low pitch is associated to sadness (Scherer, Clark-Polner, and Mortillaro 2011). In addition, speech rate (number of syllables per second) has an affective meaning, too, as it increases in anger and fear, and decreases in sadness (Johnstone and Scherer 2000; Scherer, Clark-Polner, and Mortillaro 2011). All these patterns are rather language-specific, because, unlike for emotion *recognition* (e.g., Sauter et al. 2010), no evidence has been found so far of universal patterns in the prosodic *expression* of emotion (Scherer, Clark-Polner, and Mortillaro 2011).

## 4 Affective meaning in morphemes

The notion of “evaluative morphemes” as an independent class of morpheme (different from derivational or inflectional morphemes) was first proposed in Italian by Sergio Scalise (1984, in Grandi and Körtvélyessy 2015: 3). This alleged independence is not universal, but the so-called “evaluative morphemes” can be found in many languages around the world. Evaluative morphemes include types such as diminutive, augmentative, pejorative and ameliorative suffixes, although other classes have been proposed, too, such as endearment/affection and honorific suffixes (cf. Grandi and Körtvélyessy 2015). Their meaning can be described as a matter of semantic content (denotation) or pragmatic value (connotation). In the first case, evaluative morphology directly codes the affect of the speaker towards something (e.g., appreciation); in the second case, it codes an externally observable feature of that thing (e.g., its size) and only secondarily implies an affective stance.

Examples of affective denotation in morphemes include pejorative suffixes denoting depreciation or contempt, like the Spanish *-ucho* (e.g., *papelucho* ‘insignificant paper’). In English the word ending “-eer” has also been claimed to convey contempt (e.g., *sneer*, *leer*, *jeer*) (Bergen 2004). The miritative suffixes found in languages such as Turkish or Lhasa Tibetan denote surprise by indicating that something is unexpected (DeLancey 1997; Peterson 2015). A fourth example may be the Spanish clitic *-se*, which can convey an affective meaning by indicating the subject’s involvement and affectedness in the action (Maldonado 1999). For example, Maldonado (2008) enumerates emotional reaction verbs including the clitic *-se* (such as *alegarse* ‘get happy’ or *enojarse* ‘get angry’) and indicates that the clitic “is used with these verbs to stress the experiencer’s *emotional involvement*. In fact, it has been claimed (Maldonado 1999) that such a construction contrasts with a dative experiencer construction precisely in that middle *se* makes the experiencer *responsible for his feelings*” (Maldonado 2008: 175–176, emphasis added).

In addition to denotation, morphology also exhibits cases of affective connotation. For example, diminutive and augmentative suffixes, indicating small and big size, respectively, often carry positive and negative connotations as well (Silverstein 2001; Wierzbicka 1984). Diminutives, for instance, can be used for endearment (showing affection or positive evaluation) (e.g., *doggy*) or for depreciation (showing a pejorative attitude) (e.g., *girlie*, *Frenchy*). Prepositions used in the context of emotion words also seem to convey affective information. According to Radden (1998), the English constructions [Verb + with/in/for/out of + emotion] (e.g., *jump for joy*, *out of love*) all have different meanings. English “in” constructions, for example, would be reserved for intense emotions (predominantly negative) perceived as overpowering the person (e.g., *run in fear*), whereas “with” constructions would suggest comparatively less intense emotions and very typical reactions (e.g., *red with anger*).

Affective meaning can also be found in unbound morphemes like pronouns. Some languages have second-person personal pronouns that convey affective differences (social or affective distance), like the French *tu* versus *vous*, or the Spanish *tu* versus *usted*. Other examples can be found in Besnier (1990), who states that:

Pronominal paradigms offer rich opportunities for affect displays. [...] In some languages (e.g., Samoan and Tongan) one finds a diminutive form of the first-person singular pronoun [...], historically derived

from a plural form, that can be used to elicit empathy and mark self-deprecation. [...] Where honorific forms and structures are particularly salient, as in Western Polynesia [...] and Java [...], such forms frequently become incorporated in the affect-display repertoire of speech-community members. (Besnier 1990: 422–423)

## 5 Affective meaning in syntax

Different lexico-syntactic constructions can be found around the world to denote emotion. For example, Krawczak and Glynn (2015) discuss three surprise-encoding constructions in English: [*what + the + NP*] (e.g., *what the hell*), [*to + my + NP*] (e.g., *to my shock*), and [*what + a + NP*] (e.g., *what a surprise*), with a progressive decline in mirativity (surprise) from the first to the last. In addition, the English construction [*adj*]-ly enough at the beginning of a sentence (e.g., *interestingly enough, oddly enough*) indicates that the ensuing proposition partakes in the quality referred to by the adjective to a surprising degree.

Another example of grammatical affective meaning can be found in Foolen's (2004) study of the construction [*an NP of an NP*] (e.g., *an angel of a child, a hell of a job*), existing in multiple Germanic languages. According to Foolen, the construction has two heads with two different functions: the second noun phrase (e.g., *child*) refers to the thing designated, and the first head (e.g., *angel*) expresses how the speaker *feels* about that something. Importantly, the affective meaning is not in the words, but in the grammatical construction; the construction itself informs the hearer that the speaker feels something about the designated entity. The specific feeling is not specified, though – it has to be inferred from the actual words used and their context.

Another example of affective meaning in grammar can be found in Polish, where the choice of case (nominative or dative) for the experiencer of an emotion indicates different types of affective episode: the dative highlights the subjective nature of the experience, while “the nominative construal highlights the experiencer’s active, volitional, controlled involvement in an interaction that has an objective or ‘public’ dimension. [...] when the verb allows both construals, it [the choice of case] highlights some features of the experience at the expense of others” (Dąbrowska 1994: 1029).

As for affective connotation in grammatical structures, many examples can be found in Besnier (1990), who claims, for example, that:

Depersonalization and affective distance can be communicated in impersonal constructions (e.g., it will be shown that this hypothesis is incorrect), agentless passives, or pronoun deletion in many languages. Such structures as inversion (e.g., and down he went into the ditch), left-dislocation (e.g. that man, I can’t stand him [...] ), topicalization, focusing [...], clefting of various types (e.g., What I really feel like is a cup of tea [...] ), and word-order variations in languages with relatively free word order are commonly assigned an “information packaging” function in descriptive linguistics [...], but they also carry affective meaning. (Besnier 1990: 425)

He further mentions that “in some languages, such as Japanese [...], a separate passive construction is reserved for events perceived as having an adverse effect on the grammatical patient” (Besnier 1990: 425). Similarly, in Russian, the figurative grammatical construc-

tion “to fall into [emotion]” is reserved for emotional states perceived to be bad for the emoter (Mostovaja 1995).

In English, verb aspect seems to carry affective connotations, too. Past imperfective phrases (e.g., “was burdening”) are perceived as more emotionally intense than perfective ones (“was burdened”) (Havas and Chapp 2016).

In Italian, syntactic reduplication (e.g., *adagio adagio*) is used to express the speakers’ certitude about the accuracy of their statement (Wierzbicka 1986). For example, Wierzbicka explains, “[i]n calling someone’s eyes *neri neri* the speaker insists that these eyes were really black – literally black [...] that no exaggeration is involved” (Wierzbicka 1986: 296). In other words, Italian reduplication communicates confidence and a desire to persuade on the part of the speaker. At the same time, Wierzbicka explicitly states that “the reduplication adds an emotional dimension to the utterance” (Wierzbicka 1986: 298) and that “it is the narrator’s emotion which is signaled directly by the reduplication” (Wierzbicka 1986: 299). In other words, in addition to confidence and a desire to persuade the hearer, Italian reduplication signals that the speaker feels something else (inferable from context) about the topic discussed (e.g., admiration, or distress).

## 6 Affective meaning in the lexicon

All languages have emotion terms (Wierzbicka 1999: 276), but the size of the affective lexicons varies considerably around the world, from languages with only 7–8 emotion words like the Malaysian Chewong, to languages like English with about 2,000 of them. Qualitative differences can also be found in the way different languages carve the affective space, with partial equivalence being the norm (cf. Pavlenko [2008] for types of partial semantic overlap). Although it is generally assumed that any meaning can be expressed in any language, oftentimes a paraphrase is needed to do so because of a lexical lacuna in the target language. Well-known lacunae in English include Japanese *amae* (sweet dependence), Russian  (melancholy-cum-yearning), or German *Schadenfreude* (happiness at somebody else’s misfortune) (see Ogarkova [2013] or Russell [1991a] for more examples).

Emotion words may even influence the very affective experiences we have, rather than just label them (Lindquist 2017). According to some psychological theories, language transforms into specific emotional categories what would otherwise be vague affective experiences. Put simply, according to these theories, language *creates* emotion by providing conceptual categories that guide perception and constrain representation beyond a vague experience of valence and arousal (Feldman-Barret 2009; Lindquist and Gendron 2013). Psychological theories in which language is given a less central role would still admit that the conscious linguistic categorization of our affective experiences is likely to change the way we feel (Gross 1998; Ochsner et al. 2004).

In the remainder of this section we will provide examples of how affect is both referred to and expressed by content words. Most of the time we will be referring to single-word constructions, although emotion terms can be multi-word structures as well, such as German loan *schicky micky* (which conveys disdain). Given the broad scope of the possible examples, we will articulate the discussion according to two variables: in the first section

we will provide examples according to grammatical class (emotion nouns, adjectives, verbs and adverbs). In the second section, we will discuss literal as opposed to figurative emotion words.

## 6.1 Emotion words and grammatical class

The same emotion root can have different meanings in different grammatical realizations. For example, *happiness* and *happy* seem to designate slightly different experiences. The adjective has a broader scope and can be used to designate cognitive or other states that are not strictly speaking *happiness*, such as being willing to do something (*happy to help*) or generally good (*a happy balance between X and Y*). In addition, some affective experiences can only be represented by a certain grammatical class. In English, for example, some emotion categories lack a nominal form (e.g., *moved*), a verbal form (e.g., *happy*), or an adjectival form (e.g., *to enjoy*). Languages differ in their preferred grammatical construal, too: the Australian language of Dalabon, for example, has 160 emotion words out of which only two are nouns (Ponsonnet 2014).

Grammatical construal itself confers semantic content to emotion categories. In claiming so we follow Langacker's (2008) thesis that “[a]n expression's meaning always incorporates a particular way of construing whatever content is evoked” (Langacker 2008: 4). Emotions are experiences, and this content can be conceptually represented as a “thing”, a “process”, or a “relation” (non-processual) by virtue of their grammatical construal as nouns, verbs, and adjectives/adverbs, respectively (Langacker 2008: 9–10). This has important implications, as we will see.

Nouns construe affective experience as “a thing”, entities essentially independent of the person that experiences them or the people involved in that situation. For that reason, when emotions are represented as nouns, it is easier to think about them as “natural kinds”, i.e., as things objectively existing in the world as a distinct category independent of human observation. However, language may not be the best evidence of “natural kinds”, as not all languages have nouns to designate emotions, and even if they do, they may be tapping on fairly different types of experience (cf. Ogarkova 2013). The word *emotion* itself is not a semantic universal either, and remains a relatively modern concept, appearing in the 19th century in substitution of more traditional words such as *passions* or *sentiments* (Dixon 2003).

When emotions are represented as adjectives, we profile a (non-processual) relationship between entities (Langacker 2008), in this case the emotion and the emoter. For example, in *Joe is sad*, “sadness” is represented as a quality of “Joe”. Maybe for this reason, emotion adjectives are often used in psychological studies to denote a more personal, more immediate affective experience (Galatti et al. 2008). Nevertheless, from a dimensional point of view, emotional adjectives do not seem to differ in meaning from their noun counterparts, at least in English (Soriano et al. 2017). Determining whether an adjective designates an emotion or not can be difficult. According to Ortony, Clore, and Foss (1987) it largely depends on grammatical context, namely on whether we consider them in the construction “being X” or “feeling X”. They stress that any adjective seems to be emotional in the second

case but, in their opinion, *bona-fide* emotion adjectives refer to an emotional state also when used in the construction “I am X” (e.g., *I am angry*, *I am sad*). Based on this linguistic criterion, Ortony (1987) questions whether guilt is an emotion indeed (cf. *I am angry* vs. *I am guilty*). While compelling, there are good reasons not to rely on this type of linguistic criterion to define what is or is not an emotion, because (a) it is language-specific, (b) the (un)acceptability of constructions in a language may not reflect psychological motivations, and (c) it may be that *bona-fide* emotions (by some other criterion) are labelled metonymically (e.g., through reference to its cause, as in the case of *guilt*).

Some languages, such as English or Dutch, favor nouns and adjectives for the representation of emotion, thus profiling the emoter and encoding emotions as personal inner states (Pavlenko 2008: 150; Semin et al. 2002: 20–21). By contrast, other languages, such as Polish, Russian or Chinese, preferentially represent emotion concepts as verbs, profiling interpersonal relationships instead, and encoding emotions as *processes*. This highlights their temporal, transient nature. These preferences could be due to cultural traits. According to Semin et al. (2002), individualistic cultures are more likely to use nouns/adjectives because they foreground the individual, whereas collectivistic cultures would favor verbs in order to profile emotions as interpersonal phenomena. Additionally, the use of nouns/adjectives as opposed to verbs to represent emotion may have important psychological consequences. It has been shown, for example, that using nouns instead of verbs to label controversial conflict policies reduces people’s negative emotion and affects their subsequent policy support, possibly because the noun construal is more abstract and backgrounds anyone’s specific agency (compared to verbs) (Idan et al. 2018).

To analyze the verbal construal of affect in a language, it is useful to distinguish at least three semantic “roles”: (i) the emoter/experiencer (the person undergoing the affective experience), (ii) the stimulus/cause/trigger (the “thing” motivating the emotional experience) and (iii) the emotion. The grammatical functions that these can adopt are language-specific. For example, Foolen (2012: 352) describes three types of grammatical construal for emotion verbs in West-Germanic languages, which can be roughly described as (formulation slightly adapted from his proposal):

- Experiencer-subject verbs: The emoter is the subject of a sentence with a transitive verb (*to love X*, *to fear X*, *to admire X*) or an intransitive verb (*to rejoice*, *to yearn*, *to ache*).
- Causative verbs: The stimulus is the subject and the emoter is the direct object of the sentence (e.g., *X pleases him*, *X saddens him*, *X scares him*).
- Unaccusative verbs: the stimulus is the subject and the emoter is the indirect object of the sentence. There is no direct object (e.g., German *Das gefällt mir*, that pleases “to me”).

More examples of the “grammar of affect” in English can be found in Bednarek (2008), who discusses the various combinations of roles and 15 emotion terms, revealing variation according to linguistic register. In other languages, like Samoan, Yiddish or Kaluli, the experiencer of certain emotions is frequently encoded as a locative modifier of the emotion-denoting verb, rather than as its grammatical subject (Besnier 1990: 424). Grammatical construal seems to reflect different conceptualizations of experience. For example, experi-

encer-subject verbs seem to convey a greater degree of control/responsibility over the emotion. As mentioned earlier, Dąbrowska's (1994) analysis of nominative and dative experiencers in Polish contends that, when the experiencer of an action is presented in the nominative case, as opposed to the dative, the phrase profiles "the experiencer's *active, volitional, controlled involvement*" in the event predicated (Dąbrowska 1994: 1029, emphasis added). Similarly, in Dholuo the emoter is found in subject position only for positive emotions, arguably because being responsible for positive emotions is socially acceptable (Reh 1998: 400). For negative emotions, the subject is more likely to be the emotion itself, thus backgrounding personal responsibility (Reh 1998: 394–395).

Affective adverbs, like adjectives, also construe emotion as a relation between two entities. They typically modify verbs (*responded angrily*) but can also accompany adjectives (*surprisingly good*) and other adverbs (*amazingly well*). A typical example of affective adverbs is intensifiers, words such as *very* or *really*, that complement the meaning of another word by indicating that a certain property holds to a high degree. Many intensifiers (*incredibly, impressively*) also communicate that the speaker is emotionally impacted by that degree. Foolen (2015) observes that, in Dutch as in English, intensifiers are often derived from words with negative connotations and reports examples such as *frighteningly beautiful*, *horribly funny*, *retarded delicious*, *stinkingly healthy*, and even the surprising *poop delicious*. According to Besnier (1990: 424), other English adverbs like *obviously*, *plainly*, and *allegedly* also communicate an affective stance, just as hedging constructions like *perhaps*, *sort of* or *loosely speaking*.

Finally, it is important to mention that, in addition to any general language tendencies, the preferred grammatical class to label affect is sensitive to register. Bednarek (2008), for example, found that, in English, news reportage and academic discourse favor nouns, whereas informal conversation favors a verbal adjectival style. This may reveal differences in the functions that emotion talk fulfills in those registers.

## 6.2 Emotion words and figurativeness

The words designating emotions can be literal (e.g., *surprise*, *sad*, *to fear*) or figurative (e.g., *depression*, *blue*, *to brighten up*). This distinction, however, can be considered one of degree (e.g., *pain*), which is particularly evident from a diachronic perspective, since many of our current literal emotion words have a figurative origin (cf. Section 2.1). For example, both English *glad* and German *heiter* 'joyous' seem to be etymologically associated to "brightness", while Hungarian *mérges* 'furious', Russian *jadovityj* 'angry' and Croatian and Serbian *jad* 'sorrow' are all etymologically related to "poison" (Györi 1998: 116).

Some emotional concepts cannot be referred to literally. An obvious example is the English "being moved", or "being touched". And in the African language Dholuo, there is no literal lexeme to refer to anger, "the only way to render such a situation is by way of figurative expressions" (Reh 1998: 392).

There are countless examples of figurative emotion language in English: *fall in love*, *panic stricken*, *bring joy*, *bridle anger*, *desire driven*, *get a grip*, *be sore*, *let steam off*, *explode*, *full of oneself*, *broken hearted*, *elevation*, etc. In addition to being metaphoric, a lot of this

figurative language has a metonymic basis, too, since we frequently refer to emotions by actually mentioning their effects (literal or imagined) on the body (e.g., *making somebody's blood boil*) and on behavior (e.g., *to snap at somebody*) (e.g., Iordanskaja 1986; Lakoff and Kövecses 1987). Body-based figurative language is indeed a universal way to talk about emotion (Wierzbicka 1999: 276).

Metaphor, we see, is pervasive when we talk about emotion. But this is not entirely surprising, for at least two reasons. First, metaphor in general (understood as a conceptual phenomenon, not as a linguistic "decoration") is pervasive in language as a whole. Conventional expressions such as "I see what you mean", or "I didn't catch the joke" may not be perceived as metaphorical, but they are in the sense that the original, more basic meanings of *seeing* and *catching* are related to sensorial perception and motoric action, not cognition. The second reason why much of what we say about emotion is figurative is that emotions are complex phenomena and rather abstract concepts. Metaphors in this case allow us to "pin them down" through more concrete, often sensory-motor experience.

It has been argued that metaphors are used to talk about abstract concepts (emotions included) not only because they increase their intelligibility, but also because they compactly pack a great deal of information, increase vividness, and enable creative conceptual elaboration (Crawford 2009; Fainsilber and Ortony 1987; Kövecses 1990; Lakoff and Johnson 1980). In addition, when we use metaphors (to talk about any topic), we communicate affect. Metaphorical language confers emotional intensity to the topic discussed (Citron and Goldberg 2014; Citron et al. 2016; Rojo, Ramos, and Valenzuela 2014), which makes the topic more salient and memorable (Adelman and Estes 2013; Kousta, Vinson, and Vigliocco 2009). When this topic is emotion, metaphorical language makes the emotion appear more intense (compare *intense anger* vs. *white-hot anger*, *furious* vs. *rabid*). More metaphorical language is also found in the description of intense compared to mild emotions (Fainsilber and Ortony 1987). In sum, when metaphors are applied to the representation of emotion, metaphors both represent and express/elicit affect *at the same time*.

But why do metaphors convey affect? One reason may be that they evoke images that elicit emotions (e.g., *dirty pig*, *summer breeze*). Another mechanism may be embodied simulation. A lot of language processing involves an embodied mental simulation where, in order to understand the meaning of a word, we simulate the perceptual, somatovisceral or motoric features of the thing it designates (cf. Perceptual Simulation Theory; Barsalou 2008). So when we process motion language, we engage the motor cortex (Hauk, Johnsrude, and Pulvermüller 2004; Pulvermüller 2005), and when we process language related to olfaction, taste or texture, we engage the olfactory (Pomp et al. 2018), gustatory (Citron and Goldberg 2014) and somatosensory (Lacey, Stilla, and Sathian 2012) cortices, respectively. What is more, when we process language about light or darkness, our pupil involuntarily dilates or contracts accordingly (Mathôt, Grainger, and Strijkers 2017). Metaphorical language is particularly susceptible to this form of embodied processing because it typically evokes sensorial and motoric experiences (Gibbs 2006). Thus, by referring to a remark as *harsh* (as opposed to aggressive/cruel), we likely cause a perceptual re-enactment, because to understand what *harsh* means we need to simulate (neurally) what it feels like. This creates a much more vivid experience of what that remark felt like. If the thing talked about is emotion itself (*to explode*, *burning desire*, *dirty conscience*), metaphors actually help us *feel* the emotion depicted (Foolen 2012).

Maybe this is why some argue that metaphor is better than the literal lexicon to study emotion. According to Cairns (2016),

[...] it is the study of emotion metaphor, rather than the investigation of the sense and reference of emotion labels, that allows us to get as close as we can to the ways in which a culture [...] seeks to encapsulate the phenomenology of emotion in the intersubjective medium of language. What we get in these cases, through language and literature, is a sense of what it felt like, or at least what it was supposed in a given culture to feel like, to feel an emotion of a certain sort. (Cairns 2016: 11)

In addition to giving us a privileged sense of what emotions feel like, the study of metaphor reveals three important ways in which emotions are conceptualized in many languages. First, it highlights the fact that we represent emotions by means of their effects, primarily by construing them metaphorically as forces that affect us (Kövecses 2000), or metonymically through their results on our body and behavior. This suggests the effects of an emotion are the aspect of the emotion people most care about. Second, in languages like English that favor noun construal, emotions are represented as “things”, entities that exist independent of us, and with which we can interact. This is so pervasive that it does not seem metaphorical anymore. But emotions are events – they do not actually exist unless they are happening. And yet, we are used to thinking about them as independent objects or substances, sometimes represented as being inside the person. That is why we think of emotions as something we “have”, “take out”, “put aside” or “overflow with”. Third, metaphor studies reveal that all states (emotions included) are conceptualized as physical locations (or containers) we are “in”, “get into” and “get out of” (Kövecses 1990). This suggests, among other things, that we think of emotions as transient states. In the case of emotion, the specific construal of the location through specific verbs and prepositions reveals different types of emotional experience. For example, in Russian, emotions one “plunges/sinks into” are seen as long-lasting and introverted, emotions one “comes into” are short-lived and expressive, and emotions one “falls into” can be long- or short-lived, introverted or expressive, but in any case always bad (Mostovaja 1995).

## 7 Conclusions

Affect is everywhere in language. As illustrated in this chapter, linguistic constructions from all levels of analysis have been found to express/elicit affect or to refer to specific emotion concepts across languages. Some of those linguistic units may be better suited than others to express certain types of affective meaning. For example, Foolen (2012: 355) suggests that morphemes and syntax may only tap on valence, whereas the lexicon and interjections would also be able to refer to specific emotions. The evidence reported in this chapter disconfirms this possibility as an absolute law (e.g., Spanish suffix *-uchó* conveys contempt), although more research is necessary to determine whether the hypothesis holds true as a general trend.

The broad scope of this chapter, including several levels of linguistic analysis and both types of affective meaning (referring to affect and expressing affect) precludes us from discussing all linguistic phenomena worth investigation. In addition, a whole chapter

could have been devoted to the study of affect in discourse. Important affective discourse resources like punctuation, syntactic markedness, connectors, quotes, direct reported speech, metric, or genre (e.g., satire for scorn, elegy for sadness), among others, were left undiscussed. A possible theoretical framework to continue looking into these resources is Martin and White's (2005) appraisal theory, which studies how interpersonal (including affective) meanings are conveyed in discourse. Another fruitful paradigm is the study of attitudinal stance: attitudes, feelings and value judgments (e.g., Biber et al. 1999). Both approaches are useful to describe yet another area left untouched in this brief review: the *functions* of emotion talk and how they change in different linguistic and cultural contexts. For example, in a study of English registers, Bednarek (2008) found that we use emotion words in fiction to offer a characterization, whereas in academic discourse we use them to present a problem. As for cultural and grammatical variation, Semin et al. (2002: 26) speculate that the function of emotion talk in individualistic cultures (more prone to represent emotions through nouns or adjectives) would be analytical discussion, whereas in collectivistic cultures (more prone to verbal construals) the main function would be to elicit joint action.

Future studies in linguistic affective meaning should make a greater effort to differentiate emotion talk (referring to affect) from emotional talk (expressing/causing emotion), explicitly operationalizing the kind of affective meaning they attend to (e.g., dimensional, categorical), and investigating how context may modulate the default affective meaning of the units analyzed (if it exists). In addition, some form of universal metalanguage and ontology would be desirable for cross-linguistic comparisons in a domain, affect, where such striking differences have been reported both in the quantity and in the nature of the phenomena under investigation. These developments within linguistic practice can only benefit the research currently carried out in psychology and neuroscience on topics as relevant as the impact of language on affective experience (Idan et al. 2018; Lindquist 2017) or the processing of affective language in monolinguals, bilinguals, and other linguistic communities (e.g., Adelman and Estes 2013; Dewaele 2016; Knickerbocker et al. 2018; Xu, Kang, and Guo 2019).

More research is indeed necessary at all fronts to properly map the complex ways in which linguistic structures convey affect, and to what end. Besides, this can only be an interdisciplinary effort, since both language and emotion are interdisciplinary research areas themselves. For this communication to be fruitful, it is essential that some common ground be shared across disciplines in the affective sciences, including a basic understanding of the research done and concepts used in different domains. Although limited in scope, in this article I hope to have illustrated some of those interdisciplinary connections, particularly between linguistic and psychological research, on the representation and expression of affect and emotion in language.

## 8 References

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Cliff Goddard

## 24 Vocabulary of emotions and its development in English, German and other languages

- 1 Introduction and background
- 2 Semantic components and templates for emotion words: illustrations from English
- 3 Cross-linguistic differences: German versus English
- 4 Cross-temporal differences in emotion vocabulary
- 5 Concluding remarks
- 6 References

**Abstract:** This chapter is about the meanings of emotion words in everyday language. It employs a well-established approach to semantic description, the Natural Semantic Metalinguage (NSM) approach, which depicts meanings using paraphrases composed of simple, cross-translatable words. Numerous NSM studies have investigated emotion vocabulary in diverse languages. In broad agreement with many emotion theorists, the picture emerging from this research is that emotion words depict blends of feelings and thoughts, sometimes accompanied by potential bodily reactions.

Using examples from English and German, the chapter summarises findings about the semantics of emotion words of various kinds, including adjectives (e.g., *afraid*, *angry*, *ashamed*), verbs (e.g., *miss*, *worry*), and abstract nouns (e.g., *happiness*, *depression*). Considerable weight is placed on linguistic evidence such as usage patterns, collocational data, and phraseology. It is shown that the NSM methodology makes it possible to differentiate between similar-but-different emotion concepts in a single language, e.g., English *happy*, *pleased*, *satisfied*, between comparable words in different languages, e.g., German *Ekel* versus English *disgust*, and, where historical records are available, to trace how emotion words may change their meanings over time.

### 1 Introduction and background

The first question that needs discussion is: Why the focus on English? One reason is simply that English is the world's most intensively researched language. A second reason, not so simple, is that because of English's role as a scientific lingua franca, the words and categories of English are often treated as if they were language-neutral analytical tools, resulting in widespread conceptual Anglocentrism in the social sciences (Levisen 2019; Wierzbicka 2014). One of the aims of the present chapter is to show how this can be avoided and this entails highlighting the cultural and historical contingencies of English emotion vocabulary.

It might seem, then, that we face a paradox. How can English be safely used as a descriptive metalanguage for emotion words across languages when it can be shown that

most, if not all, English emotion words are not precisely translatable between languages? The only way forward is to ensure that the analysis is conducted using words which are readily cross-translatable between English and other languages.

This chapter employs the only system of semantic description based on cross-translatable words: the Natural Semantic Metalanguage or NSM approach (Wierzbicka 1999, 2006; Goddard 2011, 2018, 2021; Goddard and Wierzbicka 2014; Leisen 2012; Peeters 2006; Ye 2017, and other works). The approach depends on findings from a long program of cross-linguistic research which indicate the existence of a small set of elementary meanings (semantic primes) that constitute the basic building blocks of linguistic meaning in all or most languages. They are listed in Table 24.1 in their English and German versions. Comparable tables have been drawn up for about 30 languages.

**Tab. 24.1:** Semantic primes – English and German (Goddard, Wierzbicka, and Wong 2016).

I, YOU, SOMEONE, SOMETHING~THING, PEOPLE, BODY ICH, DU, JEMAND, ETWAS~DING, MENSCHEN~LEUTE, KÖRPER	substantives
KINDS, PARTS ARTEN, TEILE	relational substantives
THIS, THE SAME, OTHER~ELSE DIESE(R), DASSELBE, ANDERE(R)	determiners
ONE, TWO, SOME, ALL, MUCH~MANY, LITTLE~FEW EINS, ZWEI, EINIGE, ALLE, VIEL~VIELE, WENIG~WENIGE	quantifiers
GOOD, BAD GUT, SCHLECHT	evaluators
BIG, SMALL GROSS, KLEIN	descriptors
KNOW, THINK, WANT, DON'T WANT, FEEL, SEE, HEAR WISSEN, DENKEN, WOLLEN, NICHT WOLLEN, FÜHLEN, SEHEN, HÖREN	mental predicates
SAY, WORDS, TRUE SAGEN, WÖRTER, WAHR	speech
DO, HAPPEN, MOVE TUN, PASSIEREN, BEWEGEN	actions, events, movement
BE (SOMEWHERE), THERE IS, BE (SOMEONE/SOMETHING) (IRGENDWO) SEIN, ES GIBT, (JEMAND/ETWAS) SEIN	location, existence, specification
(IS) MINE (IST) MEIN	possession
LIVE, DIE LEBEN, STERBEN	life and death
TIME~WHEN, NOW, BEFORE, AFTER, A LONG TIME, A SHORT TIME, FOR SOME TIME, MOMENT ZEIT~WENN, JETZT, VOR, NACH, EINE LANGE ZEIT, EINE KURZE ZEIT, EINIGE ZEIT, MOMENT	time

**Tab. 24.1:** (continued)

PLACE~WHERE, HERE, ABOVE, BELOW, FAR, NEAR, SIDE, INSIDE, TOUCH	place
ORT~WO, HIER, ÜBER, UNTER, WEIT, NAH, SEITE, INNEN, BERÜHREN	
NOT, MAYBE, CAN, BECAUSE, IF	logical concepts
NICHT, VIELLEICHT, KÖNNEN, WEIL~WEGEN, WENN	
VERY, MORE	intensifier, augmentor
SEHR, MEHR	
LIKE~AS~WAY	similarity
WIE~ALS~WEISE	

**Notes:** Exponents of primes can be polysemous, i.e., they can have other, additional meanings. Exponents of primes may be words, bound morphemes, or phrasemes. They can be formally complex. They can have language-specific combinatorial variants (allolexes, indicated with ~). Each prime has well-specified syntactic (combinatorial) properties.

Semantic primes can be combined into phrases, sentences and texts in ways which also appear to be essentially language-independent, in the sense that the same combinations can be realised in all or most languages (despite formal differences in word order, case marking, etc.) Semantic primes and their associated grammar are the core elements of the Natural Semantic Metalanguage. For ease of expression, some language-specific variants and portmanteau expressions, e.g., English *else* for OTHER, *often* for ‘at many times’, are also allowed in the metalanguage. Using this metalanguage allows researchers to decompose complex, language-specific meanings into text-like configurations (semantic explications) of simple cross-translatable concepts. The natural semantic metalanguage, as the distinguished anthropologist Roy D’Andrade (2001) remarked, “offers a potential means to ground all complex concepts in ordinary language and translate concepts from one language to another without loss or distortion in meaning” (D’Andrade 2001: 246).

The accuracy of a given semantic explication is to be gauged by the extent to which it “mimics” and accounts for the semantic properties of the original expression (how well it substitutes into natural contexts of use, its relations with other words, entailments, implications, and so on), and the extent to which it satisfies the intuitions of native speakers. When devising explications, NSM researchers typically take account of a wide range of hard linguistic evidence, such as usage patterns accessible from linguistic corpora, collocational data, and syntactic patterns, including micro-syntactic constructional patterns. It is expected that a good semantic explication will allow an integrated account of a wide range of formal and distributional properties of a word.

There have been a great number of NSM studies into words for emotions and mental states. Anna Wierzbicka’s (1999) ground-breaking *Emotions Across Languages and Cultures* remains a major reference work. She and other NSM researchers, such as Felix Ameka, Anna Gladkova, Zhengdao Ye, Bert Peeters, Jean Harkins, Carsten Levisen, Carol Priestley, and Cliff Goddard, have explored emotion semantics in diverse languages including English, Russian, Polish, Chinese, Japanese, Malay, Lao, French, German, Portuguese, Danish, Ewe (Ghana), Mbula (PNG), Koromu (PNG) and Bislama. Many of these studies have appeared in edited collections such as Harkins and Wierzbicka (2001), Enfield and Wierzbicka

(2002) and Goddard and Ye (2016). NSM bibliographies and other resources are available at [nsm-approach.net](http://nsm-approach.net).

This chapter sets out to overview and synthesise NSM work into the cross-linguistic semantics of emotion vocabulary with special reference to English and German. It is a challenging task, not only on account of the great volume of published work, but also for two other reasons. The first is that the concept of “emotion” itself has unclear boundaries, and understandings of what is or is not covered by the term or its apparent equivalents may differ between languages, historical periods, and disciplines (cf. Dixon 2003; Wierzbicka 2009). It can well be argued, for example, that there is a significant meaning difference between the English word *emotion*, on the one hand, and the German words *Gefühl* and *Emotion*, on the other (Wassmann 2016). Space prevents any exploration of this complex topic here. The second reason is that from a linguistic point of view, the term “vocabulary of emotions” embraces a very broad range of lexical phenomena, including words from different parts of speech (e.g., adjectives, nouns, verbs, interjections), phrasemic units (e.g., idioms, psycho-collocations), and constructional semantics (e.g., experiencer constructions, alternations). This chapter concentrates on the lexical semantics of emotion adjectives, verbs and nouns.

## 2 Semantic components and semantic templates for emotion words: illustrations from English

NSM explications for emotion words link a feeling (usually a good or a bad feeling) with a prototypical cognitive scenario involving model thoughts and intentions (Wierzbicka 1999). That is, in everyday language, emotion words depict blends of feelings, thoughts and intentions. In this respect, NSM semantics is in broad alignment with componential appraisal theories in psychology (Ortony, Close, and Collins 1988; Scherer, Shore, and Johnstone 2001; Ye 2013).

The model thought in the cognitive scenario serves as a kind of reference point by which the nature of the associated feeling can be identified. For example, *joy*, roughly speaking, is a very good feeling linked with the model thought ‘something very good is happening now’; *sadness*, roughly speaking, is a bad feeling linked with the thought ‘something bad happened’; *remorse*, roughly speaking, is a bad feeling linked with the thought ‘I did something bad’. The content of the prototypical scenarios can be detailed, albeit it can be spelt out entirely in semantic primes. The prototypical cognitive scenario helps to differentiate the meanings of particular emotion words.

### 2.1 Common templates for English emotion adjectives

A key concept of NSM semantics is the idea of semantic templates (Goddard 2012). This simply means an organisational format or arrangement of component types which is shared by words of a particular semantic class or sub-class.

Someone X is *afraid*, *angry*, *ashamed*, etc. ... (at this time)

- a. this someone X thinks like this (at this time):

“— — — —

— — — — ”

model thought

- b. because of this, he/she feels something (very) good/bad

feeling

- c. like people often feel when they think like this

typicality

**Fig. 24.1:** Semantic template for many English emotion adjectives with verb ‘to be’.

Someone X feels *afraid*, *angry*, *ashamed*, ... (at this time)

- a. this someone X feels something (very) good/bad (at this time)

feeling

- b. like people often feel when they think like this:

“— — — —

— — — — ”

typicality

model thought

**Fig. 24.2:** Semantic template for many English emotion adjectives with verb ‘to feel’.

A widely applicable template for English emotion adjectives is shown in Figure 24.1. The template has three main sections. The section labelled (a) attributes a certain characteristic thought to the person experiencing the emotion. Section (b) links this thought with a resulting feeling, which can be good or bad (or, very good or very bad). The component in section (c) ensures that the feeling attributed to the experiencer is what would be expected in connection with the characteristic thought.

Overall, the idea is that being *afraid*, *angry*, or *ashamed*, or whatever, means being in a certain state of mind and because of that experiencing a certain kind of feeling, which is seen as typical of such a mental state. As such, emotion words are folk labels for what is variously called “a naïve picture of the human being” (Apresjan 2000: 102–104), a folk theory about “how people tick” or cultural model of a person (Holland and Quinn 1987; Sharifian 2011).

The template diagrammed in Figure 24.1 is tailored for sentences with the main verb ‘to be’. Another common sentence frame for English emotion adjectives uses the main verb ‘feel’. That is, instead of saying that someone *is afraid*, *angry*, or *ashamed*, one says that they *feel afraid*, *angry* or *ashamed*. The appropriate template for such ‘feel’ sentences is shown in Figure 24.2. The order of the components is reversed: the subject feels something good or bad like people often feel when they think like this.

As mentioned, this explication format enables subtle meaning differences to be modelled, largely on account of the great variety which is possible in the “model thought” section. This will be illustrated throughout the chapter, starting in the next section.

Before that, however, it should be mentioned that not every English emotion adjective follows these templates. There is a small sub-class (*surprised*, *amazed*, *astonished*, etc.) whose semantic structure includes an extra section depicting a prior event ('something happened, this someone knew something about something because of it') (Goddard 2015). Another small sub-class (*disgusted*, *repulsed*, etc.) includes an extra section describing a prototypical bodily reaction (see Section 3.2). It is also important to note that semantic templates are not necessarily exactly the same in other languages.

## 2.2 Three English examples: *afraid*, *angry*, *ashamed*

To illustrate how the cognitive scenario components shoulder the greatest burden in emotion explications, we now review three English emotion adjectives: *afraid*, *angry* and *ashamed*. These examples have been chosen because they are very different from one another, and because there is reason to believe that broadly comparable terms may exist in most languages (see Section 2.3). The following are sketch presentations. It is not possible in the space available to justify every detail of the explications.

English has a small suite of adjectives, e.g., *afraid*, *frightened*, *fearful*, *terrified*, which include as a central component the thought ‘something bad can happen to me’ or a variant. The word *afraid* is explicated in [A] below. According to the explication, *afraid* focuses on a real, tangible prospect, though not necessarily one that is immediate: one can be *afraid to cross the road*; *afraid to speak*; *afraid of the dog*; *afraid of death*. The experiencer is motivated to take some preventative action (to do something or not to do something) and there is an accompanying bad feeling.

### [A] Someone X is afraid.

this someone X thinks like this about something:  
 “something bad can happen to me because of this  
 I don’t want this to happen  
 I want (don’t want) to do something because of this”  
 because of this, he/she feels something bad  
 like people often feel when they think like this

The word *frightened*, in contrast, implies the thought that something is happening ‘now’ (implying an immediate, often sudden, trigger), while *terrified* is more intense, implying that something ‘very bad’ can happen, with a correlated ‘very bad’ feeling (cf. Wierzbicka 1999: 73–75). It is interesting to note the existence of first-person politeness formulas employing the word *afraid*, e.g., ‘I’m afraid to say ...’, ‘I’m afraid that’s not possible’. These need to be explicated separately.

Moving now to the English word *angry*, according to explication [B], the trigger thought involves a perceived bad situation ('something bad happened') which is seen to be due to someone's actions ('because someone did something'). Both these aspects arouse a “don’t

want” response from the experiencer and the impulse to ‘do something’. A notable point is that this action is not necessarily directed at the responsible person, but can include other “venting” actions, such as hitting the table. The semantic composition of *angry* needs to be differentiated from that of related English words and expressions, such as *annoyed*, *mad (at)*, and *furious*, and from similar-yet-different expressions in other languages, such as German *Wut* (Durst 2001).

[B] *Someone X is angry.*

this someone X thinks like this:

“something bad happened because someone did something

I don’t want things like this to happen, I don’t want someone to do things like this

I want to do something because of this”

because of this, he/she felt something bad

like people often feel when they think like this

The meaning of the word *ashamed*, explicated in [C] below, is not only rather English-specific, but has changed significantly over time (Wierzbicka 1999: 109–111). The first component of the thought section allows for one to be *ashamed* about a personal attribute, such as one’s appearance or humble origins, as well about something one has done, while the second envisages that ‘if people know about it, they can’t not think something bad about me’ (the expression ‘can’t not’ implying inevitability). The following component ‘I don’t want this’ is consistent with the impulse to hide or conceal the shameful fact, if possible. It can also be noted that the explication implies an element of “self-judgement”, often remarked upon by commenters on the concept of shame.

[C] *Someone X is ashamed.*

this someone X thinks like this:

“people can know something bad about me

if people know about it, they can’t not think something bad about me

I don’t want this”

because of this, he/she felt something bad

like people often feel when they think like this

The English word *ashamed* stands in contrast to its even more culture-specific cousin *embarrassed*, which implies unwanted personal attention (‘people are thinking about me now, I don’t want this’), among other things (Wierzbicka 1999: 112–116).

## 2.3 Universals and near-universals in cognitive scenarios of emotion words

Although semantic explications, taken as a whole, are typically language-and-culture-specific, this does not preclude the possibility that certain individual components or component combinations recur across most languages. After reviewing a range of cross-linguistic data, Wierzbicka (1999) hypothesised that the three combinations below can be found in

the cognitive scenarios of emotion words in all or most languages – with the possible addition of other, varying components in individual languages.

For convenience, these three configurations can be termed “fear-like”, “anger-like”, and “shame-like”. Interestingly, all three are associated with a negative feeling tone.

“fear”-like: – something bad can happen to me  
I don’t want this

“anger”-like – I don’t want things like this (to happen)  
I want to do something because of this

“shame”-like – people can think something bad about me because of this  
I don’t want this

Whether, or to what extent, these recurring themes are indeed manifested across all languages requires further research, but the general approach, i.e., seeking to capture hypothetical components in a tangible, testable form, opens the way to building a semantic typology of emotion concepts. See Goddard (2014, 2015) for parallel discussion of “disgust-like” and “surprise-like” concepts.

As well as seeking to identify any universal or near-universal semantic components of emotion vocabulary, one ought to be alert to the possibility that highly culture-specific emotion words may exist in certain cultural and historical environments, linked with prevailing social ideologies or belief systems. These may not only motivate typologically unusual combinations of semantic components, but draw on specific social categories or religious elements. Some emotions, for example, may be conceptualised as gender-specific or gender-typical, i.e., involving semantic molecules ‘men’ or ‘women’ (or, for that matter, ‘children’). It is also theoretically possible that some emotion concepts may depend on culture-specific semantic molecules, e.g., religious feelings connected with ‘God’.

## 2.4 Differentiating between closely related terms

Dictionary definitions typically blur the differences between closely related terms such as, for example, *happy*, *satisfied* and *pleased*. Many researchers in psychology effectively do the same when they stipulate, for example, that they regard *fear*, *fright*, and *anxiety* as designating a single “broad concept”. This disregards the fine-grained detail in the conceptual structure of these folk categories – distinctions which manifest themselves in usage patterns and other linguistic evidence, albeit they are often below the consciousness of native speakers. In this section, we see how three English near-synonyms can be differentiated using semantic explications.

The adjective *happy*, used in a sentence like *He was happy*, obviously implies that this someone felt something good for some time. For English *happy*, one further understands that this good feeling is linked with a certain frame of mind, a certain “positive attitude”, so to speak. This can be described with reference to the person’s thought that ‘good things

are happening to me now as I want' and that 'I can do many things as I want'. See explication [D].

[D] *He was happy (at that time).*

this someone thought like this at that time:

"many good things are happening to me now as I want

I can do many things now as I want

this is good"

because of this, this someone felt something good at that time

like people often feel when they think like this

In cross-European perspective, English *happy* diverges from its apparent counterparts in German (*glücklich*), French (*heureux*), Italian *felice*, Russian *sčastliv*, and many other European languages, in several ways: in indicating merely a 'good' (not 'very good') feeling, in being linked with perceived freedom of action, and in lacking anything to suggest that the state in question is unusual or likely to be short-lived; cf. Section 4.1 below. (It should be noted that the English word *happy* also has a second distinct meaning, in sentences like *I'm happy with the arrangements* or *I'm happy where I am*. It is perhaps debatable whether this second meaning, which is connected with the construction 'happy with', really qualifies as "emotional", but in any case, it will not be explicated here. A further complication is the use of *happy* in first-person formulas like *I'll be happy to show you around*. These also require separate explications.)

Now, how can *being happy*, in the emotional sense explicated in [D], be distinguished from *being pleased* and from *being satisfied*? The differences are subtle and language-specific. Both *pleased* and *happy* can be translated into German as *zufrieden*.

Of the two terms, *pleased* has the sharper focus, in the sense that it can refer to a particular event which is seen as enabling something that one has wanted (Wierzbicka 1999: 55–56). Typical examples are: *He was pleased with his performance*; *I'm pleased that you got the scholarship*. The combination 'something good happened, someone can do something because of this' in explication [E] is consistent with the fact that sentences like *They were pleased with the weather* can be found in sporting contexts.

[E] *He was pleased (at that time).*

this someone thought like this at that time:

"something good happened, someone can do something because of this

I wanted this"

because of this, this someone felt something good at that time

like people often feel when they think like this

*Satisfied* expresses a more complex and more qualified meaning. The starting point is the experiencer's wishes or expectations about someone's actions. The model thought implies that these wishes have been met: not entirely, but sufficiently that the experiencer doesn't want the person in question 'to do more now'.

[F] *He was satisfied (at that time).*

this someone thought like this at that time:

"for some time I wanted someone to do some things

I know now that this someone did some of these things  
 I think about it like this now: “this is good, I don’t want this someone to do more now”  
 because of this, this someone felt something good at that time  
 like people often feel when they think like this

Note that in the model thought of both explications [E] and [F], the word ‘someone’ can refer either to the experiencer him or herself or to someone else.

## 2.5 Common templates for English emotion verbs

So far, the explications have been for emotion adjectives, but emotions can also be described in English, and in many other languages, using verbs. In many languages, such verbs have distinctive grammatical properties, e.g., employing dative subjects, impersonal constructions, reflexive pronouns or particles. In English, however, they conform to the same sentence patterns that are found with physical activity verbs, i.e., they are “experiencer-subject” verbs. Examples include *miss*, *worry*, *grieve*, *rejoice*, *pine*, *sulk*, and *brood*, though only the first three (*miss*, *worry*, *grieve*) are particularly common.

The semantic template for these English verbs has an initial section about recurrent thinking, i.e., about how someone ‘often thinks’. Subsequent components associate this with a feeling. In the explication for (*to*) *miss* in [G] below, a key component of the model thought is ‘I know that I can’t be with this someone now’. This is worded in such a way that it can apply equally well to someone from whom one is separated by distance, e.g., *I’ll miss you while you’re away*, and to someone who has died, e.g., *I really miss my dear old grandma*.

[G] *Someone X misses someone else.*  
 this someone X often thinks like this about someone else:  
 “I was with this someone before  
 when I was with this someone, I often felt something good  
 I know that I can’t be with this someone now”  
 when this someone thinks like this, he/she feels something bad  
 like people often feel when they think like this

The verb (*to*) *worry* is a high-frequency verb in English (as are its grammatical cognates, the nouns *worry* and *worries*, and the adjective *worried*). These words suggest recurring thoughts about a current situation which holds the potential for something bad to happen. The experiencer wishes this not to happen and wants to do something, but what to do is not clear (‘I want to something, I don’t know what I can do’). As Wierzbicka (1999) remarks, these final components “indicate a kind of inner conflict and jointly account for the fruitless agitation implied by this concept” (Wierzbicka 1999: 85). Explication [H] is tailored to the sentence frame with a person as prepositional object, e.g., *He worries about his sister (his sister’s health, etc.).*

[H] *Someone X worries about someone.*  
 this someone X often thinks like this about someone:  
 “some things are happening to this someone now

something bad can happen to him/her because of this  
 I don't want this  
 I want to do something because of this, I don't know what I can do"  
 when this someone thinks like this, he/she feels something bad  
 like people often feel when they think like this

Though experiencer-subject emotion verbs are scarce in English, some languages, including German and the Slavic languages, have them in abundance.

In Slavic languages, such verbs can appear in several different grammatical frames. When they are found with a nominative subject (typically with the verb in reflexive form), the term “active emotion” is helpful, because in this grammatical frame, the meaning includes an additional component that depicts the person willingly turning his or her thoughts in a certain direction, i.e., ‘this someone wants to think like this ...’, or a variant. For example, a Russian sentence like *On grustil o nej* [he.NOM feel.sad-PAST.MASC about her] expresses a meaning something like ‘He was saddening himself about her’ or ‘He was making himself sad by thinking about her’.

## 2.6 English emotion nouns

In approaching the topic of emotion nouns, one must be mindful of grammatical differences between languages. In German, for example, many emotion meanings are routinely expressed in a *have*-construction with a noun, e.g., *Ich habe Angst* ‘I am fearful/worried’, cf. *Ich habe Hunger* ‘I am hungry’. There may be some systematic meaning differences between these constructions and their typical English counterparts which use ‘to be’ as copula, but this has not yet been investigated. However, both languages also allow emotion nouns to be used independently as discourse topics, in sentences like ‘Money can’t buy happiness’ or ‘We have nothing to fear but fear itself’, and these are the contexts we will consider here. We consider two English examples: *happiness* and *depression*.

Explications [I] and [J] are partial explications only, showing what NSM linguists term the “potential scenario” (‘it can be like this: ...’) associated with each noun, and, as the final line in each explication, a social evaluation component. In this way, I want to sidestep discussing the details of the top-most components of abstract noun concepts (Goddard and Wierzbicka 2014: ch. 9). Briefly, these components say that such nouns designate something that people can want to speak about when they have certain potential scenarios in mind – i.e., that abstract nouns serve to reify certain discourse topics. These high-level components, though important for grammatical semantics, are not relevant to the core content, which is located in the potential scenarios.

The main point of interest is that emotion nouns do not always express exactly the same content as the corresponding adjectives. In English at least, the nouns typically express “stronger” meanings. Comparing adjective *happy* with noun *happiness*, explicated in [I] below, we see that *happiness* involves the experiencer feeling something not merely ‘good’ but ‘very good’, and that there is an additional evaluational component at the end of the explication: ‘this is good for this someone’. This reflects the standing of *happiness* as an important value term of modern Anglo English (Goddard and Wierzbicka 2014: ch. 5).

(We return to this matter in Section 4.1, where a second, polysemic meaning of *happiness* will also be discussed.)

[I] *happiness* (as in ‘money can’t buy happiness’) [partial explication]

it can be like this:

someone thinks like this for some time:

“many good things are happening to me now as I want

I can do many things now as I want

this is good”

because of this, this someone feels something very good at that time

like people often feel when they think like this for some time

this is good for this someone

Similarly, if one compares the noun *depression* with the corresponding adjective *depressed*, it will be found that the noun designates a “stronger” and more serious condition than the adjective. It bears noting, of course, that in its current dominant meaning as a psychological condition, *depression* is a relatively new entrant to the English emotion lexicon, and that it is connected with a medical or clinical perspective. As a clinical condition, it is “defined” for psychologists and other health practitioners in the DSM-5 (the “Diagnostic and Statistical Manual of Mental Disorders” of the American Psychiatric Association).

The explication presented in [J], however, is not intended as a way of unpacking technical understandings of *depression* (cf. Wierzbicka 2018), but rather as a way of capturing the meaning of the word in lay English, e.g., in a sentence like *Depression is a problem for many teenagers today*.

[J] *depression* (as in ‘depression is a problem for many teenagers’) [partial explication]

it can be like this:

something very bad is happening to this someone

for a long time this someone often thinks like this:

“nothing good can happen to me

I can’t do anything good

I know that many people think bad things about me, they can’t not think like this”

because of this, this someone feels something very bad

like people often feel when they think like this

this is very bad for this someone

Finally, in this section, the reader should be reminded that the explications above are tailored to fit the uses of these nouns (*happiness*, *depression*) as discourse topic words. Slightly different explications will be appropriate when they are used in other contexts and constructions, e.g., *a moment of happiness*, or *he has depression*.

## 2.7 Other constructions: body-image expressions and psycho-collocations

Though space prohibits us exploring these topics, the existence of two further common emotional constructions should be noted. Wierzbicka (1999: 297–302) termed the first of

these “internal body-image” constructions, and hypothesised that they are present, to a greater or lesser degree, in all languages. English examples include *I was boiling inside (with rage)* and *My heart sank*. In some languages, such phraseology is extensive.

The second phenomenon, which may appear to overlap with body-image constructions, is often termed “psycho-collocation” (Matisoff 1986). This refers to a phraseme based on an ethnopsychological noun in combination with an adjective or verb, that designates an emotional state or personality trait. The ethnopsychological noun may be identical to a body-part word, such as ‘heart’ or ‘liver’ (Goddard 2001, 2008), or it may be closer to an English word like ‘soul’ or ‘spirit’ (Wierzbicka 2016; Peeters [ed.] 2019). In some languages, such phrasemes are extremely numerous in the domain of emotion.

### 3 Cross-linguistic differences: German versus English

This section examines cross-linguistic differences more closely, looking at two case studies of German-English differences.

#### 3.1. German *Angst*

In Section 2.1 we looked briefly at the English word *afraid*, explicated in [A]. This section focuses on the German word *Angst*, which is sometimes seen as the closest German counterpart of English *fear* (though *Furcht* would have an equal or better claim). In any case, *Angst* is clearly different in its meaning and range of use from English *fear*, and it is also different in its cultural and discursive status, since *Angst* is clearly a keyword of German language and culture (Wierzbicka 1999: 123–167).

To deal with the semantics first, [K] presents a partial explication. A central component, shared with *afraid*, is the thought that ‘something bad can happen to me’. Whereas with *afraid* this thought arises in connection with a concrete situation, in the case of *Angst* it arises instead from uncertainty: ‘I don’t know what will happen to me’. For this reason, *Angst* need not be focussed on anything in particular. One can say *Ich habe Angst* without having to specify the reasons. In its broadest reach, *Angst* designates what might be termed, from an English-speaking point of view, “existential fear”. One can of course have *Angst* in relation to specific situations or prospects, cf. compounds such as *Prüfungsangst* ‘exam Angst’, but the uncertainty factor is still highly prominent and of itself *Angst* need have no clear target, cf. e.g., *Zukunftsangst* ‘future Angst’.

Later in the cognitive scenario in [K], uncertainty appears again in the combination ‘it can be good if I do something because of this, I don’t know what I can do’, reminding one of a similar component in the explication of English *worry* (see explication [H]). Note also the presence of the sub-component ‘for some time’, both in relation to the thinking process and the associated bad feeling.

[K] *Angst* [German, partial explication]

it can be like this:

someone thinks like this for some time:

“I don’t know what will happen to me

something bad can happen to me

I don’t want this

it can be good if I do something because of this

I don’t know what I can do”

because of this, this someone feels something bad for some time

like people often feel when they think like this

Modern German thinkers, from Freud to Heidegger to Erich Fromm, have not hesitated to identify *Angst* as a central issue of the human condition, a theme presaged in the work of influential Danish philosopher Søren Kierkegaard (Danish *angest*). Looking further back in history, Wierzbicka (1999: 139–159) discusses the prominent role of *Angst* in the work of Martin Luther, whose Bible translation played a colossal role in the emergence of the modern German language.

In any case, the status of *Angst* as a cultural keyword in everyday German discourse is indisputable, linked with and reinforced by key German values such as *Ordnung* ‘order, orderliness’ and *Sicherheit* ‘certainty/security’, which together act, one might say, to reduce *Angst* (Cramer 2015). In its semantic specificity, its discourse prominence and phraseological productivity, and in its links with German cultural history, *Angst* ranks as a leading example of the cultural embeddedness of emotional meaning. (It is true that the word *angst* exists in English as a loan word from German and Danish, but compared with German *Angst*, it is quite minor in terms of frequency and discourse importance.)

### 3.2 German *Ekel* versus English *disgust*

“Disgust” might seem an unlikely candidate for cross-linguistic variation because at first blush it would seem to be rooted in human physiology. Nevertheless, the concept designated by the German word *Ekel* is more akin to English *revulsion* than to *disgust*. This is ironic since Anglophone discourse on “disgust” has been heavily influenced by the English translation of Kolnai’s ([1929] 2002) essay *Der Ekel*.

All three words, *disgust*, *revulsion*, and *Ekel*, and others such as English *repugnance*, French *dégoût*, etc., belong to a small sub-class of “aversive” words whose semantic template includes a section which describes a prototypical bodily reaction (Goddard 2014). The main differences between *Ekel* and *disgust* appear to concern these body-related components. To save space, only these components are presented in the partial explications given below.

[L] *Ekel* [German, partial explication]

...

this someone feels something very bad at this time

someone can feel something like this when this someone thinks like this in one moment:

“there is something very bad near me, I don’t want it to touch my body

it will be very bad for me if something like this touches my body"  
 often when someone thinks like this, something happens in this someone's body  
 because of it, not because this someone wants it

[M] *disgust* [English, partial explication]

....

this someone feels something very bad at this time  
 someone can feel something like this when this someone thinks like this in one moment:  
 "there is something very bad inside my mouth [m]  
 I don't want something like this inside my mouth [m]"  
 often when someone thinks like this, something happens in this someone's mouth [m]  
 because of it, not because this someone wants it

Comparing explications [L] and [M], one can note that both include 'this someone feels something very bad at this time' followed by a prototypical situation that involves a sudden thought about one's body, different in each case. This in turn is linked with a typical bodily reaction, again different in each case. For German *Ekel*, the situation and reaction involve the body as a whole: not wanting bodily contact with something 'very bad' which is nearby ('it will be very bad for me if something like this touches my body'), suggesting a reaction such as recoiling or shrinking away from something. Prototypical elicitors for *Ekel* include not only faeces, vomit, and foul food, but also rotting corpses, snakes, spiders, and teeming insects, which are hardly suitable for English *disgust*. For English *disgust*, the situation and reaction both involve the mouth: not wanting to have something 'very bad' in one's mouth, suggesting a reaction such as retching or spitting out (Goddard 2014).

To anticipate the discussion in Section 4, it is interesting to note that Miller (1997: 165) speaks of the need to "historicise" disgust. He states that before the word *disgust* entered the English language from French, the disgust-like words of medieval and Renaissance English texts, such as *loathe*, *abominate*, and *abhor*, showed no particular focus on the oral dimension. *Loathsomeness*, for example, "united all that was ugly, foul, hateful, hideous" (Miller 1997: 165).

## 4 Cross-temporal differences in emotion vocabulary

It would seem to be obvious that just as the meanings of emotion words can vary across languages, so too they can vary across different historical periods in a single language. Cross-temporal differences in emotion vocabulary are, however, often more difficult to identify than are cross-linguistic differences, particularly if the word in question has not changed its form over time. Cross-temporal differences are also difficult to study on account of the lack of native speaker consultants, the scarcity of attested examples in historical texts, difficulties with understanding context, and so on.

Fortunately, in recent years a new multidisciplinary field studying the "history of emotions" has emerged, drawing on cultural history, literary studies, text analysis and hermeneutics (Dixon 2003; Plamper 2015; History of Emotions Blog, [www.qmul.ac.uk/emotions](http://www.qmul.ac.uk/emotions)). This has focussed attention on the cultural and historical specifics of emotion terminology

and given rise to a new wave of scholarship which seeks to link “discourses of feeling” with politics, economics, social history, law and media history. Aside from its inherent interest, such scholarship has the beneficial side effect of helping to counteract monolithic, ahistorical and Anglocentric understandings of emotions, which are still prevalent in many academic disciplines. That said, history of emotions research is mostly conducted without any overarching framework for lexical-semantic analysis.

To show how NSM techniques of lexical-semantic analysis can be applied to emotion vocabulary over time, Section 4.1 summarises Wierzbicka’s (2010, 2011) account of the historical semantics of “happiness” in English (cf. Goddard and Wierzbicka 2014: ch. 5).

## 4.1 The changing meanings of *happiness* in English

The semantic history of the English word *happiness* is a particularly rewarding topic of study in view of the current status of *happiness* as a keyword in several global discourses (Levisen and Waters 2017), including in economics and social planning (e.g., Helliwell, Layard and Sachs 2018; Layard 2005), as well as in positive psychology, “happiness studies” and popular psychology (Bok 2010; Diener and Biswas-Diener 2008; Seligman 2002). In these various discourses, the word “happiness” is typically used as a broad cover term, sometimes alternatively glossed as subjective well-being, life satisfaction, or the like. The focus in this section is, however, on the changing meanings of the words *happy* and *happiness* in English. We will turn to broader implications at the end of the section.

Wierzbicka (2010, 2011) uses semantic explications to plot the changing meanings of *happiness* in the English language, drawing on evidence from the *Oxford English Dictionary* (OED), McMahon’s (2006) *Happiness: A History*, and a range of other historical sources and commentaries. The following is a thumbnail sketch.

When we pick up the story, in the 16th–17th centuries, the word *happy* usually appeared in an impersonal construction, as in examples (1) and (2) below (from the OED, given in modernised spelling). The OED defines the meaning at that time as: “having good ‘hap’ or fortune; lucky, fortunate; favoured by lot, position, or other external circumstances”. Essentially the same meaning is also present in OED examples with a personal subject, as in example (3) from Daniel Defoe’s *Robinson Crusoe*. During this period, the noun *happiness* could be used in the same (or a very similar) sense, defined by the OED as “good fortune or luck in life or in a particular affair; success, prosperity”, as in example (4). Wierzbicka argues that key components include ‘some very good things happened to someone, things like this don’t often happen to people’. Roughly speaking, then, *happy* started off meaning something like ‘lucky’ or ‘very fortunate’.

- (1) *It was happy for them that the weather was so fair.* (1533)
- (2) *It proved very happy for me.* (1734)
- (3) *I was so happy as not to be thereabouts at that time.* (1719)
- (4) *This also ... was a part of her happiness that she was never overlaid with two great worries at once.* (1614)

In the 16th century, the word *happy* came also to be used to refer to a person's state of mind, as in example (5). Presumably, it meant a very good feeling linked with thinking that one has been “very lucky” and that: ‘I can't want anything more now’.

(5) *Full as an egg was I with glee, And happy as a king.* (1732)

As the context of (5) makes clear, ‘being *happy*’ at this time indicated an intense and exceptional feeling state. The word was in no sense a cultural keyword, i.e., there was no cultural preoccupation with happiness and no “happiness discourse”.

In the 18th century, the OED records the development of a “weakened sense”, which it glosses as merely ‘glad, pleased’; essentially, a shift from a rare and intense state to a common and moderate one. Wierzbicka links this shift with a new political discourse, launched in 1728 by Francis Hutcheson and popularised by Jeremy Bentham, based around the idea of *the greatest happiness of the greatest number*. In this discourse, which spread like wildfire in 18th-century England, *happiness* becomes quantifiable, moderate, and accessible to people generally: “the natural human condition” (McMahon 2006: 218).

In terms of its semantic explication, Wierzbicka (2011: 165–166) proposes that in the “new” 18th-century conception of *happiness*, the feeling component has shifted from ‘very good’ to merely ‘good’; the earlier thought component ‘things like this don't often happen to people’ has disappeared; and the earlier thought component ‘I *can't* want anything more now’ has been toned down to the more moderate ‘I *don't* want anything more now’. She proposes explication [O], citing, among other contemporaneous evidence, Samuel Johnson's reported remark: “Happiness consists in the multiplicity of agreeable consciousness” (cf. Boswell [1791] 2008).

[O] *happiness* (18th-century English meaning)

it can be like this:

someone thinks like this for some time:

“something good is happening to me now

this is good

I don't want anything more now”

because of this, this someone feels something good at that time

like people often feel when they think like this

this is good for this someone

The weakened English sense of *happiness* explicated in [O] underwent further conceptual and semantic developments after it was transported to America. “Life, liberty, and the pursuit of happiness” were conjoined in the American Declaration of Independence as inalienable rights of all men. The phrase *the pursuit of happiness* not only became entrenched in the collective consciousness of America, but “through frequent repetition in many dominant areas of public life, shaped a new meaning of the word *happiness* itself” (Goddard and Wierzbicka 2014: 116). In this new meaning, the concept of *happiness* became linked with purposeful activity, i.e., with being able to ‘do many things’ as one wants (cf. the connection with *liberty*). Wierzbicka explicates this more “active” concept of *happiness*, which continues to exist in English to this day, as shown in [P]. This is repeated from

explication [I], with the addition of the subscript for reasons which will become obvious in a moment.

[P] *happiness*<sub>1</sub> ['happiness' as a state, repeated from [I])

it can be like this:

someone thinks like this for some time:

"many good things are happening to me now as I want

I can do many things now as I want

this is good"

because of this, this someone feels something very good at that time

like people often feel when they think like this

this is good for this someone

In the late 19th century a second, polysemic meaning emerged in which *happiness* was not an ongoing condition of life, as depicted in explication [P], but rather an "emotion". A key text in which this second meaning is on show is Charles Darwin's *The Descent of Man* ([1871] 1989). Darwin wrote: "Happiness is never better exhibited than by young animals, such as puppies, kittens, lambs, etc., when playing together, like our children" (Darwin 1989: 21.) As Wierzbicka comments: "it is clear that [this] [...] not the same *happiness* the pursuit of which was declared a century before an inalienable human right" (Goddard and Wierzbicka 2014: 120).

Later, in the 20th century, the adjective *happy* came to be used as an opposite of *sad*; e.g., in expressions like *a happy face* and *a sad face*. *Happiness* came to be treated in many contexts as a term on a par with *sadness*, *anger*, *fear* and *surprise*. Clearly, this additional meaning of *happiness* (which we may designate *happiness*<sub>2</sub>) is primarily about a feeling, rather than about thoughts. Explication [Q] for *happiness*<sub>2</sub> therefore starts with feeling and although there is a reference to prototypical thoughts, it contains no reference to any actual thoughts. There is no evaluative component either, i.e., no component 'this is good for this someone'.

[Q] *happiness*<sub>2</sub> ('happiness' as an emotion, feeling happy)

it can be like this:

someone feels something good for some time,

like people often feel when they think like this:

"something good is happening to me now as I want

I can do something now as I want

this is good"

Summing up, by the early 21st century the English word *happiness* has developed two closely related meanings: *happiness*<sub>1</sub> and *happiness*<sub>2</sub>, which correspond loosely to 'being happy (in one's life)' and 'feeling happy (for the moment)', respectively. *Happiness*<sub>1</sub> is the dominant meaning in the discourse of economists and social planners, while *happiness*<sub>2</sub> prevails in positive psychology, "happiness studies", and in popular psychology.

Far from being stable over time, the English word *happiness* has twisted and turned in meaning over the past several hundred years, impelled by cultural changes and new currents in discourse. In fact, we may say that looking into these changing meanings of *happiness* confirms the culture-specificity and cultural peculiarities of this English concept.

## 5 Concluding remarks

This chapter has reviewed empirical findings on the contrastive lexical semantics of emotion vocabulary, drawing on 25 years of research undertaken by linguists working in the Natural Semantic Metalanguage framework.

The theoretical and methodological advantages of this approach can be summarised as follows. First, the basic terms of the analysis (i.e., semantic primes such as SOMEONE, PEOPLE, FEEL, THINK, WANT, DO, HAPPEN, GOOD, BAD, BODY, and so on) are extremely simple in meaning and are not tied in any essential way to the English language. This safeguards the analyses from definitional circularity, wards off the danger of conceptual and terminological Anglocentrism, and provides an analytical platform which is equally suited to any human language.

Second, the method allows for various components of lexical meaning (e.g., feeling, thought, bodily reaction, typicality) to be teased apart and for individual components to be specified at a high level of granularity, thus allowing the construction of detailed explanatory paraphrases (explications) that capture multiple aspects of lexical meaning in a single integrated representation.

Third, as demonstrated in the chapter, the method enables fine-grained differentiation between similar-yet-different meanings of a single word (i.e., polysemic meanings), between near-synonyms in a single language, between comparable terms in different languages, and between changing meanings of a word at different times in different historical periods. Generalisations can be captured either at the level of semantic components or at the level of explication structure, using the notion of semantic templates.

The findings reviewed in the chapter show that the meanings of emotion words differ much more – across languages, across cultures, and across historical periods – than is commonly realized.

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## 25 The use of emotion lexicon in emotion research

- 1 Introduction
- 2 The universality of emotion
- 3 The identification of emotion lexicon
- 4 The dimensional ratings of emotion lexicon
- 5 Multilingual emotion lexicon
- 6 Conclusion
- 7 References

**Abstract:** This chapter reviews emotion lexicons in emotion research. In the last few decades, researchers have used and cited several emotion lexicons compiled by different research groups in a variety of languages. In general, there is no common framework to guide the compilation of these emotion lexicons. Researchers draw from several emotion lexicons compiled by different research groups and these lexicons are not only diverse in the way they are compiled, they also vary enormously in objectives, size and range. So far, the focus in this area of research is on collecting the emotion words for stimuli used in psychological experiments. Often these lexicons are handpicked by the researchers to satisfy certain requirements for the studies. Though we do have emotion lexicon in several languages such as French and Spanish, most of the existing lexicons are usually an adaptation of an English version. Since then, ensuing debate on the universality of emotion has also opened up discussions on how the emotion should be identified and measured. This chapter will trace the outcome of this debate and discuss the relevance of emotion lexicon as an emotion resource. Additionally, it will also present a multilingual MICE (Malay, Indonesian, Chinese and English) emotion lexicon which is built from within the language itself and not based on translation from English. Lastly, the chapter will highlight the relevance of emotion lexicons in computational linguistics.

### 1 Introduction

The complexity of emotion and how it should be defined has presented a challenge to thinkers throughout the ages, from classical philosophers like Socrates and Plato to contemporary scholars on emotion. As pointed out by Phillips et al. (1998: 373), emotion is seen differently by different scholars and it depends on which element we are focusing on. It can be a response to an arousing stimulus (dualist/feeling), a reinforced behavior

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(behaviorist) or a cognitive evaluation (cognitivist). Since it is difficult to agree on a single definition of emotion, researchers have started to move away from trying to entirely impose a prescription on emotion, towards describing it.

Some researchers on emotion seek to describe emotions through observing the tangible manifestations of emotion, e.g., facial expressions (Ekman 2003; Ekman and Keltner 1997) and brain activity (Herbert, Pauli, and Herbert 2011; LeDoux 2000). Interestingly, though language is one of the tangible manifestations of emotion, the attention to language has only emerged in the last 15 years. Majid (2012) aptly noted that emotion is present in every facet of language, from sounds to words and to utterances and discourse, and hence provides a productive window onto the study of emotion. The relationship between language and emotion has been extensively studied by using a variety of approaches, such as the crosslinguistic approach, the psycholinguistic approach and the corpus approach (Bednarek 2008). Through focused studies on specific languages, researchers have looked for answers about the identification of emotion, the appraisal and regulation of emotion and the universality of emotion by scrutinizing occurrences of emotion in verbal expressions. On the basis of these observations, they have made inferences about cultural differences and cognitive construals. One major effort in this area is the work of several research teams to build or compile an emotion lexicon or a list of emotion words which contain emotion attributes. This chapter will review existing emotion lexicons that researchers have used in past decades and discuss their relevance in the preparation of a sentiment resource, an important facet of communication involving artificial intelligence as it contains a repository of information about emotion words, expressions and phrases in a given language.

## 2 The universality of emotion

According to the naturalistic view, which emphasizes biological factors, emotion is seen as a result of human's shared experiences which are similar across culture (Ratner 1989). Ekman and Keltner (1997) provide support to this view by showing how people from different cultures can label the pictures of facial expressions of different emotions correctly. The results of this study form the basis of the concept of basic emotions, which is now widely known. Ekman and Cordaro (2011: 369) define basic emotions as our universal bodily reactions towards circumstances in life that are inherited rather than affected by our surroundings. Thus, in his schema, emotion terms that are considered as basic emotions are comprehensible across cultures since people are assumed to have the same experiences towards these emotions. However, the proposal of universal basic emotions by Ekman and his research team is not uncontroversial. Different studies have different criteria of basic emotions. In reality, it is difficult to find consensus among researchers in this area on what emotions can be considered as basic emotions. For example, despite the fact that both studies are based on facial expressions, Ekman (2003) identified seven basic emotions (Happiness, Sadness, Anger, Fear, Contempt, Disgust, Surprise) while Jack, Garrod, and Schyns (2014) only listed four basic emotions (Glad, Mad, Sad, Scared).

Despite the controversy, the literature has more or less settled on seven basic emotions. There is far less certainty when it comes to quantifying the number of emotion words within

languages. So far, there is no consensus on how many emotion expressions should one expect in any given language. The number of emotion words reported can range from only seven words in Chewong, an Austronesian language spoken in Malaysia (Howell 1984), to more than 2,000 words in English (Russell 1991). The lack of agreement about number of emotion words is in itself not entirely surprising, as contingent on the question of “how many emotion words are there in a language” is the issue of what is meant by “what is an emotion” or “what is meant by an emotion word”. Without some standardized guidelines, it is predictable that different research groups will compile different numbers of emotion words and assemble a range of words that vary enormously in semantic fields.

In contrast to the naturalistic view, the social constructionist view believes that emotion is not only based on anatomy or biology but also closely related to culture and social norms (Niemeier and Dirven 1997; Ogarkova 2007). Wierzbicka and Harkins (2001: 3–4) argue that emotion is far from being universal since cultural identity, which is reflected in the emotion lexicon, is often untranslatable. An example that has often been used to demonstrate this is the word *amae* in Japanese, which means “to depend and presume upon another’s love or bask in another’s indulgence” (Doi 1992: 8). No word in English can be used to translate *amae* in Japanese. Furthermore, even though we can find the translation of an emotion expression in another language, the same expression typically carries a different concept. This is also true for emotions that are considered as basic emotions across different studies (e.g., anger). In Malay, the word *marah*, which is often translated as ‘angry’, refers to personal offense rather than general annoyance as it does in English (Goddard 1996). Unlike the word ‘angry’ in English, the Malay word *marah* can only be used to express anger toward someone/something but it cannot be used to describe a public demonstration of outrage. Another example is the concept of *en* ‘gratitude’ in Mandarin Chinese, which connotes more than ‘gratitude’ culturally as it is an emotional debt that binds people together inextricably. The *en* that a son or daughter owes the parent for raising them can never be repaid and forgetting *en* is one of the most terrible character traits you can ascribe to someone. While disgust is universal, the antecedent for *disgust* is different in Japanese, Korean, Hindi and Malayam (Han, Kollareth, and Russell 2016; Kollareth and Russell 2017; Ng and Liu in this volume; Russell and Sato 1995) and therefore not translatable into *disgust* in English.

Such examples of the non-translatability of emotion expressions across languages abound in the literature (see Ogarkova [2021] for a comprehensive review on this topic). Lomas (2016) showed how the untranslatable emotion words across languages spread through different emotions, such as joy, love, hope, longing, etc. In Russian, *revnost* ‘jealousy’ carries the concept of jealousy in intimate relationships or in sibling rivalry. It does not include the concept of jealousy towards other people’s good fortune (Pavlenko 2008). In Indonesian, the word *gemas* ‘an intense feeling to squeeze something/someone’ can be used to express anger and/or love (Susanto 2022). This also has no equivalent in English. The expression *stenahoria* ‘discomfort/sadness/suffocation’ in Greek has no parallel in English, just like the word *frustration* in English, often translated as ‘disappointment’, has no parallel in Greek (Panayiotou 2004). Generally, there is incontrovertible evidence that, across languages, it is very difficult to find identical sense for emotion expressions and therefore translational equivalents are rare. While it is true that emotion is embedded in

our biological human experience naturally (e.g., people will shake when they are in fear), the rich volume of examples from across cultures show that emotion words can carry different emotional values across languages. Therefore, it is important to examine the existence of emotions in the context of the culture they are in. The starting point of any research on emotion in any language and cultural group is the need to identify the emotion category and the emotion expressions. In the next section, we are going to further discuss the questions of how we can identify the emotion words in a language and how we can measure them.

### 3 The identification of emotion lexicon

As we can see, though an emotion may be universal, the exact sense or intention of a specific emotion varies across languages. A set of emotions that exists in one language might not be present in another language. And even if a term does exist, it may vary in its sense and application. In effect, we carve out our affective space differently across languages much like any other semantic domain. (For example, *cups* typically have handles in English, but in Chinese, its equivalent, *bēizi*, does not need to have a handle.) Essentially, each cultural group will lexicalize the concept based on what the group considers to be salient and relevant. To make matters more complex, this is also a dynamic process and our semantic space can be moderated over time through language and cultural contact.

The need to address the nature of emotion across cultures has spurred researchers to do a thorough study to identify what can really be regarded as emotion words in a language. The very first step to do this is to understand what we are looking for. Previously, words were merely divided into concrete and abstract words. Emotion words were first conveniently categorized under abstract words (Pavlenko 2008). Several studies, however, have shown that although both are intangible words, emotion words are not processed in the same way as abstract words (Altarriba and Bauer 2004; Altarriba, Bauer, and Benvenuto 1999). In spite of being the least concrete, emotion words proved to be the fastest to recall and the most memorable in comparison to concrete and abstract words (Altarriba and Bauer 2004). Thus, researchers working in this field find it necessary to separate emotion words from non-emotion words, as emotion words as a category seem to affect response patterns in a unique manner.

Earlier work used a propositional analysis approach to identify emotions in a language. In this approach, the syntactic frame of “he has a feeling of X” and “he feels X” (Wallace and Carson 1973) as well as the syntactic frame of “feeling X” and “being X” (Ortony, Clore, and Foss 1987) are used to identify emotion words. “X” in the syntactic frames is supposed to be filled with the identified emotion words, for instance “he feels happy”. This approach has been criticized due to its limitation of identifying emotion words only in European languages, such as English and French, in which emotion words are always in a form of nouns and adjectives (Pavlenko 2008). Pavlenko (2008) points out that this approach is biased to producing more emotion word counts in European languages and lower word counts in languages that use more verbs to describe emotion, such as Polish.

The methods we see here are used for the purpose of selecting emotion words to answer the question of what the emotion words are in one language. However, this approach only creates an emotion lexicon which consists of a list of emotion words. It cannot tell us how or why an emotion word is similar or different from other emotion words. It also cannot tell us whether emotion words in one language are evaluated in the same way as those in other languages in crosslinguistic comparison. In order to compare them, we need to have detailed information on the emotion profile of the emotion words. In the section below, we will focus on answering the next question of how emotion words are measured to derive an emotion profile of the emotion words.

## 4 The dimensional ratings of emotion lexicon

Emotion words have distinctive features that differentiate them from one another. They can belong to the same emotion category, but it does not mean they carry the exact same emotional weight. For instance, *melancholy* and *grief* belong to the emotion category of sadness but they are qualitatively different. The differences among the emotion words are also reflected in the mapping of emotion words in Plutchik's Wheel of Emotions (Plutchik 2001) and the Geneva Emotion Wheel (Bänziger, Mortillaro, and Scherer 2012). Emotions are not only divided into positive and negative emotions (valence-based). They can also be ranked based on their level of arousal/intensity, e.g., rage-anger-annoyance (high-low intensity) (Plutchik 2001), and control/power, e.g., anger vs. sadness (high vs. low control) (Bänziger, Mortillaro, and Scherer 2012).

In order to determine the emotion profile, the semantic difference needs to be measured. The dimensions used to measure emotions are varied – activity and potency (Osgood, Suci, and Tannenbaum 1957); pleasure and arousal (Russell 1980); valence, intensity, and duration (Zammuner 1998); valence, arousal, and dominance (Bradley and Lang 1999; Fairfield et al. 2017; Imbir 2016); pleasantness, activation, and imagery (Whissell 1989); valence and arousal (Ferré et al. 2012; Ferré et al. 2017; Kanske and Kotz 2010); arousal, valence, dominance, concreteness, imageability, and familiarity (Montefinese et al. 2014; Scott et al. 2019); valence, arousal, dominance, and familiarity (Liu et al. 2021). As we can see from the previous studies on dimensional ratings, intensity (high-low) and valence (positive-negative) are the two dimensions that are commonly used. The studies on the dimensions of emotions have resulted in dimensional rating databases of emotion lexicon.

Currently, there are numerous dimensional rating databases of emotion lexicon across languages (see Table 25.1). The Affective Norms of English Words (ANEW), the Dictionary of Affect in Language (DAL), and the Berlin Affective Word List (BAWL) are among the most highly cited emotion databases. The objective of these databases is to perform semantic mapping across languages and to compare emotion fields. The dimensional ratings of the emotion lexicon in one language are compared and contrasted with those in other languages in order to capture their similarities and differences. For instance, Soares et al. (2012) compared the dimensional ratings of emotion lexicon in their European Portuguese adaptation of the ANEW with the original American English ANEW (Bradley and Lang 1999) and its Spanish adaptation of ANEW (Redondo et al. 2007). They discovered that European

Portuguese speakers generally have lower emotional reactivity to the ANEW words in comparison to the American English and Spanish speakers. The American English speakers have the highest score in the dimension of valence, while the Spanish speakers have the highest score in the dimension of arousal.

However, the comparability of the adaptation versions across languages is actually problematic. This is because the adaptation of the database is based on the translation of the original English version. As mentioned above, emotion words are culturally bound and often there are no direct translations. The concept that an emotion word carries can vary quite drastically from one language to another. For instance, the emotion word *malu* ‘shame’ entails the emotion of fear in Indonesian, while *schaamte* ‘shame’ in Dutch is more closely related to anger (Fontaine et al. 2002). The use of translated equivalents means that we are examining translated emotions and not the emotion that is culturally applicable or relevant. In cases where there is variation, any data collected would, at best, be imprecise or, at worst, erroneous. The subsections below will discuss the three commonly cited emotion databases mentioned above (the ANEW, the DAL, and the BAWL/BAWL-R) in detail.

## 4.1 The Affective Norms of English Words

Bradley and Lang (1999) developed the Affective Norms of English Words (ANEW), which is a collection of 1,034 English words. These words are rated with respect to three dimensions – pleasure, arousal, and dominance. In 2010, it was reported that the lexicon had been expanded to 2,476 words (Bradley and Lang 2010). In this study, the researchers compiled a list of words from previous psychological studies on emotion, i.e., Mehrabian and Russell (1974) and Bellezza, Greenwald, and Banaji (1986). If we tracked down the origins of the list further, we would find that they actually came from a word book of English words (Thorndike and Lorge 1944, cited in Bellezza, Greenwald, and Banaji 1986) and questionnaires to measure semantic differences (Mehrabian and Russell 1974). The selected words from those studies were then given to American English speakers to rate based on what they felt about those words. Each word had to be given three different ratings on a 9-point scale: the rating for pleasure ranged from “unhappy” to “happy”, the rating for arousal ranged from “calm” to “excited”, the rating for dominance ranged from “controlled” to “in-control”. The list of affective words was created to complete other forms of standardized materials (i.e., International Affective Picture System and International Affective Digitized Sounds) to be used in the experimental study of emotion and attention.

The ANEW has been (fully/partially) adapted into several languages, such as Spanish (Redondo et al. 2007), European Portuguese (Soares et al. 2012), German (Schmidtke et al. 2014), Italian (Montefinese et al. 2014), Indonesian (Sianipar, van Groenestijn, and Dijkstra 2016), Greek (Palogiannidi et al. 2016), Ukrainian (Khomutova 2016), among many others. The adaptations of the ANEW are often compared with each other, and there have been repeated reports that the same words in one language can have different ratings in another language. For instance, Soares (2012) found that American English speakers rated the emotion words more positively (higher valence ratings) than European Portuguese speakers and Spanish speakers. This supported the postulation that the same emotion words can

have different semantic values in other languages, as in the case of *angry* and *marah* in Malay (Goddard 1996) in Section 2. In addition to that, the adaptations of ANEW also allow a more fine-grained crosslinguistic comparison (e.g., culture and gender). Sianipar, van Groenestijn, and Dijkstra (2016) found that male Indonesian speakers rated the emotion words lower in terms of their arousal and dominance dimensions than male American English speakers and Spanish speakers. They report that males tend to suppress their emotions in collective cultures like Indonesian.

## 4.2 The Dictionary of Affect in Language

Whissell (1989) also produced a list of 4,323 English emotion words and its dimensional ratings called the Dictionary of Affect in Language (DAL). In the beginning, only the dimensions of evaluation and activation were studied. The words in this study were gathered by the researcher from emotion words used in other emotion studies (i.e., Conte and Plutchik 1981; Russell 1980; Whissell 1981) and common English words (i.e., West 1953). The participants were asked to rate each word on a 7-point scale for evaluation/pleasantness and activation/arousal. Towards the end of 2000, the DAL was revised and updated (Whissell 2009). The list currently has 8,742 words, which are rated for their pleasantness, activation, and imagery. The additional words were taken from the list of the highest frequency words in the Brown University Corpus (Kučera and Francis 1967). This caused a shift in the way Whissell (2009) chose the wordlist used in the survey. The original DAL focused more on emotion words, while the revised version focuses on the common words in natural English language. In the new DAL, the three dimensions (pleasantness, activation, and imagery) were rated on 3 binary scales for each word by Canadian English speakers, instead of 7-point scales as were used in the old DAL: pleasantness (unpleasant – in between – pleasant), activation (passive – in between – active), and imagery (difficult to envision – in between – easy). This study has been replicated in Spanish by Ríos and Gravano (2013).

The original DAL is more similar to the ANEW. Both are a list of dimensional rating of emotion words. Meanwhile, the wordlist in the new DAL consists of words from natural language samples (corpus) rather than emotion words. The selected words are commonly used words with high frequency occurrences in the Brown University Corpus. Therefore, it can be used to do text analysis, i.e., to examine the emotional undertones in a text. Whissell (2008) demonstrated how she used the DAL to analyze the report on a shooting incident in Ireland. After scrutinizing the words in the shooter's utterances during a standoff, she concluded that there was a change in emotional vectors over time. The words used by the shooter moved gradually to higher unpleasantness and activation by the end of the incident when he finally decided to fire his gun and kill the officers after hours of dialogue. This kind of study is potentially beneficial for use in other cases to evaluate emotion shift. For example, it can be used to predict the risk of suicide and to prevent it by examining the diary or the clinical notes of a patient.

### 4.3 The Berlin Affective Word List

Similar to the ANEW and DAL, Võ, Jacobs, and Conrad (2006) created the Berlin Affective Word List (BAWL), which is a database consisting of 2,200 German words and their dimensional ratings with respect to valence and imageability. Like the ANEW, this wordlist aims to provide stimulus materials in the experimental study of how people process emotion words. In this study, the words were taken from a lexical database known as the CELEX (EU legislative event database). However, while the ANEW and DAL include three-word classes (nouns, adjectives, and verbs), the BAWL only include verbs and nouns in its wordlist. The participants were asked to rate the list on a 7-point scale: valence (very negative – very positive) and imageability (low imageability – high imageability).

In 2009, the BAWL was updated to the BAWL-R (The Berlin Affective Word List Reloaded) (Võ et al. 2009). The BAWL-R consists of more than 2,900 German words and their dimensional ratings (valence, imageability, and arousal). Besides a new dimension (arousal), this list also includes a new word class (adjectives) (2,107 nouns, 504 verbs, and 291 adjectives). Another difference between the BAWL and the BAWL-R is that, in the latter, the participants were asked to rate words on a 5-point scale specifically for the dimension of arousal. This is because the participants in the pilot study showed that fine-graded ratings for this dimension were not needed. This list has also been adapted for other languages, such as Polish (the Nencki Affective Word List or NAWL) (Riegel et al. 2015).

**Tab. 25.1:** Emotion research on the dimensional ratings across languages.

Languages	Studies	Number of emotion words
Dutch	Moors et al. 2013	4,300
English	Eilola and Havelka 2010	210
	Citron, Weekes, and Ferstl 2014	300
	Janschewitz 2008	460
	Bradley and Lang 1999	1,034
	Bradley and Lang 2010	2,476
	Ng, Susanto, and Cambria 2021	8,683
French	Warriner et al. 2013	13,915
	Ric et al. 2013	524
	Monnier and Syssau 2014	1,031
Finnish	Bonin, Méot, and Bugaiska 2018	1,659
	Eilola and Havelka 2010	210
German	Söderholm et al. 2013	420
	Grühn and Smith 2008	200
	Schmidtke et al. 2014	1,003
	Võ, Jacobs, and Conrad 2006	2,200
Italian	Võ et al. 2009	2,900
	Montefinese et al. 2014	1,121
European Portuguese	Fairfield et al. 2017	1,121
	Soares et al. 2012	1,034

**Tab. 25.1 (continued)**

Languages	Studies	Number of emotion words
Spanish	Ferré et al. 2012	380
	Hinojosa et al. 2016	875
	Gavilán et al. 2021	1,252
	Guasch, Ferré, and Fraga 2016	1,400
	Ferré et al. 2017	2,266
	Ríos and Gravano 2013	2,500
	Stadthagen-Gonzalez et al. 2017	14,031
Polish	Imbir 2015	1,586
	Imbir 2016	4,905
	Riegel et al. 2015	2,902
Chinese	Liu et al. 2021	2,061
	Ng, Susanto, and Cambria 2021	3,347
Indonesian	Sianipar, van Groenestijn, and Dijkstra 2016	1,490
	Ng, Susanto, and Cambria 2021	6,657
	Ng, Susanto, and Cambria 2021	3,553
Malay	Ng, Susanto, and Cambria 2021	

## 5 Multilingual emotion lexicon

As we can see above, most of the studies in this area are dominated by research on European languages, such as English, French, German, Spanish, among many others. They usually concentrate on building a monolingual emotion lexicon. Some of them translated the existing emotion lexicon and created adaptations in other languages. The presence of the emotion lexicons and their adaptations can serve many different purposes. The emotion lexicons were firstly created for the purpose of being used as a stimulus in a psychological experiment (e.g., the study on emotion and attention). In addition to that, the adaptions of the lexicons allow us to do crosslinguistic studies on emotions. They uncover how emotion is influenced by language and culture (e.g., individualism vs. collectivism). However, the use of translation in the adaptations is still an issue we need to address. We have demonstrated above how a word in one language can have a different emotion value from its translation (e.g., ‘shame’ *schaamte* and *malu*). If this is the case, then how can we be sure that the comparisons we are making across languages are valid?

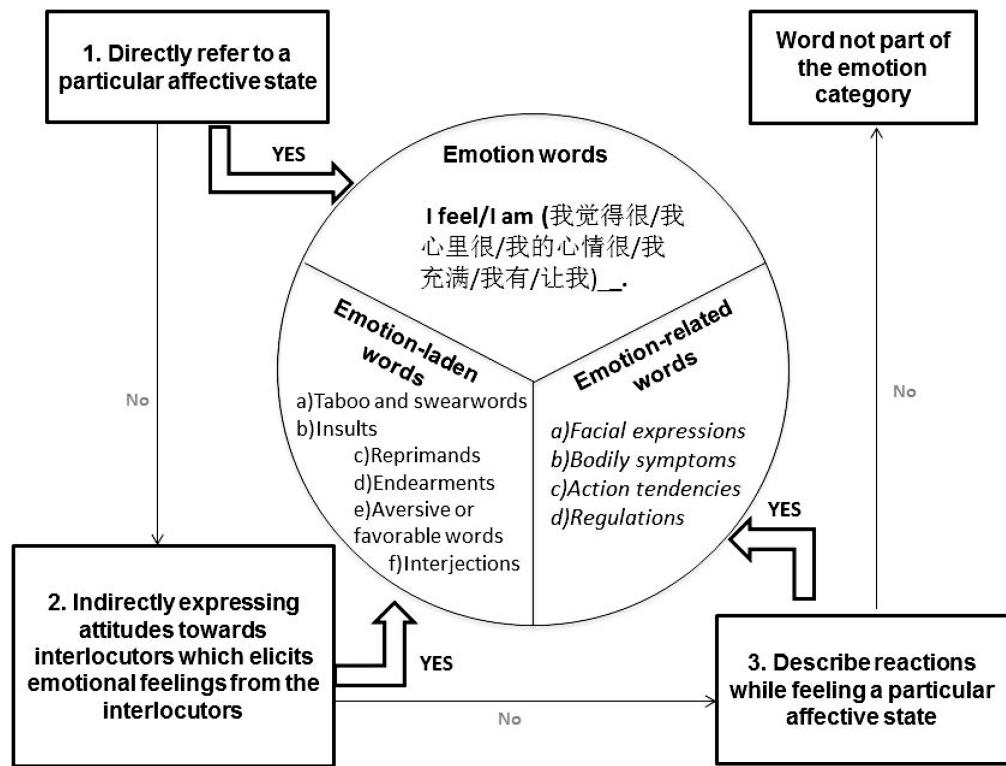
The first thing that we need to do is to make sure that we create a lexicon by using a more objective method that is not dictated by experimental needs or influenced by translation. Ng, Susanto, and Cambria (2021) built a multilingual emotion lexicon of four different languages –Malay, Indonesian, Chinese, and English (MICE). The emotion words in each language are not the translation version of each other. Native speakers of each language (a team of 8–12 language consultants) manually culled the emotion words from a dictionary by using the classification of emotions by Pavlenko (2008) – emotion words, emotion-related words, emotion-laden words (see section 3 of Ng, Cui, and Cavallaro 2019). Emotion

words are words which denote an emotion state (e.g., sad and happy) or a process (e.g., to worry and to rage) directly. Emotion-related words are words which describe our behaviors in relation to emotion (e.g., to scream and to cry). Emotion-laden words are words which can be used to evoke emotions in our interlocutors (e.g., cancer and malignancy). Unlike emotion words, both emotion-related words and emotion-laden words usually do not refer to the emotion terms directly. So, for example, one could scream in anger, in sadness, in joy or in fright. Hence, “scream” is emotion-related. In the same way, swear words, endearments or exclamations such as *yuck* or *eww* are emotion-laden as they are linked to an emotional state.

The research assistants were first trained to identify emotion words, emotion-related words and emotion-laden words as described in Pavlenko (2008) (see Section 3). This is an essential step, unlike in other lexicons where often no clear criteria were used. In other studies, emotion words were usually selected by the researchers from previous emotion studies (Bradley and Lang 1999, 2010; Whissell 1989) as well as from a corpus (Whissell 2009) or database (Võ, Jacobs, and Conrad 2006; Võ et al. 2009). The selected emotion words in these studies were categorized as one lexicon without any distinctions among emotion words, emotion-related words, and emotion-laden words. Words describing an emotion state (e.g., happy) were not treated differently from words that trigger emotions (e.g., cancer). Consequently, we end up with different numbers of emotion words in different lexicons.

Naturally, comparing lexicons across languages is even more difficult when using such methods as in the earlier studies, i.e., translation and adaptation. There are no language-and cultural-neutral methods to create an emotion lexicon in a language. When translation and adaptation are used, the risks of mistranslation or missing important emotion concepts are very high. In Ng et al. (2021) the research assistants worked in pairs to discuss the annotation and categorization of each word based on the rubrics set up by Pavlenko (2008), and any unresolved instances were discussed with the research team until inter-rater reliability reached 100 %. Figure 25.1 shows the process of how emotion words are culled. This lexicon also has detailed information on the senses of each word, the part of speech, the focus of the emotion (self-focused/other-focused), etc. This information is missing in other lexicons we discussed, where the process of inclusion or exclusion of words in the lexicon were not clearly described. This additional information is useful as it allows users to know what and how each word is categorized. Additional annotation is also useful in many contexts. For instance, *mad* (sense 1) as in ‘he is mad at me’ (*mad*: angry) should be treated differently from *mad* (sense 2) as in ‘I’m mad about you’ (*mad*: very interested in something/someone).

The next step is to assign the emotion values for each word. Native speakers of the studied languages were asked to rate the valence and intensity of 20–30 emotion words in a single session using an online survey. The online survey collects 2,000–3,000 participants in each language. As a result, the data obtained from the survey are statistically robust and more reliable than other studies on emotion lexicon above. The ratings are on a 10-point scale for both valence (1: extremely negative; 10: extremely positive) and intensity (1: extremely low; 10: extremely high). Participants were also asked to assign each of the emotion words to one of the seven basic emotion categories – anger, happiness, disgust, sad-



**Fig. 25.1:** Sample framework for classifying emotion words (Ng et al. 2016).

ness, fear, contempt, and surprise (Ekman 2003). Biographical data and language use patterns were also collected to look at possible variables affecting the way the participants evaluate the valence and intensity ratings.

The presence of this multilingual corpus benefits emotion research in many ways. Firstly, a crosslinguistic comparison can finally be made in a more neutral way. The emotion terms are culled using the same method rather than merely translation or adaptation. Secondly, clear distinctions among the emotion terms are also established, ensuring that emotion words describing an emotion state are differentiated from behavior related to emotions (emotion-related words) and entity-triggering emotions (emotion-laden words). This distinction matters for psychological experiments as it has been shown that speakers do process these emotions differently. Pessoa and Ungerleider (2004) point out that people pay less attention to emotion-laden words than to emotion words. Zhang et al. (2017) support this finding and show that emotion-laden words trigger smaller emotion activation in our brain in comparison to emotion words. Emotion-laden words also tend to have fewer synonyms and are processed more slowly but are recalled better than emotion words (Kazanas and Altarriba 2015; Knickerbocker and Altarriba 2013). Similarly, Altarriba and Basnight-Brown (2010) suggest that the Affective Simon Effect is more pronounced for emotion words than for emotion-laden words. Therefore, as Wang, Shangguan, and Lu (2019) cautioned, not making a distinction between these categories of emotion words may influence the

outcome of any experimental studies. For researchers working on emotion lexicon, these subtle cognitive differences are also useful and telling parameters to fine-tune discussion of emotion words.

This more objectively compiled emotion lexicon can also contribute to the field of computational linguistics. It can provide additional emotion concepts for sentiment resource to improve the accuracy of polarity detection in sentiment analysis (Susanto 2022). As discussed earlier, there are numerous emotion concepts that are impossible to translate. In most cases, the missing concepts affect the accuracy of sentiment detection. The existence of the emotion corpus provides the complete sets of the emotion concepts for sentiment analysis. Often, these concepts may not be fully captured by machine translation, a method commonly used in the construction of sentiment resource. Another issue is the discrepancies in emotion values. For instance, sadness expressions are not always evaluated as a negative emotion in Indonesian. Words related to ‘pity’ (*iba*) and ‘longing’ or ‘yearning’ (*menanggung rindu*) are considered to be positive words of sadness, while *duka* ‘grief’ and *kemuraman* ‘gloominess’ are negative sadness. With the availability of this detailed information in the corpus, the performance of the sentiment resource can be enhanced. Such details can also be used to extract emotion words from texts or to find out about variation in emotion lexicon in bilinguals, etc. Most crucially, by adopting a common set of guidelines, this current approach also yields an emotion lexicon that is comparable across languages. Table 25.2 shows the number of emotion words (excluding emotion-related and emotion-laden words) across the four languages studied by Ng, Susanto, and Cambria (2021).

**Tab. 25.2:** Number of emotion words in each language (Ng, Susanto, Cambria 2021).

Emotion words	
Mandarin Chinese	953
English	665
Indonesian	609
Malay	349

Knowing that the compilation of these lexicons followed the same guidelines made comparison across these languages meaningful. The fact that the lexicons were compiled from original sources and not translations also means that culturally relevant variables are taken into account.

As each emotion word is also annotated for parts-of-speech, it is possible to compare the frequency of nouns, adjectives and verbs across languages. Across the four languages, we also see variation in the size of the emotion lexicon. We were able to make a comparison showing that emotion words in Mandarin Chinese are predominantly verbs (40.2%) and adjectives (47%) compared to nouns (8.5%). This is in contrast to English, which only has a small proportion of emotion words expressed as verbs (12.9%). This result is consistent with previous studies on emotion that show how different cultures have different ways of expressing emotions (Ogarkova 2021; Pavlenko 2002; Wierzbicka 1994, 2004). Individualis-

tic cultures tend to use more adjectives and focus on internal states, while collectivistic cultures tend to use more verbs and focus on personal/interpersonal processes or relations (Pavlenko 2008; Semin et al. 2002). For instance, *furious* (adjective) in English has to be translated into *发怒 fānù*, literally ‘make rage’ (verbal phrase) in Mandarin Chinese. No adjectives in Mandarin Chinese can convey the same emotion concept. This is but one of countless such examples for Chinese speakers. Oyserman and Lee (2008) speculate that this shows that the language that we speak not only reflects our culture, but also shows the way we think and relate to each other. The fact that English uses fewer emotion expressions in the form of verbs in comparison to Chinese may suggest that English speakers as a whole are less likely to encode emotions as personal/interpersonal processes or relations compared to Chinese speakers.

## 6 Conclusion

This chapter provides a description of the recent developments in emotion research, particularly those which are related to emotion lexicons. The discussions focus on the debates on the universality of emotion and the reviews on how emotion can be identified and measured. The process of building a multilingual emotion lexicon is also described in this chapter. It shows how an emotion lexicon can be built in a language- and culture-neutral way without depending on translation. Effective sentiment analysis is dependent on accurate tagging of emotion information in text. The availability of an emotion lexicon that is sensitive to cultural context is an important first step towards an emotion resource for sentiment analysis. This will tremendously enhance the accuracy of the sentiment resource in detecting and determining the emotional valence and intensity of any given text in a language in the future. Some practical examples of its uses are to track and categorize responses in product reviews or to track emotion in social media.

## Acknowledgments

This research is supported by the Ministry of Education, Singapore, under its Academic Research Fund Tier 1 (RG145/16). Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not reflect the views of the Ministry of Education, Singapore.

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## 26 Emotions and figurative language

- 1 Introduction
- 2 Figurative language
- 3 The metaphor-metonymy continuum
- 4 Cultural models
- 5 Metaphors and metonymies of emotion
- 6 Conclusion
- 7 References

**Abstract:** Emotions are expressed in various nonverbal and verbal ways. Verbalizing one's emotions means speaking about a fairly abstract topic, which is frequently the reason for speakers to turn to figurative language. As there are hardly any concrete ways to speak about abstract topics such as emotions, metaphors and metonymies are used. The fact that these often rely on cultural models and frequently have a bodily basis helps to give these conceptualizations and expressions a more tangible essence.

The article first discusses the notions of metaphor, metonymy and cultural models, which all play a role in the verbalization of emotions, before describing the metaphor-metonymy continuum. This is followed by an overview of predominantly cognitive-linguistic publications focusing on emotion expressions, mainly with respect to the English language, partly based on the account presented by Kövecses (e.g., 2000, 2008), currently the most widely known and discussed theory. Some selected examples are then analysed in more detail, such as figurative emotion expressions connected to the concept "heart", e.g., *she broke his heart* or *this filled my heart with joy*, as well as the use of colour terms in figurative emotion expressions, e.g., *he was red with anger* or *she was green with envy*.

### 1 Introduction

As the present contribution adopts a linguistic perspective, it mainly concentrates on how emotions are conceptualized and expressed. Foolen (cf. 2012: 349) states that language reflects conceptualizations of emotions and at the same time expresses emotions, i.e., language has both a direct and an indirect link to emotion. However, as it is impossible to speak about emotions without first having defined this concept, a working definition needs to be provided. This will most probably differ to a certain extent from the definitions given in other contributions in the volume at hand.

In the present context, emotions are not seen as universal phenomena. Instead, cross-cultural differences are presumed. This ties in with Wierzbicka's (1999a) claim that all concepts of emotions have a cultural basis. Even the term *emotion* itself is seen as a culture-

specific concept by Wierzbicka. Given her interest in the Natural Semantic Metalanguage approach (e.g., Wierzbicka 1996; Goddard 2011), she prefers the term *feeling*, which has turned out to be a semantic primitive, i.e., it exists in all languages which have so far been analysed in Natural Semantic Metalanguage research, and can therefore be seen as a universal semantic concept. Wierzbicka sees emotions as cognitively based feelings, and such feelings can be either good or bad (or neutral). Wierzbicka even argues that “the English word emotion [...] with its characteristic combination of three components (related to feeling, thinking, and the body) does not have exact equivalents in other languages. In fact it embodies a concept which is itself an artifact of the English language” (Wierzbicka 1999b: 24) and goes on to claim that the term “emotion” can therefore be seen as ethnocentric. Furthermore, Wierzbicka draws a “distinction between feelings based on thoughts and purely bodily feelings” and states that “the word emotion, too, is only used in ordinary language with respect to thought-related feelings, never with respect to bodily feelings such as hunger” (Wierzbicka 1999b: 27–28). This focus on emotions as thought-related feelings is what the current contribution uses as a working definition when talking about emotion(s).

Wierzbicka furthermore claims that in all languages, emotions can be related to “externally observable bodily events” (Wierzbicka 1999b: 54) or “conventional body images, that is, expressions referring to imaginary events (and processes taking place inside the body used as a basis for describing the subjective experience of feelings assumed to be based on thoughts, such as *my heart sank* in English)” (Wierzbicka 1999b: 62). In other words: emotions can be described by figurative language, which is what is analysed in more detail in the remainder of this text.

As a working definition, emotions are therefore understood “as connections between the body and the cortex, via the sympathetic and/or the parasympathetic nervous systems” (Niemeier 2008: 356), whereas feelings are seen as “mental concepts that we come up with when we experience specific bodily sensations” (Niemeier 2008: 356–357).

## 2 Figurative language

Whereas in literary analysis, figurative language has frequently been seen as having a merely ornamental function (cf. Bowdle and Gentner 2005; Lakoff 2008; and many others), linguistics sees it as being far more than decorative. Instead, it is believed to be ubiquitous and pervasive, and does not only appear in literary texts but also – and especially so – in everyday language. Many uses of everyday figurative language are conventional and do not contain novel, aesthetic language material. What is more, figurativity is not only pervasive in language but at the same time pervasive in thought, although thought can of course only be accessed by how it appears in language. It is probably no exaggeration to claim that “figurative meaning is part of the basic fabric of linguistic structure” (Dancygier and Sweetser 2014: 1). These everyday uses are of vital interest to Cognitive Linguistics, and especially research on metaphor has been flourishing over the last three decades. An important aspect in Cognitive Linguistics is the notion of “embodiment”, i.e., that language

use is highly dependent on people's concrete knowledge about the human body, which is then used to talk about other, more abstract domains.

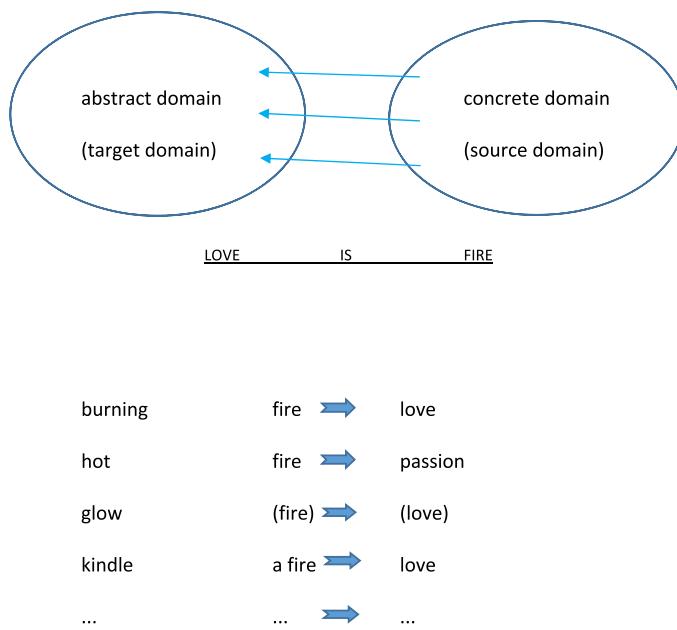
According to Dancygier and Sweetser (2014: 4), *figurative* means that a usage is motivated by a metaphoric or metonymic relationship to some other usage, a usage which might be labelled *literal*, whereas *literal* refers to a meaning which is not dependent on a figurative extension from another meaning. The following sub-sections briefly explain the notions of metaphor and metonymy before discussing their interaction as well as their fusion in cultural models.

## 2.1 Metaphor

One of the most important research areas within Cognitive Linguistics relates to the ubiquitous phenomenon of metaphor. Lakoff and Johnson (1980) have developed Conceptual Metaphor Theory, which maintains that not only do people speak in metaphors but that also their thought processes are organized by metaphor. The term *metaphor* does not relate to the poetic metaphors that are analysed in literature but instead to everyday metaphors used in everyday communication. Lakoff and Turner (1989) actually argue – and prove – that all poetic and literary metaphors ultimately rely on the same conceptual metaphors used by all people of a given culture. Poets and writers are just better at producing innovative and outstanding linguistic metaphors than the common person is. If poets' and writers' conceptual metaphors underlying their linguistic metaphors were not known to the audience, it would be difficult to understand literary texts correctly.

Metaphors are defined as meaning extensions of basic terms. These extensions do not have an objective basis but are instead subjective and relate two different domains of knowledge to each other. Conceptual metaphors are image-schematic ideas in people's minds, which they can access in order to produce an utterance, i.e., a linguistic metaphor which is in accordance with the overarching conceptual metaphor. For example, the conceptual metaphor LOVE IS FIRE yields the linguistic metaphors *he has the hots for her*, *she was burning with love*, *a spark of sexual attraction* and many more. A conceptual metaphor, such as LOVE IS FIRE, is in the language user's mind and is in most cases never uttered itself, but the linguistic utterances which relate to this conceptual metaphor all transport its essence. There is no end to a language user's creativity when it comes to producing novel linguistic metaphors, which necessarily are all instantiations of a given conceptual metaphor.

Conceptual metaphors are used for providing understanding, especially the understanding of highly abstract domains such as time, life, love, death and emotions. There are no concrete expressions for these abstract domains, therefore expressions are taken from more concrete domains (the so-called source domains) and mapped onto the abstract domains (the so-called target domains). As all of figurative language, metaphors reflect patterns of cognition, which are then mapped from the source domains onto the target domains. For instance, in the LOVE IS FIRE example provided in the previous paragraph, the target domain is grounded in people's general knowledge about the concept "fire". In the mappings from the source domain onto the target domain, not the totality of meanings from the source domain is used but only those aspects that are relevant for what the lan-



**Fig. 26.1:** The conceptual metaphor LOVE IS FIRE.

guage user wants to express. If a language user, for instance, wants to focus on the intensity of a feeling of attraction (as in *she was burning with love*), the temperature aspect as well as the aspect of uncontrollability are highlighted, whereas other aspects of “fire” are rather toned down, for instance, its colour or to a certain extent the potential destruction a fire might cause (see Figure 26.1).

The conceptual metaphor LOVE IS FIRE (suggesting that intense love feels like intense heat) maps only certain features of the concrete source domain “fire” – a concept which everybody has certain experiences with – onto the abstract target domain “love”. Kövecses calls the conceptual metaphor LOVE IS FIRE “the most important metaphor concerning the intensity of love” (Kövecses 1986: 86) and enumerates its sub-understandings such as “increased body heat, increased heart rate, blushing” (Kövecses 1986: 87) as its experiential basis, i.e., as the physiological effects that have given rise to linguistic metaphors such as *I felt hot all over, he is a heartthrob* or *she glowed with love*. The domain of “love” is extremely hard if not impossible to describe without resorting to metaphors, which is actually the case for all emotional domains. The features mapped onto the target domain of “love” from the source domain “fire” focus, for example, on its onset, its intensity, its effects, its potential danger, etc.

However, it is not the case that there is only one conceptual metaphor for each of the abstract domains, as various alternative conceptual metaphors can exist and are used according to what a speaker wants to express or what s/he believes. For instance, love cannot only be seen as fire but also as a journey, as a bond, as a disease and so on (cf. Kövecses 2000). On the other hand, the number of conceptual metaphors is limited, unlike the number of its linguistic instantiations, which is endless and added to on a daily basis.

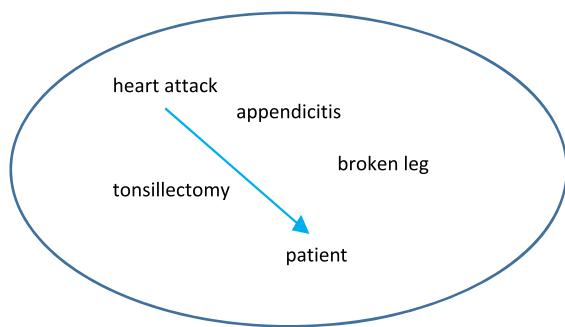
There is an ongoing debate in Cognitive Linguistics concerning the question whether conceptual metaphors are universal phenomena or whether they are rather culture-specific (cf., e.g., Kövecses 2005). It seems to be the case that most conceptual metaphors are indeed culture-specific, but that some of them are (near-) universal, especially those whose source domains relate to the human body, which is of course similar all over the world. The linguistic metaphors, on the other hand, are always language- and culture-specific.

## 2.2 Metonymy

Metonymy, another important process of meaning extension of basic words which can yield figurative expressions, is even more pervasive than metaphor in language and thought (cf. Dancygier and Sweetser 2014: 4) and also in cultural practices. As Dancygier and Sweetser claim, “it often crucially underlies the evocation of other figurative structures, such as metaphor and blending” (Dancygier and Sweetser 2014: 5). However, an academic interest in metonymy came up a lot later than that in metaphors, possibly because metonymy is so ubiquitous that it has long been taken for granted and was not even noticed anymore.

Traditionally, metonymy has been seen as a relationship of contiguity. The main difference to metaphor is that metonymies can be, but need not be, figurative, whereas metaphor always involves figurative language. While metaphor includes two domains (i.e., the source domain and the target domain), metonymy only involves one domain. It highlights one aspect of the domain in question, i.e., the *vehicle*, in order to refer to the complete domain, i.e., the *target*. For example, *the heart attack in room 333* refers to a person in a hospital scenario, whose heart attack is an outstanding feature in this hospital frame (see Figure 26.2), and *the ham sandwich has asked for the bill* refers to a customer in a restaurant who ordered a ham sandwich, where it is quite useful (and common) to differentiate between customers by what they ordered. The metonymic expressions stay within the same scenario/frame of either a hospital or a restaurant, but the expressions used go beyond their primary meanings. Metonymy is a “stand-for”-relation: X is used to stand for Y in order to highlight a certain aspect of the scenario in question, whereas in metaphor, X is described via Y in order to provide understanding. Just like metaphor, metonymy is not just a stylistic or linguistic device, but a conceptual one. Furthermore, metonymy is always closely related to the culture in which it is used (e.g., in Germany, people do not speak of “The White House” if they want to refer to the government), much more so than metaphor.

Metonymy establishes relationships of correlation, i.e., focuses on entities which occur together in human experience, so that the correlated entities are associated with each other and the word for one entity can be used to evoke the other entity (e.g., *heads* stands for “intelligent people”, such as in *We need some new heads for the IT department*, whereas *hands* stands for people doing manual work, such as in *Give me a hand, son!*), or else, entities are associated with each other which are co-experienced in a single setting (cf. the “heart attack” and the “ham sandwich” examples above). The productive presence of figurative processes, constantly creating novel and “creative” meanings, happens against (and is supported by) a backdrop of widespread conventional meaning networks motivated by the same kinds of processes.



hospital scenario / frame

**Fig. 26.2:** The metonymy *the heart attack in room 333*.

As emotions frequently correlate with physiological changes or symptoms, these symptoms can be used in a metonymic way in order to refer to the emotions themselves. For instance, when people are said to be *red with anger*, then this expression refers to their heightened blood pressure which lets the veins shine through, especially in their faces, or, on the other hand, when people are said to be *pale with fear*, the lowered blood pressure lets them appear pallid. The expressions *red* and *pale* are not to be taken in their literal meanings, as these people may not look any different than before they experienced the emotions in question, but in both of these cases (and in many others, of course) the meanings of these expressions are common and widespread cultural understandings which rely on a metonymic basis.

### 3 The metaphor-metonymy continuum

Both metaphor and metonymy are strategies of meaning extension and have traditionally been treated as different, even opposing issues. On the other hand, they have a lot of commonalities, as they both involve the notions of “domains”, “frames”, “idealized cognitive models (ICMs)” and “source/target” viz. “vehicle/target”. For these and other reasons, it is sometimes quite difficult to differentiate between a metaphor and a metonymy. Such observations have engendered research on their possible interaction and relatedness (cf., among others, Dirven and Pörings 2003).

Metaphor as well as metonymy can be seen as conventional mental mechanisms, i.e., they appear as concepts which can (but need not) be expressed linguistically. Conventional metaphors and metonymies are usually automatic, subconscious mappings, pervasive in everyday language. Literary metaphors and metonymies are normally just creative extensions and elaborations of these conventional mappings. Metaphors and metonymies are to a large extent culture-specific, metonymies somewhat more so than metaphors, because the domains of experience which they are grounded in are not necessarily identical in all cultures.

Already in (1971), Jakobson put forward the idea that metaphor and metonymy are the two basic modes of thought reflected in general human behaviour and in language, i.e., he analysed them as two fundamental ways of structuring human “behaviour”, but also as the two poles of a continuum. According to Jakobson (1971), the metaphoric pole is based upon substitution and similarity, whereas the metonymic pole is based upon predication, contexture and contiguity. Dirven (1993) interpreted and enhanced Jakobson’s approach quite extensively, focusing on the different conceptual processes underlying the use of metaphor and metonymy, and speaks of a “partial overlapping” of the figurative potential of both devices. He came to the conclusion that there is a whole continuum between the literal meaning and metaphor, with metonymy residing between these two extremes. He called the stage between metonymy and metaphor *post-metonymy* and explained that this stage contains those metonymies whose meanings once used to be clear and objective but which today are no longer transparent and which therefore approach the metaphoric pole. Other scholars, such as Barcelona (2000), claim that a metonymy can be found at the heart of every single metaphor, at least if the relevant background and especially etymological information is known. In other words, it can be argued that metaphors result from the generalization of metonymies (see also Niemeier 2008), i.e., that metonymy is a conceptual mapping of one domain onto another domain *within* the same superordinate domain and that in some cases the connection between these two subdomains has become less obvious over time. This can result in the fact that the metonymic links have gradually weakened and are today basically forgotten, which is why the ordinary language user does not perceive such metonymies as metonymies anymore but instead as metaphors.

Therefore, the difference between metaphor and metonymy is best regarded as scalar, and not as absolute. In this vein, a functional view of the metaphor-metonymy dichotomy can be suggested, in which the difference is seen as a matter of degree: if the etymology of an expression and thus the common domain of the vehicle and the target or, frequently, the enchainment of domains in further metonymizations are known to a language user, the expression in question is seen as a metonymy. If the etymology and/or metonymization(s) are unknown to the language user, it is a metaphor.

## 4 Cultural models

According to Holland and Quinn (1987), cultural models are “presupposed, taken-for-granted models of the world that are widely shared (although not necessarily to the exclusion of other, alternative models) by the members of a society and that play an enormous role in their understanding of the world and their behaviour in it” (Holland and Quinn 1987: 4). In newer research, the notion *cultural model* was accepted instead of the older term *folk model*, which referred to “communal knowledge”, whereas a cultural model is seen as entailing a more refined combination of knowledge in individual minds as well as socially distributed knowledge. These models are “intersubjectively shared by a social group” (D’Andrade 1987: 112). People have cultural models of just about anything. To quote only a few examples of cultural models: between different cultures people might disagree on what to consider a lie and what not (the notion of a *white lie* does not exist in German, for

instance), or people might have different notions of the concept of “ageing” (in some cultures, old age is seen as equivalent to wisdom and older people are respected, whereas in other cultures, people want to keep up a youthful appearance as long as they can because youth is seen as an important asset), or people have different concepts of “politeness” (i.e., the use of the bare infinitive is seen as impolite in English-speaking cultures, whereas it is seen as neutral in German-speaking cultures). Obviously, people have different cultural models of emotions as well.

As an example of such a cultural model of emotion in the English language, the cultural model of “anger” can be scrutinized. Lakoff and Kövecses (1987) see metaphors such as *you make my blood boil* as elements of the cultural model of the physiological effects of anger, these effects being “increased body heat, increased internal pressure (blood pressure, muscular pressure), agitation, and interference with accurate perception. As anger increases, its physiological effects increase as well. There is a limit beyond which the physiological effects of anger impair normal functioning” (Lakoff and Kövecses 1987: 196). Kövecses (cf. 1995, 2005) states that cultural models are the joint products of metaphor, metonymy, (possibly universal) actual physiology and cultural context (the latter referring to cultural systems such as the four humours or Traditional Chinese Medicine). The relation between metaphors and a cultural model is interpreted by Kövecses as the metaphors constituting the cultural model, whereas Holland and Quinn (cf. 1987: 24) reject this view and claim that metaphors simply reflect cultural models. Quinn (1991) believes metaphors to be selected by people because they fit into already existing cultural models. Sharifian et al. (2008b), on the other hand, argue that “metaphors are rooted in certain cultural models, rather than just reflecting them” (Sharifian et al. 2008b: 12). This does not contradict the view that metaphors are very often grounded in immediate bodily experience but instead expands it so as to include the mediating role of cultural models, such as those models which embody ethnomedical or religious beliefs.

On closer inspection, even cultural models have predecessors, as they rely on older cultural models. Geeraerts and Grondelaers (1995), for example, have shown that the Lakoff and Kövecses anger model is “furnished” by the Galenic theory of the four humours, according to which anger is caused by one of these humours, in this case by choler, the production of which may be stimulated by certain kinds of food (cf. *choleric*).

Hence, cultural models can be seen as complex conceptual systems that act as building blocks of a cultural group’s cultural cognition. Cognitive systems such as Traditional Chinese Medicine or the theory of the four humours lend themselves to the notion of “cultural model” in that they provide the members of a cultural group with templates for understanding certain aspects of their lives. This may start off as a conceptual system developed by one individual, but in time it will become part of the cultural cognition of a cultural group to the extent that after several generations, many members of the cultural group may not know about the origin of such conceptual systems anymore but nevertheless believe in them.

To give an example, lovesick people may speak of *a broken heart* and this expression is understandable without any problems by members of the same culture, although it is common knowledge that hearts do not break and that therefore the literal sense of this expression is ruled out. Furthermore, it is also common knowledge that emotions are gen-

erated in the brain and not in the heart, but people still unreflectedly use this metaphor, as it is part of a very wide-spread cultural model of the heart as the seat of emotions. However, this view is not shared by all cultures (cf. Niemeier 2011), as some cultures see the seat of emotions in the abdominal region, which comes to the fore in the metaphor usage within these cultures. For instance, in Indonesian, lovesick persons speak of their *broken liver* instead of their broken heart, as the cultural model in Indonesia sees the liver as the seat of emotions (cf. Siahaan 2008). This is mainly due to the various cultural models that underlie the expressions in question and which developed cross-linguistically from the times when medical knowledge was not yet very exhaustive and the heart (or the abdomen, or the head, or other body parts) was commonly believed to have quite different functions than those that are known today.

However, mere physiological motivation does not explain many of the conceptualizations of, for example, internal body organs, as otherwise many more similarities should exist across languages and cultures, given the fact that the human body works in identical ways all over the world. Many cultural models have arisen in times when knowledge about the human body (including knowledge about the brain and the mind) was scarce or was – from a current perspective – simply wrong. Still, many models have persisted until modern times, when at least some more facts about the human body and the brain/mind are better understood. Therefore, outdated beliefs still exist in cultural models, which once may have counted as “physiological state-of-the-art knowledge” but which rather relied on other sources of explanation. Such expansions of body organ conceptualizations frequently happened on the basis of cultural models from, for instance, ethnomedicine, philosophy or religion. The most important models are identifiable by the sheer quantity of metaphors and metonymies in the languages of the respective cultures (cf. Niemeier 2011; Sharifian et al. 2008a).

It is therefore not enough to just look at metaphors and metonymies of emotions in order to understand the conceptual system within a culture, but the cultural models connected to these figurative expressions need to be taken into account as well.

## 5 Metaphors and metonymies of emotion

The following section first focuses on a brief overview of the existing literature on the topic of figurative language (mostly metaphor) and emotions, relying predominantly on the work published by Kövecses (e.g., 2000), and then provides two examples of emotional figurative language. The first of these examples focuses on figurative expressions connected with the “heart”, whereas the second example elucidates the relationship between figuratively used colour terms and emotion.

### 5.1 Overview of selected literature

Due to the fact that metaphorical expressions rely on conceptual metaphors, the study of metaphorical expressions can provide a deeper understanding of the metaphorical con-

cepts which lie behind the expressions, in this case, the structure of emotion concepts. As Schnall (2005) states, “the figurative language involving emotions is not arbitrarily constructed, but reflects the specific physiological and behavioral aspects of emotional experiences. Because metaphors tap into those universal physical experiences of emotion, they are especially relevant for communicating feelings (Gibbs et al. 2002; Gibbs and Van Orden 2003)” (Schnall 2005: 30). In other words: using metaphors when speaking about emotions is a lot more powerful than using non-metaphorical language, due to the fact that the metaphors provide vivid verbal images of physiological reactions, which the interlocutor(s) can easily relate to.

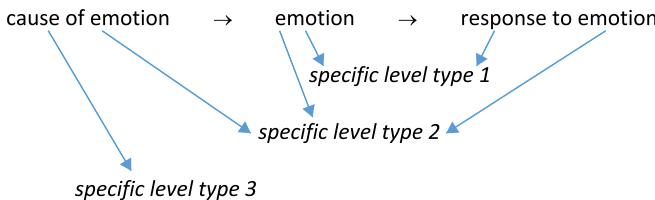
The currently best known and most widely cited publication on emotion metaphors comes from Kövecses (2000), in which he even goes so far as to claim that some conceptual metaphors for emotions are universal, because “emotion concepts in diverse cultures share a basic structure” and “also share a central metaphor that informs and structures the concepts (i.e., the folk understanding)” (Kövecses 2000: 146). However, by far not all researchers agree with this claim, as some of them (cf., e.g., Wierzbicka 1999a, 1999b) are of the opinion that people from different cultures have non-identical emotions, which means that their concepts do not completely coincide. On the other hand, some of the emotional concepts which Kövecses mentions have at least been shown to be somewhat similar across cultures, such as, for example, the concept of “anger”.

In English, anger is perceived as “a hot fluid in a container” (cf., e.g., Kövecses 1986), which Kövecses also calls the “master metaphor”. If the hot fluid is heated even further, it starts to boil (cf. *I am boiling with anger*), steam develops (cf. *He let off steam*), the lid can fly off the container (cf. *I flipped my lid*) and in the end the container can burst and/or explode (cf. *he was bursting with anger* or *he exploded with anger*). Similar scenarios can be constructed for other languages as well, as Kövecses and other researchers have shown (cf., e.g., Kövecses [2000] for Hungarian; Matsuki [1995] for Japanese; Mikolajczuk [1998] for Polish; Soriano [2003] for Spanish; Maalej [2004] for Tunisian Arabic; Taylor and Mbense [1998] for Zulu; or Yu [1995] for Chinese). However, although one may assume that the same or at least similar source and target domains exist in various languages, this does not necessarily mean that the linguistic expressions in these languages are similar, as differences have been shown to exist at the levels of conceptual elaboration, of conventionalization as well as concerning the linguistic exploitation of the source domain (cf. Soriano 2003). Kövecses (2000) argues for a near-universality of emotion concepts, but concedes that at the same time considerable cultural variation is involved.

Another “master metaphor” that Kövecses (2000: chapter 5) identifies is the generic-level metaphor EMOTION IS FORCE. Such forces can, for instance, be fire, a wild animal or a natural catastrophe, none of which can be controlled and which bring about certain results (e.g., *she was burning for him*, *she has a fierce temper* or *he knocked her off her feet*). The “master metaphor” of force, however, is not exclusively used for emotions but covers a much wider range, because it can also be used for many domains outside of the emotional domain (e.g., Talmy’s idea of force-dynamics, cf. Talmy 1988). There are, furthermore, a number of specific-level metaphors, which all “instantiate the generic-level one in a different way, addressing several distinct aspects of emotion” (Kövecses 2000: 65). Cultural variation in the use of metaphors of emotion will mainly occur at the specific level, whereas

the generic level, due to people's shared physiology and basic human experiences, will not be too much affected by it.

The action chain involved in the generic-level EMOTION IS FORCE metaphor can be represented as shown in Figure 26.3.



**Fig. 26.3:** Connections between the generic level of EMOTION IS FORCE and its three specific levels.

Not all emotion metaphors focus on the complete action chain. Kövecses (2000: 64–85) differentiates between three different types of specific-level emotion metaphors (see Figure 26.3), the first highlighting the sequence “emotion → response to emotion”, the second highlighting the complete sequence, and the third focusing on the cause of the emotion in question. It needs to be pointed out, though, that in the case of a focus on either the cause or the effect of an emotion, “metaphor” has to be seen as a cover term which includes metonymy. When something is understood by highlighting only one aspect of the domain in question, the relationship is obviously a metonymic one.

For the first type, i.e., “emotion → response to emotion”, Kövecses enumerates the following specific-level metaphors:

- EMOTION IS INTERNAL PRESSURE INSIDE A CONTAINER (such as in *He exploded with anger*)
- EMOTION IS AN OPPONENT (such as in *She was overcome by emotion*)
- EMOTION IS A WILD ANIMAL (such as in *He couldn't hold back his feelings*)
- EMOTION IS A SOCIAL FORCE (such as in *His whole life is governed by passion*)
- EMOTION IS A NATURAL FORCE (such as in *I was swept off my feet*)
- EMOTION IS A MENTAL FORCE (such as in *His emotions deceived him*)
- EMOTION IS INSANITY (such as in *I am madly in love*)
- EMOTION IS FIRE/HEAT (such as in *She is burning with desire*)

For the second type of specific-level emotion metaphors, i.e., those focusing on the complete sequence “cause of emotion → emotion → response to emotion”, the following instances can be differentiated:

- EMOTION IS A PHYSIOLOGICAL FORCE (hunger, thirst, illness, agitation, dizziness) (such as in *I am starved for affection*)
- EMOTION IS PHYSICAL AGITATION (such as in *I am all shook up*)
- EMOTION IS A BURDEN (such as in *She was weighed down by sadness*)

Finally, the third type of specific-level emotion metaphors, i.e., those focusing exclusively on the cause of the emotion, all belong to the notion that EMOTION IS A PHYSICAL FORCE and include the following sub-understandings:

- EMOTION IS A MECHANICAL FORCE; EMOTIONAL EFFECT IS PHYSICAL CONTACT (such as in *That was a terrible blow*)
- EMOTION IS AN ELECTRIC FORCE (such as in *That was an electrifying experience*)
- EMOTION IS A GRAVITATIONAL FORCE (such as in *Her whole life revolves around him*)
- EMOTION IS A MAGNETIC FORCE (such as in *I am attracted to him*)

In short, Kövecses' claim is that a limited number of physically derived schemata, which are grounded in recurrent embodied experiences, underlie the conceptualization of abstract phenomena in general, and of emotional concepts in particular. Furthermore, cultural models are involved, such as explained in Section 4. Kövecses (2008) has summarized his main arguments as follows:

The major claim I am making here is this: Systematic links take us from (possibly universal) actual physiology of anger through conceptualized metonymy and metaphor to cultural models. In the process, the broader cultural contexts also play a crucial role, in that they fill out the details left open in the schematic basic structure. In other words, I believe that we can offer a satisfactory explanation of the emergence of cultural models of emotions if we take into account the possibly universal experiential basis of our emotion concepts, the conceptualization of this experiential basis by means of conceptual metonymies, the conceptual metaphors that often derive from these metonymies, and the broader cultural context. (Kövecses 2008: 391)

In other words: emotion metaphors and metonymies can only be understood correctly if the cultural models they are rooted in are taken into account, as the cultural and social contexts in which they arose play a decisive role in their development and for their use, although they ultimately rely on the same physiological effects, which can be considered to be their “skeletal” framework.

## 5.2 Example: the concept “heart”

As stated above, emotions are frequently addressed via body terms, relating to both external and internal body organs. In English (as well as in other languages), the heart is the prototypical internal body organ which is figuratively seen as the location of emotions, specifically concerning romantic love, but also concerning courage. This comes to the fore in expressions used in everyday language. These expressions are actually not metaphorical but rather metonymic, some more so and some less so. The following paragraphs sum up the research results by Niemeier (2000, 2008, 2011), who analysed “heart” expressions in present-day English.

Locating emotions in the heart and reason in the head can be seen as a relic from Cartesian times, as this cultural model only developed after Descartes' idea of the mind-body split had become widespread. Before these times, both the emotions as well as the mind were conceptualized as residing in the heart (cf. Geeraerts and Gevaert 2008), following the doctrine of the then-prevalent cultural model, namely the Galenic theory of the Four Humours (cf. Niemeier 2011: 49). Although medical knowledge has developed rapidly since then and it is known today that emotions as well as rationality are products of the mind, the outdated Cartesian cultural model still dominates everyday language and every-

day thought, as language change is a very slow process. As argued in Niemeier (2011), “these models are largely located in our social and cultural common subconsciousness, i.e. our cultural cognition” and “may need centuries to change for the complete population of a culture” (Niemeier 2011: 54).

Currently, the complete dichotomy between the head (as the seat of reason) and the heart (as the seat of emotions) is still nearly complete, as becomes evident when looking at metaphorical and metonymic expressions of present-day English, as the “heart” nearly always refers to emotion concepts when used figuratively. The only exceptions that are detectable among the “heart” expressions in present-day English are *to learn by heart* and *to take something to heart*. As Niemeier claims, “the first expression refers to memorizing and the second to thinking about something very deeply, i.e., in both of these cases the heart is connected to mental faculties. These two expressions may well be leftover reminiscences of Old English cardiocentrism” (Niemeier 2011: 52). The corpus of “heart” expressions analysed by Niemeier (2000, 2008) includes expressions of varying degrees of generality, which focus on different facets of the rather broad category of emotionality. Four different categories of “heart” expressions with an increasing degree of generality can be differentiated.

The first category, “heart as a metonymy for a person’s feelings”, contains figurative expressions referring to emotions, courage, attitudes, etc. On the one hand, these expressions refer to romantic love, such as *set one’s heart on someone* or *she is my heart’s desire*, but some of them also relate to courage viz. a lack of courage, such as in *have a heart* or *half-hearted*, or to an emotionless attitude, such as in *heart of stone* or *heartless*. The meaning of romantic love is easily symbolizable (for a history of the heart symbol, see Niemeier 2008), and is also presumably (part of) the most widely used emojis in current digital times. In all the examples of this category, the heart as the most salient body part in the cultural model of emotions is seen as part of a person and can insofar be interpreted as being completely metonymic. These metonymies are whole-for-part metonymies, as the whole (i.e., the heart) stands for its contents (i.e., emotions).

In the second category, “heart as a metonymy for a person as a whole”, featuring examples such as *Two hearts that beat as one* or *You’re my heart*, the heart is seen in a more general perspective as referring to a complete person and not only to a person’s feelings. In this category, the heart can be seen as a focalized centre of a larger entity, this entity being the complete person. This category contains a sizable number of negative expressions, mainly addressing failed love, in which the heart is described as having been damaged, such as in *My heart is bleeding* or *I am broken-hearted*. These expressions can be seen as part-for-whole metonymies, in which a part (i.e., the heart) is mentioned which refers to the whole (i.e., the person).

The third category, “the heart as an object of value”, consists of figurative expressions which refer to the heart as some kind of treasure chest. At a more generalized level of conceptualization, the location for romantic love (showing up in expressions such as *to win someone’s heart* or *to steal every heart*) has to be shared with other feelings such as courage (as in *to put one’s heart into something*) or discontent (as in *to dishearten somebody*). As argued in Niemeier (2011), “we are presumably more aware of this third category in our everyday language usage than we are of the first two categories because it is closer to the metaphoric pole of the metonymy-metaphor continuum” (Niemeier 2011: 51).

Finally, the fourth category, “the heart as a container”, is the most general one and is therefore closest to the metaphoric pole of the metaphor-metonymy continuum. Presupposing the notion of a three-dimensional container and focusing more on the contents of this container than on the container itself, this category contains figurative expressions such as *from the bottom of my heart* or *to pour one's heart out to somebody*. The container schema is a more universal type of schema and is therefore not unique to the cultural model of the heart, as it is widely used for other models as well. These containers can be, for instance, the home, which shows up in expressions such as *to eat in* versus *to eat out*, but they can also be models of the human body, because the mouth, the womb, the head, etc., are all frequently seen as containers (i.e., words come out of the mouth, a baby comes out of a womb, thoughts are contained in the head, etc.). However, this category seems to depend on the existence of the other three categories, which provide its metonymic basis (cf. Niemeier 2008: 356).

As may have become apparent, the metonymic character of the figurative expressions containing “heart” gradually gets less obvious from the first through to the fourth category. Starting off as clear metonymies in the first two categories, the third and the fourth categories approach the metaphor end of the metaphor-metonymy continuum, as the expressions rely on ever more general and therefore more abstract schemas. Still, in all of these expressions, “the bodily sensations are used metonymically to refer to the feelings and these metonymies may then be used as source domain for either new metonymies or for metaphors” (Niemeier 2008: 357). As already mentioned previously, if a functional view of figurativity is adopted, it basically depends on the language user whether they see something as a metonymy (which presupposes an objective contiguity connection within the same domain) or as a metaphor (which presupposes a subjective mapping from one domain to another). As most language users presumably do not think very deeply about the entailments of their everyday language, many or maybe even all of the examples outlined in the four categories of “heart” expressions will generally be seen as metaphors.

### 5.3 Example: colour terms in emotion expressions

The second example also adheres to the functional view of figurativity mentioned in the previous paragraph, i.e., the difference between metaphor and metonymy is seen as a matter of degree. According to Niemeier, “if the etymology of an expression and thus the common domain of the vehicle and target, or, frequently, the enchainment of domains in further metonymizations is/are known to the language user, the expression in question is seen as a metonymy” (Niemeier 2017: 273). If, on the other hand, “the etymology and/or the metonymization(s) is/are unknown to the language user, it is seen as a metaphor” (Niemeier 2017: 273). Adopting such a functional view, this section focuses on non-literal colour expressions, which quite frequently refer to emotions, involving the focal colours (cf. Berlin and Kay 1969) red, green, blue and yellow, summing up the research results from Niemeier (1998, 2011 and 2017).

The colour *red*, although it is no semantic universal, is present in most languages. According to Berlin and Kay (1969), when a language has only two basic colour terms,

these two terms roughly refer to white and black (for more details, see Niemeier 1998: 125) and if a language has three basic colour terms, the third term always refers to *red*. The experiential basis for understanding the colour *red* is that *red* is a very conspicuous colour, which can be easily perceived and which is therefore frequently used as an attention-getter. People's experience with *red* is furthermore based on its natural occurrence in the human environment, where it appears, for instance, as the colour of blood, of fire and of the sunset. One example for *red*, in which the embodied notion of blood is apparent and which can be seen as figurative emotional expression, is *red-blooded man/story*, referring in a positive way to an adventurous, highly energetic experience. However, in expressions such as *to see red* or *red-hot anger*, both indicating fury, the experience is rather a negative one, in which anger is metaphorized as a hot, fluid substance of red colour, momentarily disturbing the sense of vision. These metaphors have a metonymic basis, as the first expression refers to the fact that blood vessels in the eye may burst due to an increase in blood pressure, which may happen when someone is insanely angry, whereas the second expression refers to the heat of "boiling blood", an element of the anger model pointed out by Kövecses (see above). As argued by Niemeier, *red* "appeals to deep-rooted experiences" (Niemeier 1998: 131), which can be seen as embodied. Both of these examples involve the basic meaning of *red* as referring to blood and extend it metonymically in order to relate to specific emotional scenarios, which are then usually perceived as metaphoric.

*Green* appears less frequently than *red*, which may have to do with the fact that it is not so visually salient and therefore rarely refers to marked concepts. In its basic meaning, *green* refers to naturally occurring entities such as grass, trees and plants. *Green* is not used as frequently as *red* for the expression of emotions, the best-known examples being probably *to be green with envy* or *to be green with fear* (although *to be white with fear* also occurs, meaning that the blood has left the person's head and the person therefore appears very pale). *Green with envy* is a culture-specific usage of English, as in German, for example, people are *yellow with envy* (= 'gelb vor Neid'). The English usage goes back to Shakespeare's *Othello*, in which the emotion of jealousy is called "the green-eyed monster". According to Niemeier, "probably the greenish, unhealthy-looking colour of the face which may appear when one is feeling unwell (for whatever reasons), is taken as a metonymic reference" (Niemeier 1998: 133).

The colour *blue* surrounds people on a daily basis, as it can be connected to naturally occurring entities such as the sky, the sea and even the dark blue of the night sky. In connection with emotions, *blue* predominantly stands for melancholy, sadness and depression, for instance, in expressions such as *to feel blue*. Although this expression has "a physiological origin and is relatable to the bluish skin colour which hints at illness" (Niemeier 2017: 278), it is not a direct metonymization but goes back to other, more basic metonymies referring to bodily ailments. To give some examples, a *blue baby* is a still-born child, where the use of *blue* refers to the colour of the dead body, *blue-tongue disease* is a sheep's disease, the name of which refers to the main symptom of the disease, and *blue devil* is another expression for delirium tremens. In all these examples, *blue* is used to indicate a bodily illness. However, according to Niemeier, "these bodily features may include mental features as well: from blue skin, i.e. livid, bloodless skin, comes death, therefore, mental depression is seen as a mental death, where one no longer feels anything"

(Niemeier 1998: 136), which comes to the fore in expressions such as *to feel blue* and *to have the blues*.

Next to depression, further emotions that are connected with blue become apparent in expressions such as *to scream/yell blue murder* (connected to anger), *blue despair* (connected to sadness) and *blue fear* (connected to fear/worries). Niemeier states that “it seems that the concept of an emotional excess may have motivated the choice of the term “blue” in these meaning extensions, which would connect them to the *blue sky* group of expressions referring to abundance” (Niemeier 1998: 136). As there are a number of (non-emotional) uses of *blue*, which can be interpreted as being based on the unlimited and abundant amount of blue sky in people’s natural habitat, this notion of “overwhelmingly much” may have been carried over to the domain of emotional expressions, and whenever there is too much of an emotion, this can be expressed by *blue*. It is interesting, however, that the notion of “excess” only works with negative emotions and not with positive ones. Several authors have commented on the polarity that the colour *blue* induces (e.g., Johann Wolfgang von Goethe, Virginia Woolf, Vladimir Nabokov). One may speculate that this polarity is due to the fact that *blue* is connected to the sky and thus to heavenly things on the one hand, but on the other hand it is also connected to hell, if one considers the bluish sulphuric flames that are supposed to burn in hell (cf. the old idiom *fire and brimstone* as a metaphor for God’s wrath in the Hebrew Bible, “brimstone” being an old expression for sulphur). In this respect, the notion of “excess” may play on people’s fear to end up in hell, an excessively negative place.

The meaning network of figurative expressions with *yellow* is less elaborated than those for the other three colours, and *yellow* is only infrequently used in order to express emotions. The basic meaning of *yellow* relates to naturally occurring entities such as the sun, gold, ripe corn or even leaves in autumn. In English, the only emotion connected to *yellow* seems to be that of cowardice (which is not exactly a central emotion), as becomes evident in expressions such as *yellow-bellied*, *yellow streak* or *to be yellow*. Following Niemeier, “one might hypothesize that ‘yellow’, in striking contrast to ‘red’, stands for non-violence” (Niemeier 1998: 140). Both *yellow-bellied* as well as *to be yellow* are 19th-century American expressions, the origin of which is unknown. “A possible explanation is the fact that *yellow* is the colour of sickness, which means that a person lacks strength and stamina (and ‘guts’)” (Niemeier 2017: 279). There are a number of illnesses, such as yellow fever, jaundice and malaria, in which the yellowish skin colour functions as an outward signal of the disease in question. Furthermore, the sources of yellow pigments are toxic metals, such as cadmium, lead and chrome – therefore, it is possible that the colour *yellow* may be associated with a lack of strength. “Another possible explanation is that an overproduction of yellow bile in the Galenic theory of the four humours stood for peevishness and jealousy” (Niemeier 2017: 279), i.e., if this explanation is correct, a complete (outdated) cultural model is involved in this instance (see Section 4) and the colour *yellow* – a word which actually goes back to the Greek word *cholos* ‘gall’ – would then be a leftover relic of this model. Finally, “a third possible explanation is that the expression is connected to the yellow-belly lizard, a reptile not known for its intestinal fortitude (‘guts’)” (Niemeier 2017: 279).

This (admittedly very short) overview hopes to have shown with the help of two examples that figurative expressions for emotions generally have an embodied basis, which is

sometimes easy to detect, i.e., when it appears in a metonymy, and sometimes less easy to detect, i.e., when it appears in a post-metonymy or in a metaphor. All these types of figurative language use cultural models as their framework.

## 6 Conclusion

Following Foolen's motto "without emotion no language" (Foolen 2015: 241) and arguing from a cognitive linguistic perspective and its view on embodied emotion metaphors, this contribution has set out to describe and exemplify the use of figurative language in order to conceptualize and express emotions. Related to their individual background knowledge and cultural experiences, language users select an appropriate cultural model and the corresponding figurative language in order to speak about emotions mainly for two reasons. On the one hand, there are hardly any concrete expressions to talk about abstract topics such as emotions, and on the other hand, figurative language is able to add a more vivid touch to every utterance because it evokes a complete cultural model and conjures up mental images in the language users' subconsciousness.

The two examples of figurative emotion expressions provided in the current chapter come from two different angles. On the one hand, embodied "heart" expressions were analysed, which are clearly part of the Western Cartesian model of the mind-body dualism and would therefore not be detectable in cultures which have internalized different cultural models. For instance, there is a sizable number of cultures which locate their emotions in the belly area (see Sharifian et al. 2008a). On the other hand, some figurative colour expressions were analysed, which demand a more complex chain of thought for their interpretation than the "heart" expressions and are therefore potentially more effective. These expressions seem to be more culture-specific than the "heart" expressions, which are shared between those cultures which share the model of the heart as the seat of emotion, whereas the figurative colour expressions are not infrequently restricted to one culture only. For instance, in English, *I feel blue* refers to melancholy, whereas in German, *Ich bin blau* ('I am blue') refers to drunkenness, which in French is expressed by *Il est noir* ('he is black') and so forth. The further away the colour expressions move from designating universally and naturally occurring entities, the more culture-specific they become (cf. also Niemeier 1998, 2017), which posits quite some problems for their translatability. To sum up, utterances such as *He is broken-hearted* point directly at the symbolic meaning of the heart within the appropriate cultural model, which is firmly based in the language community's cultural cognition, whereas for utterances such as *he was green with envy* an interpretative detour via the subconsciously encoded associations for the colour *green* is necessary.

What the two types of examples have in common, though, is their expressivity, as by using these metaphors and metonymies speakers express additional content. If instead of saying *The man was angry* a speaker says *The man was red-hot angry*, mental pictures are created both in the speaker's as well as in the hearer's minds, which presumably let the hearer imagine the described situation more intensely and vividly than if it had been expressed more literally.

The majority of the available analyses of emotion metaphors refer to the English language, with some other widely spoken languages following suit. There has not been too much research on non-Western languages. Some notable exceptions relating to cultural models for emotions and rationality in Indonesian, Malay, Kuuk Thaayorre, Tunisian Arabic, Japanese, Korean, Chinese, Neo-Aramaic and Persian are presented in Sharifian et al. (2008) as well as in a couple of other publications. The cultural models in the analyses in Sharifian et al. (2008) are identified and characterized via the use of metaphors. Such a cross-cultural perspective is definitely an area of research which needs to be pushed further along, focussing on further emotion metaphors and further languages, with the aim of either providing more proof for the notion of basic emotions (cf., e.g., Ekman and Cordaro 2011) or else for Wierzbicka's view of the culture-relatedness of emotions. Furthermore, psychological studies focusing on the location of emotions in the brain (cf., e.g., Lindquist 2016) might be integrated with linguistic studies – which they have not been so far; even if specific brain regions could be identified which are active in the processing of specific emotions, this does not necessarily rule out a more relativistic view, because the identified brain regions could differ somewhat between cultures.

Over the last few years, the idea of “emotional dialects” has been developed (cf., e.g., Elfenbein 2017), a view in which it is claimed that there are indeed universal emotions, but that “emotion language” possesses dialects, which – similar to the sociolinguistic notion of “dialect” – differ slightly from speaker group to speaker group, but do not hinder a mutual understanding. This research direction does not stem from linguistics, though, and the psychological studies would have to be correlated with linguistic research. It would, for instance, be intriguing to compare emotion metaphors from neighbouring “emotional dialects” and to determine the (potential) slight differences between the different varieties. On the surface, the idea of “emotional dialects” certainly contradicts Wierzbicka's perspective on emotions. However, as it is next to impossible to objectively determine an individual person's “culture” and as the research that is available on “bilingual emotions” in bilingual people (see, e.g., Pavlenko 2006) has shown that bilinguals feel their emotions differently in their different languages, for such a joint psychological-linguistic endeavour to be fruitful the notion of “culture” needs to be taken into account. Then such research might offer the possibility of claiming a continuum of emotion understandings and thus also of the understanding of emotion metaphors, especially those which have been classified as more culture-related than others, frequently because they rely on specific cultural models which are not shared between the cultures (cf. Niemeier 2017).

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## 27 Studying emotion effects in language

- 1 Does emotion information affect perceptual processing?
- 2 Emotion frameworks
- 3 Embodiment
- 4 Is usefulness emotion?
- 5 Conclusion
- 6 Future directions
- 7 References

**Abstract:** Established emotion frameworks are built on dimensions like valence/evaluation (pleasant/good vs. unpleasant/bad). Ambiguity about how to interpret such dimensions led Wurm and Vakoch (2000) to develop an alternative framework built on the idea of adaptiveness for survival. In this conceptualization, connotation is coded on two behaviorally relevant dimensions: danger and usefulness for human survival. These dimensions interact in predicting the speed and accuracy of stimulus processing. Increasing danger predicts faster and more accurate responding, but only for stimuli relatively lower on usefulness. In the context of higher usefulness, increasing danger predicts slower and less accurate responding. As conceptualized in this framework, the effects of emotional connotation are far more widespread than is assumed by existing frameworks. This interaction has been found for spoken as well as printed stimuli, in word-recognition situations that do not involve priming, and with stimuli that are not even emotion words. These findings have been interpreted as evidence for embodiment in language processing insofar as they suggest a conflict between competing approach/withdraw behavioral responses. These results also point to more recent work on survival processing and adaptive memory, and may be evidence of the operation of a much more general cognitive organizing principle.

### 1 Does emotion information affect perceptual processing?

Emotion is a central part of the mental life of human beings. It colors perceptions of situations and events, provides information about the motives of others, and guides behavioral responses in ways that are generally highly adaptive. This paper explores the role emotion, or affective information, plays in the perceptual processing of various kinds of stimuli. In most of the work to be reviewed, the stimuli have been spoken words, but in some they have been printed words, nonsense words, and pictures. Words are of interest in this domain because each has at least one denotative sense (i.e., dictionary meaning), but nearly all words also have connotative meanings (i.e., what does this word mean beyond what can be found in the dictionary?).

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<https://doi.org/10.1515/9783110347524-027>

For example, the word *home* brings with it not only the obvious denotative meanings having to do with physical dwellings, but connotations having to do with security, warmth, and so on. Such connotations often relate to emotion. As will be seen, defining just what counts as emotion is far from straightforward. In this chapter, the argument will be made for a quite broad conceptualization of emotion, and it will further be argued that emotional connotation is a routine part of lexical processing for nearly all words in all situations.

A question that has long exercised researchers is whether affective information fundamentally affects and interacts with low-level perceptual processing, or whether it only affects higher-level cognitive processes that come into play later. That is, does emotion information influence how the lower-level perceptual processes operate, or is it used only to interpret the outputs of these lower-level processes?

Beginning in the 1940s, Jerome Bruner and colleagues did pioneering research that would later be called the *New Look* (Bruner and Goodman 1947; Bruner and Postman 1947, 1949; Postman, Bruner, and McGinnies 1948). This work changed how many researchers viewed perception, which in turn raised questions about the possibility of interactions between emotion and perception. The prevailing view, which continues in many circles even to this day, pictured the sensory systems as somewhat passive recipients of information impinging from the environment. New Look research showed perception to be a far more active process influenced by idiosyncratic aspects of observers' beliefs and personalities, and their goals and motivations. One of the ideas to emerge from this research was that the emotional meaning of a stimulus could often be determined before the stimulus was even recognized. Such an idea seems counterintuitive: How can the emotional value of a stimulus have an effect on the processes involved in recognizing that stimulus?

As Kitayama and Niedenthal (1994) noted, these ideas became lost to some extent at the time of the cognitive revolution, and it took some time for them to be rediscovered (cf. the *affective primacy hypothesis* of Murphy and Zajonc [1993]; see also Robinson [1998]). As will be seen, ideas such as these have once again gained traction in the literature and there are calls to incorporate them into models of word recognition (e.g., Kuperman et al. 2014).

## 2 Emotion frameworks

The existence of dozens of surveys and inventories designed to measure emotion (Bradley and Lang 1994) suggests that such measurement is far from straightforward. To many lay people, emotions seem like natural kinds (i.e., things that exist in an objective sense and that are categorically distinct from one another), and speaking about them categorically thus makes a great deal of sense. However, researchers have been unable to agree about what should and should not be included in a list of basic emotions, or even on a definition of the term (Izard 2007). Partly as a result of this, alternative approaches continue to be explored in which affective information is coded on a small number of continuous dimensions. Such approaches sacrifice some of the specificity of a categorical approach, but some theorists (e.g., Anderson 1991) have noted that there is a benefit in terms of the computational "cost" to either a human brain or a software implementation. Dimensional approach-

es are argued to be far more cognitively economical, because each discrete category that has to be represented adds to the computational expense (Anderson 1991).

However, just as there are disagreements about what is and is not an emotion, researchers have not been of one mind about just what dimensions best represent affective space. Two major frameworks that are closely related to each other will be presented, followed by an alternative framework that may offer new insights. As will be evident, even within these dimensional frameworks some researchers continue to think categorically, for example by contrasting *emotion words* and *non-emotion words*, or by creating groups of stimuli that are positive, negative, and neutral.

## 2.1 Evaluation (valence), potency (dominance), and activity (arousal)

Osgood noted the lack of any “generally accepted, standardized method for measuring meaning” (Osgood 1952: 199), and set out to develop one along with his colleagues (Osgood and Suci 1955). One of the main tools they used was a rating scale called the semantic differential, in which participants give their judgments of the meanings of words against pairs of opposing adjectives such as “hot” and “cold”, “sharp” and “dull”, and “long” and “short”. This technique generates a vast number of rating judgments.

When the judgments were submitted to a statistical technique called factor analysis, three major dimensions emerged very consistently. These seemed to be a good versus bad dimension that the researchers called *evaluation*, a strong versus weak dimension that they called *potency*, and a fast versus slow dimension that they called *activity*.

Although the research was not focused on affect, it did not take long for the results to be applied to that domain, including by Osgood himself (1969), who argued that it made perfect sense for affect to underlie attitude judgments. Interestingly, the evaluation/potency/activity framework is almost indistinguishable conceptually from Wilhelm Wundt’s (1897) *tridimensional theory of affect*. This is interesting from the standpoint of history; but it is also interesting that Wundt’s so-called *chief directions* (Wundt 1897: 82–83), discovered by the method of analytic introspection, are the same dimensions to emerge from factor analyses of human attitude judgments. Converging results from methodologies this different suggest that there may indeed be something psychologically privileged about the constructs. Indeed, many researchers believe that evaluation, potency, and activity are universals of cognitive processing across all cultures and languages (Mukherjee and Heise 2017; Osgood, May, and Miron 1975; but see Schmidtko et al. [2014] for some caveats).

A theoretical framework closely related to the evaluation/potency/activity framework is that of Bradley and Lang (1994), which labels the three dimensions valence, dominance, and arousal, respectively (in the early papers *pleasure* was used instead of *valence*). Many people believe this framework is separate from Osgood’s framework, because not only are the dimensions called different names, but some differences in the ratings are found under the two frameworks (e.g., Schmidtko et al. 2014). However, Bradley and Lang (1994) clearly acknowledge the close relationship of both frameworks to Wundt’s (1897) tridimensional theory of affect, and it seems likely that differences in the ratings are methodological rather than conceptual. Indeed, the goal of the original Bradley and Lang (1994) article was pri-

marily to introduce a way to measure Osgood's dimensions more efficiently than through the use of the semantic differential technique.

The dominance dimension is often omitted from recent research using Bradley and Lang's framework. It does not explain nearly as much response variance as the other two, which Bradley and Lang (1994) call *primary*, and results seem more variable even within a particular rating methodology. For many researchers, the three dimensions have in effect become two, and the widely used framework is now frequently conceptualized as one in which you can place any stimulus in a two-dimensional space defined by valence/pleasure and arousal (Lang et al. 1993; Bradley and Lang 1994). Nevertheless, dominance ratings continue to be collected and published as part of large databases, such as the ANEW project which focused on emotion-eliciting words (Bradley and Lang 1999), as well as more current work aimed at words in general (Warriner, Kuperman, and Brysbaert 2013).

Research on the roles of valence and arousal in word recognition has focused primarily on two related questions. One is whether there is preconscious automatic detection of threatening or negative stimuli, sometimes called the *automatic vigilance hypothesis* (Pratto and John 1991). According to this hypothesis, negative stimuli automatically command attention. For some measurable amount of time afterward, the speed of other cognitive functions is slower. The second question has to do with the exact nature or shape of the relationship between valence, arousal, and the speed of word recognition: Do valence and arousal interact? Are there curvilinear effects?

Despite the straightforward nature of the questions, it has been remarkably difficult to reach anything resembling a consensus. On the basis of a literature review, Robinson (1998) concluded that there is much good evidence for automatic, unconscious, pre-attentive processing of valence and urgency. In the model he proposed, fear and anxiety (but not other emotions) can be produced without consciousness, when the perceptual system detects low-valence stimuli. Larsen et al. (2008) and Larsen, Mercer, and Balota (2006) criticized much of the early work reviewed by Robinson (1998) that seemed to demonstrate automatic vigilance effects. They concluded that if other variables are properly controlled, there is no effect of valence that is consistent with the automatic vigilance hypothesis. Instead, what is observed is a complex effect best modeled as an inverted U-shape. Response times are slowest for stimuli that are moderately negative, but become faster as valence either increases or decreases from there. Estes and Adelman (2008a, 2008b) responded to the work of Larsen et al. (2008) by showing that they could explain as much variance in response times with a far simpler statistical model that is based on the automatic vigilance hypothesis.

The fact that Estes and Adelman (2008a, 2008b) and Larsen et al. (2008) were analyzing the same data set highlights the difficulty in arriving at a consensus on the question of automatic vigilance. This is reminiscent of the long-standing debate about whether emotion information would improve perceptual processing (Easterbrook 1959) or impair it (Simon 1967). Kitayama (1996) shed some light on this by showing that it can do either, depending on the expectancies of the observer.

Subsequent work further complicated things. In two studies (Kousta, Vinson, and Vigliocco 2009; Vinson, Ponari, and Vigliocco 2014), it was found that both negative and positive words were processed faster than neutral words, when stimuli in the various

groups were properly controlled on a number of other factors known to affect lexical processing. What had been talked about as automatic preconscious vigilance for threatening stimuli thus became automatic preconscious processing of *survival-relevant emotion*, which includes positive things. This idea had been proposed previously (Vakoch and Wurm 1997; Wurm and Vakoch 1996, 2000) and was an important impetus in the development of the alternative framework to be described below.

Yap and Seow (2014) helped clarify what these new findings meant, by subjecting response times to distributional analyses rather than just the standard tests of mean differences. They replicated the speed advantage for both negative and positive words, compared to neutral ones, but found that the effect did not exist solely in the means as would be predicted by a preconscious account. The tails of the distributions changed, too, leading the authors to conclude that “emotional valence effects in the standard LDT [lexical decision task, in which participants must quickly decide whether a stimulus is a real word in the language] may comprise two components: an early task-general effect that is preconscious, and a later task-specific effect that is mediated by feedback from semantically rich representations” (Yap and Seow 2014: 532). The authors argue that this might explain some of the disagreements to be found in the literature.

The question of whether valence and arousal interact has also produced disagreement in the literature. Larsen et al. (2008) reported that the nonlinear effect of valence interacted with arousal in the lexical decision task but not in the naming task (where participants simply read a printed stimulus as fast as they can). The interaction was such that the effect of valence was stronger at lower levels of arousal than at intermediate and higher levels. Kuperman et al. (2014) reached a very different conclusion in a study looking at visual lexical decision and naming times for the largest stimulus sample examined to date: 12,658 words. They concluded that valence and arousal have monotonic independent effects on response speeds in lexical decision and naming. Vinson et al. (2014) similarly found no interaction between valence and arousal.

A smaller number of studies have examined the effects of evaluation, potency, and activity in lexical processing (e.g., Matlin and Stone 1975; Skrandies 2011, 2014). Of particular relevance in the current context is a series of studies looking at complex interactions between the three dimensions in auditory word recognition.

Wurm and Vakoch (1996) found that speeded auditory lexical decision times for *pure emotion words*, defined as words relatively free of behavioral connotations (Clore, Ortony, and Foss 1987; Morgan and Heise 1988), were determined in part by a three-way interaction between dimension weights on evaluation, potency, and activity. For words toward the strong end of potency and the good end of evaluation (e.g., happy), activity is largely irrelevant. Concepts with this conjunction of dimension weights have connotations that are strong but pleasant. A very different result emerged for words toward the strong end of potency and the bad end of evaluation (e.g., annoyed). Here, activity played a very strong role, with fast lexical decision times for things higher on activity. Overall there was very rapid responding for emotion words at the conjunction of strong + bad + fast (e.g., irked).

This was interpreted as evidence that a general behavioral predisposition to avoid danger affected the low-level perceptual task of lexical decision. In lexical decision, the participant simply has to indicate whether each stimulus is a real word in the language. Given

that the task requires no judgment about any dimension such as evaluation, threat, or danger, and given that the lexical decisions took place in around 500 msec on average, this was a fairly radical proposal at the time. Although the idea of relating valence to approach and withdraw behaviors was certainly not new (e.g., Lewin 1935; Schneirla 1959, 1965; Solarz 1960), no existing models of lexical processing posited effects of adaptively relevant connotation, or even allowed for them. Indeed, it remains the case that models of word recognition are conspicuously silent on issues having to do with emotional connotation, in spite of a recent increase in the number of studies showing such effects (e.g., Kuperman et al. 2014).

In a follow-up study, Vakoch and Wurm (1997) wanted to determine whether such effects would be observed for words in general, or only for pure emotion words. Stimuli were words randomly chosen from a large dictionary. The three-way interaction between the dimension weights was not significant, but two of the two-way interactions were. Auditory lexical decision times were fastest for items rated both good and fast (e.g., *enchant*) in one interaction; and for items rated both good and strong (e.g., *ballerina*) in the other. This pattern of results was not consistent with the Wurm and Vakoch (1996) results for pure emotion words. It was interpreted as evidence of the other side of the adaptiveness coin: not danger avoidance, but the behavioral drive to obtain valuable resources. As the authors noted, both of these behavioral predispositions are essential to survival.

The fact that emotion dimensions affected routine lexical processing for stimuli that have nothing to do with emotion led to a fundamental rethinking of affective processing. In this reformulation, there was no longer any differentiation between emotion words and non-emotion words. In addition, the fact that different stimulus sets produced different patterns of results led the researchers to abandon the evaluation/potency/activity framework and develop a new one. It is to this alternative framework that we turn next.

## 2.2 The alternative framework: danger and usefulness

Each of the three different data patterns just mentioned could be forced to fit into an explanatory framework having to do with approach versus withdraw behavioral tendencies, adaptiveness for survival, and so on. The researchers found it troublingly easy to posit special circumstances under which one might predict the predominance of danger avoidance versus resource-gathering motives. Wurm and Vakoch (2000) argued that there is an inherent ambiguity in any framework built around a good/bad dimension such as evaluation or valence: What does it mean to say that something is good? As Wurm put it, “Good for whom, and to what end?” (Wurm 2007: 1218). He additionally pointed out that the most appropriate response to something rated bad might be either to approach or withdraw, and that some things, such as electricity and syringes, have both good and bad connotations.

Wurm and Vakoch (2000) chose as stimuli 100 nouns judged to have adaptive significance. Participants rated the stimuli on two eight-point dimensions. One of these was anchored at the low end with the text “not dangerous to human survival” and at the high end “dangerous to human survival”. The other dimension replaced the words “dangerous to” with “useful for”. For each word, the means of the danger and usefulness ratings were calculated. These means served as dimension weights for the stimuli in subsequent regression analyses.

A separate group of participants performed auditory lexical decision to these stimuli. Controlling for eight classes of stimulus-related variables known to affect processing speed (e.g., frequency and duration), the authors found main effects of both danger and usefulness. Participants made their lexical decision more quickly for items judged higher on danger (e.g., arrow), or higher on usefulness (e.g., apple). Each of these main effects corresponds to one side of the adaptive coin: danger avoidance and resource gathering.

Danger and usefulness also interacted, such that the facilitative effect of higher danger held only for words rated relatively low on usefulness. As usefulness increased, this facilitative effect flattened and in fact reversed, so that for words rated relatively high on usefulness, the effect of increasing danger was to slow the participants' responses. This pattern was interpreted in terms of competing approach and withdraw behavioral responses for stimuli high on both dimensions.

Because the fastest response times overall were for items rated relatively low on both dimensions (e.g., opera), and because the main effect of usefulness was nearly four times larger than the main effect of danger, the authors believed that the resource-gathering motivation was predominant. That interpretation meant that the results lined up with the conclusions of Vakoch and Wurm's (1997) study of randomly selected words. This made sense insofar as the earlier study included 77 % nouns, whereas Wurm and Vakoch (2000) used only nouns.

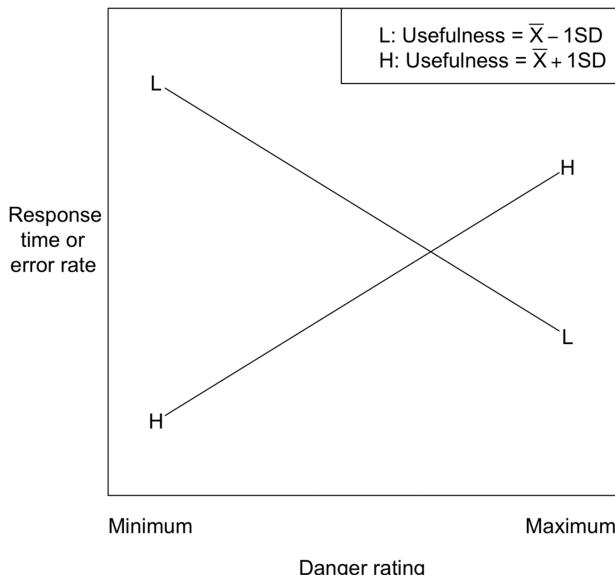
Subsequent studies, though, have shown that this predominance of the resource-gathering motive is extremely generalizable across tasks and stimulus sets (Van Havermaet and Wurm 2014, 2017; Witherell et al. 2012; Wurm 2007, 2015). These studies have used auditory and visual lexical decision, auditory and visual word naming, and picture naming. Many of the stimuli used in these studies have been common nouns (Van Havermaet and Wurm 2014) or nouns judged to have adaptive significance (Wurm and Vakoch 2000), but some of the studies (Witherell et al. 2012; Wurm 2007) have used more exhaustive selections of words from the English Lexicon Project (Balota et al. 2007), including verbs and adjectives.

Across all of these studies, the usefulness effect was on average five times greater than the danger effect. Usefulness was the numerically larger effect in every instance except for one of the experiments in Van Havermaet and Wurm (2014).

These studies have further shown that the interaction between danger and usefulness, too, is remarkably robust: it was significant in all of them. Figure 27.1 shows a general depiction of this interaction that does not come from any particular study, but rather visualizes the overall pattern that has been found in these studies.

The speed and accuracy of participants' responses improve as the rated danger increases, but only if those stimuli are also rated relatively low on usefulness. For stimuli rated higher on usefulness, the slope of the danger effect is reversed: responses become slower and less accurate in the context of increasing danger. The relative vertical positioning of the drawn lines varies from study to study, but the slope change indexed by the significant interaction has been remarkably consistent.

The theoretical explanation offered by Wurm and colleagues in these studies has hinged on the mapping of danger and usefulness onto innate, automatic withdraw and approach behavioral motivations (Schneirla 1965). In the context of lower usefulness, danger is an unambiguous negative and responses get faster. Items that are higher on useful-



**Fig. 27.1:** General depiction of the interaction between danger and usefulness, found in many of the reviewed studies. Response time or error rate is shown as a function of the rated danger and usefulness of the stimuli. Better performance is down.

ness, though, introduce a potential response conflict: High danger generally engages withdraw behaviors, but if the stimulus being perceived is also high on usefulness, approach behaviors are simultaneously engaged. This conflict manifests itself in slower response times and higher error rates.

Wurm (2007) proposed a two-stage model of semantic processing to explain this finding. The first stage operates very rapidly and automatically and works to extract behaviorally relevant affective information like that indexed by danger and usefulness. The second stage is somewhat slower but is required for a full semantic analysis. Crucial to the interpretation of Figure 27.1 is that motor responses can be readied or initiated on the basis of the fast but incomplete first stage.

A study by Wurm (2015) showed that danger and usefulness effects apply even to stimuli that are not real words, suggesting that the theoretical interpretation may need modifying. He asked participants to rate spoken and printed *pseudowords* (e.g., ranand) on danger and usefulness. Pseudowords by definition have no semantic representations, so several participants expressed some initial hesitation before making these judgments. It is unknown on what basis participants made these judgments, but after being encouraged to just do their best, all were willing to do so.

There were danger and usefulness effects in both auditory and visual lexical decision times for these pseudowords. That is, the same variables affecting the “Yes” lexical decision times also affect the “No” lexical decision times, which are as a general rule not even examined in most studies. Thus, it may be, as claimed in many of the earlier papers (e.g., Wurm 2007), that danger and usefulness come to be a part of the meaning of lexical stimuli; but the pseudoword results show that the same effect arises even in the absence of any

semantic representation at all. Wurm (2015) took this to suggest that attempting to assess incoming stimuli on danger and usefulness is a pervasive foundational characteristic of human perceptual processing. This conclusion was further supported by Van Havermaet and Wurm (2017), who found danger and usefulness effects using line drawings as stimuli.

## 3 Embodiment

The foregoing interpretation of Figure 27.1 fits with a version of what has been called *embodied cognition*, *situated cognition*, or *grounded cognition* (Barsalou 1999a, 1999b, 2008; Engel et al. 2013; Glenberg 1997). A range of models varying in the strength and sweep of their assumptions is subsumed under these labels (Wilson 2002), but the most important ideas in the current context are that perception operates in the service of action, and that perception works the way it does because of the particular bodies humans have.

Bradley and Lang (1994) hinted at the idea of embodiment by connecting valence and arousal to the constructs of *direction* and *vigor* in Hebb's (1949) seminal description of the foundations of behavior: "To the extent that language has developed to describe important parameters of behavior, it is reasonable that its primary dimensions are related to those that control action. Ratings of pleasure reflect one's tendency to approach a stimulus, whereas displeasure reflects a tendency to withdraw, escape, or otherwise terminate the encounter" (Bradley and Lang 1994: 57). Thus, the idea of embodiment is in no way unique to the danger and usefulness framework. Nevertheless, to date it is only within that framework that researchers have attempted to connect emotion effects to the relatively new *body-object interaction* (BOI) construct (Siakaluk et al. 2008a, 2008b; Tillotson, Siakaluk, and Pexman 2008). The introduction of BOI provided a way to test whether danger and usefulness effects required the embodied interpretation they were generally given.

### 3.1 Body-object interaction

BOI is defined as the ease with which one can interact with an object. A number of studies have demonstrated that higher values on BOI are associated with faster or more accurate responses in a range of tasks including visual lexical decision, semantic categorization, word and picture naming, and syntactic classification (e.g., Bennett et al. 2011; Newcombe et al. 2012; Sidhu et al. 2014; Sidhu and Pexman 2016).

Van Havermaet and Wurm (2014) reasoned that if danger and usefulness effects reflected embodiment, then those dimensions would be expected to interact with a construct as explicitly embodied as BOI. They conducted two lexical decision experiments, one auditory and one visual. Stimuli were 102 words that had already been rated on danger and usefulness as part of several previous studies. One group of participants rated the stimuli on BOI, using the instructions of Tillotson et al. (2008). Two additional groups performed speeded lexical decision.

In the auditory lexical decision experiment, there was a significant danger × usefulness interaction very similar to the one shown in Figure 27.1. In addition, BOI interacted sepa-

rately with both danger and usefulness. Intuitively it would seem that danger and usefulness effects would be stronger for items rated higher on BOI (e.g., knife), because these are things with which one can more easily interact. Contrary to this hypothesis, both danger and usefulness effects were stronger for items with *lower* BOI ratings (e.g., army).

Results from the visual lexical decision task supported this finding. In this case the three-way BOI × danger × usefulness interaction was significant. Items rated lower on BOI showed the expected danger × usefulness interaction, similar to Figure 27.1, but items rated higher on BOI did not. A follow-up picture-naming study (Van Havermaet and Wurm 2017) found the same three-way interaction as the visual lexical decision experiment. Once again, items rated lower on BOI showed the familiar danger × usefulness interaction (see Figure 27.1). Those rated higher on BOI did not.

Van Havermaet and Wurm (2014) noted that BOI interacting in the way it did suggests competition with danger and usefulness rather than synergy, which might be due to the fact that the information captured by BOI is of a more general type than that indexed by danger and usefulness. BOI simply indexes the possibility of physical interaction with something, while danger and usefulness are defined as having specific relevance to survival processing (Wurm 2014: 16).

The fact that the same result was found with pictures suggests that even with stimuli that are not purely linguistic, one can observe interactions between affective and embodied constructs (Van Havermaet and Wurm 2017).

### 3.2 Separating input from output processes

Does this mean, then, that the embodied interpretation given to danger and usefulness effects is warranted? One intriguing study provides supporting evidence from a variety of experimental tasks, and suggests a rich avenue for future research. Wurm and Seaman (2008) conducted a study exploring the role of attentional resources in word recognition. They reasoned that stimuli high on both danger and usefulness might automatically draw attention away from the performance of mundane tasks like lexical decision and naming, freeing it up to be used in preparing real-world responses appropriate to those important objects. Such reasoning is reminiscent of the automatic vigilance hypothesis described above.

Wurm and Seaman (2008) used a mixture of experimental tasks in the hope of gathering converging evidence for this attentional account. First, they observed the expected danger × usefulness interaction using the auditory naming (shadowing) task (cf. Figure 27.1). This allowed them to conclude that the effect is a low-level perceptual effect rather than one due to post-perceptual contamination or decision-level biases associated with lexical decision (Balota and Chumbley 1984, 1985).

Then they switched to the far more difficult *perceptual identification task* (Thapar and Greene 1994), in which the spoken stimuli were embedded in noise. Participants were given several seconds to write each word they thought they were hearing, and the accuracies were analyzed. Crucially, the danger × usefulness interaction was significant but displayed a nearly complete reversal from that shown in Figure 27.1: For items lower on usefulness,

there was a very slight decrease in accuracy as danger ratings increased, and accuracies overall were poor. For items higher on usefulness, though, recognition accuracy increased as danger increased. The best performance by far was for items relatively high on both danger and usefulness.

In a final experiment, these same perceptually degraded stimuli were used in a speeded naming task. The reversal was observed again, not only in the accuracies but also in the naming times. This confirmed that the reversal was due to the dramatic increase in task difficulty rather than to the absence of time pressure or some kind of strategic responding in the perceptual identification task.

To Wurm and Seaman (2008), this strongly suggested that the interaction observed with the standard lexical decision and naming tasks was indeed a reflection of an output-related conflict stemming from competing approach/withdraw responses, rather than having anything to do with the input (i.e., perceptual) portion of the process. It also lent support to the embodiment hypothesis, by highlighting important attention-related motor effects present during routine word recognition.

Wurm and Seaman (2008) noted that in the vast majority of lexical processing studies done, crystal-clear acoustic signals (or high contrast printed stimuli) are presented one at a time in a quiet environment free from any external distractions. The primary task of the participants, usually lexical decision or naming, is trivially simple. Near-perfect accuracy is guaranteed. In this environment, some portion of an observer's attentional resources might be automatically and subconsciously diverted from the recognition task toward the readying of behavioral responses. For behaviorally important stimuli such as those high on both danger and usefulness, this would make responses on the unimportant laboratory task slower and less accurate.

In contrast, when the recognition task is made difficult (correct recognition averaged about 60% in experiments 3 and 4 of Wurm and Seaman [2008]), those same stimuli are recognized the fastest and most accurately (cf. the *prior bias* of Broadbent 1967). In this situation recognition is not guaranteed, and thus full attentional resources are brought to bear on stimulus disambiguation.

## 4 Is usefulness emotion?

Danger has a clear relationship to the emotion of fear. The potential role of usefulness in most people's conceptualizations of emotion is far less obvious, but there is evidence that usefulness does indeed capture information that is properly thought of as affective. Panksepp (2007a, 2007b) conducted a review of the literature on emotion research in animals and concluded that there was good evidence for *seeking* as a basic emotion. Seeking seems strongly related to the function of usefulness, as construed by Wurm and colleagues. Similarly suggestive is the notion that human beings are *infovores* (Biederman and Vessels 2006) constantly on the lookout for novelty and information.

Izard's (2007) emotion framework, based on a review of the literature on human emotions, provides another link. He includes *interest* as a basic emotion, calling it "the principle force in organizing consciousness" and asserting that it "is most likely to be the emo-

tion in the human mind that continually influences mental processes” (Izard 2007: 271). This calls to mind another example of Wundt foreshadowing recent developments. In describing his tridimensional theory, he asserted that “we are never in a state entirely free from feeling” (Wundt 1897: 83).

## 5 Conclusion

This chapter has summarized research aimed at arriving at a fuller understanding of the role of semantics, connotation, and the expression of emotion. The danger and usefulness framework has much to recommend it as an alternative to more established frameworks. It represents an explicit attempt to capture the relationship between affect and action that has long been theorized (e.g., Hebb 1949; Lewin 1935; Schnierla 1959, 1965; Solarz 1960). As a result, it bears more directly on the affect/action link than other frameworks do, which results in less interpretational ambiguity. This should allow researchers to get a firmer grip on the underlying why-questions relating affect to perception, cognition, and action (Nairne and Pandeirada 2010).

The danger and usefulness framework is at least as powerful statistically as major competing frameworks, explaining more variance in lexical decision times (Wurm 2007) and in auditory naming times (Wurm and Seaman 2008). Danger and usefulness effects also seem to be general and pervasive. They do not require a priming manipulation or the use of emotion words or Stroop-type tasks. In fact, the effects do not even require that the stimuli be real words (Wurm 2015).

## 6 Future directions

Given the newness of the danger and usefulness framework, it is not surprising that there are some areas in which research is scarce in comparison to that on other affective frameworks. For example, a tremendous amount of psychometric work has been done through the decades on frameworks based on evaluation/valence. The psychometric properties of danger and usefulness ratings have not been explored yet, and research efforts on this will be important.

Research relating electrophysiology to these dimensions is also scarce, consisting of a single study at present. Kryuchkova et al. (2012) presented spoken words to participants while measuring their evoked response potentials, and found effects of the danger and usefulness ratings of the presented words. The danger effect emerged very early, well before the time-points in the acoustic signals at which the words could be uniquely identified. Kryuchkova et al. (2012) interpreted this as consistent with the idea that there is a special fast-track cortical pathway for information that has crucial survival relevance (LeDoux 1996). Replication and extension of this work will also be important.

One especially intriguing area of research has more ambitious goals. The danger and usefulness framework was developed as a way to find a simple, straightforward explana-

tion for emotion effects in lexical processing. There is research on other cognitive functions suggesting that this same parsimonious framework might have applications there, too. Since 2007 memory researchers have devoted a great deal of attention to what Nairne and colleagues call *survival processing* and *adaptive memory* (e.g., Nairne, Thompson, and Pandeirada 2007; Nairne and Pandeirada 2016). Researchers have found that just a few seconds of exposure to stimuli will produce enhanced memory effects, if during those few seconds the participants' task is to evaluate the relevance of those stimuli to a survival scenario. The authors have explained this finding within an evolutionary theory of memory that dovetails very nicely with the earlier danger and usefulness framework.

In fact, there had previously been suggestions that researchers should examine the links between language, memory, and embodied real-world action in a more systematic fashion. Barsalou (1999a) argued that it was past time for researchers to abandon their conceptualizations of language comprehension as a kind of passive memory system, arguing that it is a much more active system that has as its goal the preparation for real-world action. Glenberg (1997) took such a position as the starting point in his theoretical work on the purpose of memory. The positions of these authors, together with more recent work by Nairne and colleagues (Nairne et al. 2007; Nairne and Pandeirada 2016) would seem to provide a solid foundation for research that could cut across traditional subdisciplinary boundaries. It would be worthwhile indeed to make connections between these literatures, because doing so might point to even higher-level connections or more general cognitive processing principles (Wurm 2007).

## 7 References

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## **VII Language action and the processing of emotion**



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## 28 Pragmatics and emotions in social contexts

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**Abstract:** The current chapter aims to provide a brief overview of recent interdisciplinary approaches to the study of emotions. To this end, we describe the traditional approach to the study of emotions which mainly focuses on decontextualization. Then, we compare this traditional approach with more recent approaches to the study of emotions that call for the examination of emotions within their social contexts. We argue for the validity and efficacy of the recent integrative approaches, and we explain why these integrative approaches would greatly benefit from an interdisciplinary research focus. Additionally, we shed light on the basic assumptions underlying these recent approaches. Afterwards, we focus on the field of linguistics to illustrate how a specific field of knowledge examines emotions in social contexts. We, hence, show how linguists have moved away from decontextualization and made several attempts to examine emotions in social contexts. We identify relevant areas of linguistic research interests and describe illustrative linguistic studies on emotion from different sub-disciplines, including pragmatics, Critical Discourse Analysis, language acquisition, and psycholinguistics.

### 1 Introduction

Traditionally, researchers assumed that emotions represent evaluative content that is experienced by the isolated individual from within (Pepin 2008; Wilutzky 2015). Based on a theoretical perspective that emotions represent an object's value, emotions were generally empirically examined in laboratory settings where participants' reactions to selected stimuli or pictures of stimuli were measured (Fisher and van Kleef 2010). Such theoretical perspectives and empirical practices were supported by philosophical views considering emotions as judgments of value and importance (Nussbaum 2004), attitudes towards objects exhibiting certain evaluative properties (Deonna and Teroni 2012) or appraisals of the significance of a stimulus based on its properties (e.g., Scherer 2001) or core relational themes (Lazarus 1991; Prinz 2004). An obvious underlying assumption of these approaches to the

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study of emotions is that they examined emotions in a decontextualized manner, abandoning their social, relational, and interactional dimensions (Pepin 2008; Wilutzky 2015).

In contrast to these traditional views, researchers have recently developed increasing interest in examining emotions within their social and pragmatic contexts. This perspective was shared by a variety of disciplines, including linguistics, psychology, and sociology, and allowed for a cross-disciplinary approach to research. The current chapter follows in this relatively new direction of studying emotions in social interactions. To this end, this chapter will address three topics. First, the chapter will refute the widely held conception that emotions should be solely examined in a decontextualized manner by highlighting the notion that emotions are inherently ways to interact with one's social environment (Wilutzky 2015). Reference will be made to how emotions represent pragmatic and epistemic actions. Second, emphasis will be placed on the interdisciplinary nature of emotion studies within the social context (Pepin 2008). We will shed light on the common assumptions and methodological principles among relevant disciplines. Finally, focus will be placed on efforts in a variety of linguistic disciplines to examine emotions in social interactions.

## 2 Emotions in social contexts

In this section, we argue that emotions need to be examined within their social and pragmatic context. This call for a paradigm shift echoes repeated calls by researchers from a variety of disciplines. An important argument in this regard is that emotions are naturally social phenomena (Wilutzky 2015). Not only do emotions occur in social contexts, but they mostly represent reactions to others in this context or are expressed towards other people. In fact, several emotions arise in response to particular social settings. Examples include the emotions of shame, envy, love, and hate which require other people as targets or observers to occur in the first place (Wilutzky 2015). Additionally, emotions influence and are influenced by interpersonal communication (e.g., Brody and Hall 2008; Işık-Güler and Ruhi 2010). For example, emotions such as feeling sad, irritated or angry can be generated by face damage or violation of interactional principles. In fact, it has been found that face threat/enhancement and violations/upholding of the interactional principles of equity and association play a central role in eliciting emotional reactions (Dezecache, Mercier, and Scott-Phillips 2018).

Another important argument for the study of emotions within their social context is related to the instantaneous stylistic choices speakers are forced to make in situations involving interpersonal address (Beeman 2014). Faced with a given situation, speakers seem to automatically encode their emotions and assess the emotional reactions of others at the moment of speaking. The speed with which such perception and expression of emotions takes place does not allow for appraisals of value and objects as traditionally assumed by theories of appraisals (e.g., Lazarus 1991; Prinz 2004; Scherer 2001). In fact, neurological studies (e.g., Damasio 1994, 1999; Damasio et al. 2000; LeDoux 1998) show that certain brain areas direct the body to act based on the new sensory data in combination with the information about past experiences. Any damage to these brain areas (e.g., the amygdala) could make individuals lose their ability to gauge the reactions of others or to produce

proper linguistic and non-linguistic responses in social situations. Hence, an effective study of emotions requires careful consideration of past experiences of similar social contexts.

Additionally, there is an intricate interplay between emotional content and culture. There are strong cultural differences in the appropriate display of emotion expressions (e.g., Ekman and Friesen 1971; Matsumoto, Yoo, Fontaine et al. 2008; Matsumoto, Yoo, Fontaine et al. 2009; Matsumoto, Yoo, Nakagawa et al. 2008). A number of studies (e.g., Engelmann and Pogosyan 2013; Hareli, Kafetsios, and Hess 2015; Tanaka et al. 2010) have implied that cultures vary in how they process emotions from different information sources and how they regulate emotional expression and understanding. For example, it has been found that one's native language influences the perceptions of emotions (e.g., Riviello et al. 2011; Riviello, Esposito, and Vicsi 2012). For instance, some cultures tend to rely more on vocal cues than on faces (e.g., East Asians) to read and express emotions while other cultures (e.g., Westerners) rely on facial expressions more frequently (e.g., McCarthy, Itakura, and Muir 2006, 2008). These differences may reflect cultural values such as individualism and collectivism (Matsumoto, Yoo, Fontaine et al. 2008), openness to change (Koopmann-Holm and Matsumoto 2011) or masculinity (Sarid 2015), among others. Hence, a thorough and comprehensive examination of emotions cannot be separated from their cultural context.

In line with the above arguments, Wilutzky (2015) calls for analogizing emotions to pragmatic and epistemic actions. According to Kirsh and Maglio (1994), pragmatic actions aim to achieve certain goals. Likewise, emotions aim to achieve social goals by influencing or changing one's standing and/or relation within a social group (Fischer and Manstead 2008). In support of this analogy, Wilutzky (2015) comments that sadness serves an affiliative function through showing others that one needs support. Similarly, fear serves a distancing function through putting distance between oneself and others, and anger serves the function of imposing change in order for anger to disappear. As for epistemic functions, they are assigned the function of uncovering information that is hidden. Analogous behavior can be observed in emotional reactions. For example, if threatened, one can shout out aggressively, "What's that?" or "What do you want?" in order to discover more about the other's intentions and the situation (Wilutzky 2015).

Along these lines, a few theoretical models that take this social/pragmatic perspective of emotion into account have emerged. A clear example is Fogel's (1993) social process theory of emotion which considers emotions as self-organizing dynamic processes closely related to an individual's activity with a social and physical context. This theory highlights that the integration and coordination of the different emotional components arises from the co-regulated interchange between individuals and between individuals and the context, not an internal system within the individual. In fact, Fogel (1993) postulates that the capacity of particular events to trigger specific emotions varies in accordance with the dynamics of the emotion in relation to social context. For example, the event (bursting into a laugh) may trigger pleasant or unpleasant emotions based on a number of contextual variables including the appropriateness of the action to the situation in question (e.g., dinner or funeral), the interactant's prior emotional state (e.g., happiness, anger or sadness), and the physical environment (e.g., a noisy crowd or a silent assembly) (Marinetti, Moore, and Lucas 2011).

In this section, we have argued for the study of emotions within their social and pragmatic contexts. This new direction is gaining increasing popularity with a growing number of publications examining emotions in social interactions in interconnected and yet independent disciplines. In the next section, we will shed light on the interdisciplinary nature of research on pragmatics and emotions, and highlight the common assumptions and methodologies among relevant disciplines.

### **3 Interdisciplinarity of emotion research**

After long decades of confining emotion research to the field of psychology, multiple academic disciplines are increasingly coming together to understand emotion in social contexts. Linguists are intrigued by the interplay between language and emotion with special reference to how language expresses emotion and how emotion influences different linguistic structures and patterns (Majid 2012). Legal researchers are interested in understanding the relation between emotion and judicial practice, while recognizing similarities and differences in the structure and organization of the courts and the sociocultural variation in emotional experience and expression (Blix et al. 2019). Political scientists need to study the emotions underlying the political process since affective manifestations of politics are enormously influential and profoundly change the face of inter- and intra-national political systems and relations (Prior and van Hoef 2018). Historians have examined how emotions characterize the spirit of different historical eras and are influenced by the civilizing process revolving around them (Ruberg 2009). Research in literature has examined emotion in fictional works with justifiable interest in the authors', characters', or readers' emotions (Lyytikäinen 2017). Economists are paying increasing attention to the role emotion plays in economic behavior, including decision-making and judgment (Rick and Loewenstein 2008). Computer scientists and artificial intelligence researchers, who are interested in modelling and simulating cognitive processes, see emotion as a crucial element to model perception, learning, decision processes, memory, behavior, and other functions (de Freitas, Gudwin, and Queiroz 2005).

Despite occasional differences in discipline, theory, and methodology, all these fields of study share a commitment to link emotions to the context in which they occur. Pepin (2008) describes how these fields of study adopt an innovative perspective to the study of emotions:

Emotions are first and foremost considered to be social phenomena in which the individual is positioned within the framework of intersubjective relationships. Seen from this angle, emotions circulate between individuals, groups, situations and cultures. They are displayed and constructed in and through talk-in-interaction, subjected to social norms and accountable for participants as well as for observers. Methodologically, these approaches have a higher empirical value based on authentic discursive data observed, collected and transcribed by the researcher. (Pepin 2008: 2)

In fact, Pepin (2008) commends these innovative approaches because they allow researchers to examine emotions from a variety of perspectives, including cognition, identity, politeness, socialization, and transfer of knowledge.

Additionally, Pepin (2008) highlights that researchers from these diverse fields of study “agree that a better understanding of emotions relies on the analysis of social interactions and interpersonal communication” (Pepin 2008: 2). As a result of this common insight, studies on emotions in social interactions generally share a number of common assumptions. Pepin (2008) identifies six of these assumptions:

1. Emotions emerge in situated activities. In other words, emotions emerge in social activities in interactional settings of different natures, including face-to-face interactions, multiparty interactions and mediated interaction.
2. Emotions are intertwined in the sequential nature of talk-in-interaction. The exchange of turns in conversation influences and is influenced by emotions.
3. Emotions are resources for actions. They do not only give meanings to actions, but they also influence the interaction and the behavior of interlocutors and the relation among them.
4. Emotions are co-constructed. Emotions emerge in and through social interactions during which emotions are jointly constructed, deconstructed, and reconstructed by the participants. This nature of emotions means that the context influences the emergence of emotions while emotions contribute to the configuration of the context.
5. Emotions are embodied and distributed phenomena. They are displayed through a wide range of methods including verbal and non-verbal codes.
6. Emotions assume a public character. They are not only accessible to participants in interaction, but also to external observers, including researchers.

In addition to these common assumptions, Pepin (2008) highlights that innovative perspectives to the study of emotion show a distinct preference for the use of authentic data, that is, data collected from authentic situations that are unprovoked by the researcher. This methodological turn has been supported with the current technological advancement which allowed researchers to use high-quality, portable, and discreet recording equipment. In this context, ethnomethodology grew in favor with researchers collecting data on-site for social interactions, not in laboratory settings.

Obviously, emotion interests different disciplines, although none of them will claim it as their own or will give it a central role (Cánovas n. d.). However, this interdisciplinarity is viewed by some researchers as “deceiving” (Cánovas n. d.) because each of these disciplines adopts a self-contained approach that focuses on the aspects of the phenomenon that are closest to the concerns of this particular discipline. This approach does not facilitate forming a comprehensive understanding of emotions since emotions remain confined to separate compartments. Hence, there have been repeated calls recently to turn this “multidisciplinary” approach to the study of emotions into a proper “interdisciplinary approach” that cuts across body, brain, mind, context and culture. Attempts to develop theoretical frameworks that allow this integration (e.g., Conceptual Integration Theory, or Blending Theory by Gilles Fauconnier and Mark Turner [2002]) are underway. However, we will not discuss these models here as they fall out of the scope of this chapter. What we will now turn to is to see how linguists approach emotions within social and pragmatic contexts. This review of linguistic studies serves as an illustration of how different disciplines currently address emotions as socially situated phenomena.

## 4 Linguistic studies of emotion in social context

Almost 60 years ago, Jakobson (1960) highlighted the importance of the emotive function of language and criticized linguists for disregarding this significant function and solely focusing on the referential use of language. Jakobson (1960: 354) rightly claimed that the emotive function of language “flavors to some extent all of our utterances, on their phonic, grammatical, and lexical level” (Jakobson 1960: 354). Despite these early efforts, most linguists still overlook the relationship between language and emotion and seem reluctant to address emotion in language. This reluctance may be due to a pervasive attitude toward emotion as subjective, inner experiences which will not be compatible with rule-governed structures linguists have been examining for decades (Günthner 1997; Irvine 1990). It could also be due to a number of widespread views about language and communication that have indirectly hindered the integration of language and emotion (Jensen 2014). For example, the view that language is based on the use of words led to a distinction between language versus body language and verbal versus non-verbal communication. Since emotion is highly related to body language and non-verbal communication, emotion tended to be disintegrated from language. Likewise, the conception of language as a social phenomenon without any consideration of its biological dimension has led to an illegitimate separation between language and emotion since the latter is generally examined within a biological background.

The strong emerging trends calling for the examination of emotion from a cross-disciplinary perspective, as discussed above, have recently led to a paradigm shift in linguistic studies. Over the last three decades, a number of studies have addressed questions related to the relationship between language and emotion from an objective, scientific view in what has now been called “the emotional turn” (Le Doux 2000). Most of these studies acknowledge that “emotion and language belong together. [...] that emotion in fact lies at the heart of language if viewed as an embodied dialogical activity” (Jensen 2014: 1). These studies thus view emotions as situated practices in social interactions and show great interest in examining the production and interpretation of emotion in our daily discourse (e.g., Filik, Hunter, and Leuthold 2015; Günther 2011; Jensen 2014). Interestingly, researchers simultaneously show interest in examining the bidirectional influences between the communication of emotion and the use of linguistic resources, including phonological, lexical, syntactic, and discourse structures (e.g., Günther 2011; Jiménez-Ortega et al. 2012; Lindquist, MacCormack, and Shabrack 2015; Majid 2012).

In the same vein, recent psychological constructionist models (e.g., Barrett 2006) support that language and emotions must be examined in integration since language plays a fundamental role in emotion experiences and perceptions. Most psychological constructionist views argue for a role for language in individual emotion experience/perception because language supports the acquisition and use of concept knowledge which is crucial for making sense of emotions (Lindquist, MacCormack, and Shabrack 2015). In order to make meaning of someone else’s affective movements (e.g., wide eyes, gaping mouth, and white knuckles), one makes use of concept knowledge (e.g., knowledge about “fear”) and exteroceptive sensations (e.g., the sights of someone riding the roller coaster). In fact, developmental and cognitive studies in support of psychological constructionist models have

revealed that language scaffolds concept knowledge, helps individuals to acquire abstract concepts such as emotion categories, and helps them use concepts to make meaning of ongoing sensory perceptions (Lindquist, MacCormack, and Shabrack 2015).

To gain a clearer picture of the interconnectivity of language and emotion, we will provide a brief overview of some relevant research directions in the remainder of this chapter.

## 4.1 Phatic communication

At the heart of linguistic studies on emotion comes phatic communication, which, according to Malinowski (1943), refers to a kind of speech in which creating social ties is more important than conveying information. In fact, phatic utterances, such as expressions of greetings, questions about the interlocutors' health, or comments about the weather, "primarily aimed at establishing and maintaining social bonds between individuals over and above the exchange of information and, hence, do not necessarily express any particular thought nor aim to exchange facts" (Vetere, Smith, and Gibbs 2009: 178). Phatic communication has triggered the interest of various language sciences, such as sociolinguistics, semantics, stylistics, and conversation analysis. Most of these studies have attempted to identify the various linguistic means used by interlocutors to communicate phatically in diverse social contexts (e.g., al-Qinai 2011; Coupland and Coupland 1992; Drew and Chilton 2000). More recently, however, the phatic Internet has become a main area of focus (e.g., Kulkarni 2014; Yus 2019) due to its increasing use for sharing feelings of connectedness, bonding and group membership, etc. (Yus 2019). As Miller (2008) puts it, "communication [over the Internet] has been subordinated to the role of the simple maintenance of ever-expanding networks and the notion of a connected presence" (Miller 2008: 298).

## 4.2 Expressive speech acts

Similar to phatic communication comes the use of expressive speech acts which are one of the five basic categories of speech acts identified by Searle (1976). Expressive speech acts express the speaker's feelings about themselves or the world (Searle 1976), the speaker's psychological conditions (Norrick 1978), or the speaker's state of mind, attitudes and feelings (Taavitsainen and Jucker 2010). Sample categories of expressive speech acts include agreement, disagreement, volition, offering thanks, apologies, exclamation, expressions of sorrow and greetings (Ronan 2015). Expressive speech acts, unlike other types of speech acts, have been under-researched (Maiz-Arévalo 2017; Ronan 2015). Only recently and with the increasing interest in the interplay of language and emotion have researchers started to show growing interest in the study of expressive speech acts (Ronan 2015) and the expressive function of language in general (Bednarek 2008; Foolen 2016; Riemer 2013; among many others). Pragmatic research on expressive speech acts has employed a variety of data-collection methods including introspection, laboratory-based methods (e.g., discourse-completion tests, role-plays, etc.), field notes, conversational analytical methods and, to a much lesser extent, corpora (Ronan 2015). Pragmatic research has also demonstrated great varia-

tion in terms of topics. Sample areas of focus have been the categorization of expressive speech acts in daily communication (e.g., Ronan 2015), the influence of different factors on the identification of expressive speech acts (e.g., Kallen and Kirk 2012), the analysis of expressive speech acts in the works of literature and movies (e.g., Handayani 2015; Sirwan and Yulia 2017) and the examination of expressive speech acts in electronic communication (e.g., Maíz-Arévalo 2017).

### 4.3 Emotional talk

Another important area of focus comes from the field of child language acquisition. The development of emotional talk by children stands out as a significant area of research. As Huang (2011) puts it, “it is important for language-learning children to learn how to express and talk about feelings in appropriate ways, and to recognize others’ moods and emotions” (Huang 2011: 593). Among the interesting findings in this area are that children can express affect using conventional linguistic means from a very early stage of language development (Ochs 1986) and that language plays a socialization role of different emotions (e.g., Clancy 1999; Fung 2006; Suzuki 1999). It was also found that caregivers’ use of emotion labels prior to children’s acquisition of language may facilitate the child’s acquisition of emotion terms, and that the use of a greater number of and more differentiated emotion terms may result in more differentiated emotion experiences by children (Lewis and Michalson 1982). More studies in this area are needed to enrich our understanding of the development of emotion talk among children of different languages.

### 4.4 Swear/taboo words

Another area of research is the use of swear/taboo words in different social and pragmatic contexts. The use of swear/taboo words (such as  *fucking, shit, god-damn*) is commonly associated to the expression of emotion and has attracted the attention of linguists (Alba-Juez and Mackenzie 2019). There is a great variety of terms that refer to swear/taboo words, including labels such as “profanity”, “expletives”, “curse words”, “taboo words” and more (Mackenzie 2019). However, these labels seem to be used interchangeably without sustained efforts to define these terms or differentiate between them (Goddard 2015). Most studies in the area of swear/taboo words discuss their place in relevant linguistic theories and discourse semantics (Bednarek 2019a). For example, Jay and Janschewitz (2008) showed that the appropriateness of swearing is highly contextually variable and that it depends on the speaker-listener relationship, the physical and social context, and the actual words used. In the same vein, Bednarek (2019b) found that the use of swear/taboo words in a selection of US television series is associated with social attitudes and judgments, including language ideologies, and is subject to regulation. Research on the use of swear/taboo words is attracting increasing attention due to its strong association with a number of theoretical models, including models of politeness/impoliteness and systematic functional linguistic theories, and its variation among different social and pragmatic contexts.

## 4.5 Interjections

Similar to the study of swear/taboo words, interjections represent another interesting area of study that displays the relation between emotion and the lexicon. Interjections (e.g., *gosh*, *oops*, *boo* and *grr*) can be defined as words used to express strong feelings or sudden emotions. Despite the fact that all languages have emotive interjections, the literature on interjections and emotion can be characterized as sparse and scattered (Downing and Caro 2019). Goddard (2014) attributed this neglect to a number of reasons including (i) the consideration of interjections as a marginal phenomenon, (ii) some difficulty in defining and classifying interjections and (iii) their close association with the expressive, non-descriptive, component of language. However, in light of the recent interest in the study of emotion within social/pragmatic contexts, a number of researchers have started to show interest in examining interjections as emotive expressions. For example, Goddard (2014) provided an overview of the functions, meanings, and cross-linguistic variability of interjections and called for an interdisciplinary research agenda for the study of emotive interjections. Other researchers have examined specific interjections, such as Downing and Caro (2019) who showed how *gosh* functions as a pragmatic marker in present-day English, or provided a description of the use of specific interjections within particular dialects, such as Stange (2016), who conducted a corpus-based study on emotive interjections in British English.

## 4.6 Bilingual communication of emotions

Additionally, linguists have been interested in examining the pragmatic challenges of communicating emotions among bilinguals. In this context, two types of failure are relevant: (i) pragmalinguistic failure and (ii) sociopragmatic failure. According to Thomas, pragmalinguistic failure, on the one hand, “occurs when the pragmatic force mapped by [the speaker] onto a given utterance is systematically different from the force most frequently assigned to it by native speakers of the target language, or when speech act strategies are inappropriately transferred from L1 [first language] to L2 [second language]” (Thomas 1983: 99). On the other hand, the source of sociopragmatic failure “stems from cross-culturally different perceptions of what constitutes appropriate linguistic behavior” (Thomas 1983: 99). Most relevant studies have adopted a cross-linguistic and cross-cultural approach. Relevant findings show that L1 words typically exhibit higher emotionality than corresponding L2 words (Dewaele 2013, 2015, 2017). Additionally, different cultures tend to express emotions using different mediums. For example, many Asians prefer to express love non-verbally rather than verbally in their L1 and view Westerners as typically too verbose in expressing their emotions (Dewaele 2008). Such cultural differences in the expression of emotion emerged among a variety of language backgrounds, such as Chinese-English (Caldwell-Harris, Kronrod, and Yang 2013) and Polish-English bilinguals (Ożańska-Ponikwia 2019). These cultural differences cause pragmatic challenges for communicating emotions, particularly among intercultural couples. For instance, intercultural couples often report facing lexical and conceptual limitations and lack of emotional resonance in the L2 (Dewaele and Salomidou 2017). It is intriguing to explore these pragmatic obstacles in more depth and examine how to overcome them.

## 4.7 Critical Discourse Analysis

A number of linguists also examine emotion in different discourse types using Critical Discourse Analysis (CDA). CDA is a well-known theoretical framework employed in a variety of contexts to explore relationships of causality between discursive practices, events and texts, and wider social and cultural contexts and examine how these practices, events and texts arise and are ideologically shaped by power relations (Fairclough 1993). One interesting discourse type in this regard is media discourse, which has become increasingly subjective with the widespread influence of emotional meaning (Belmonte 2019). As Peters (2011) puts it, “one significant change over the past few decades in journalism is not that the news has become emotional (indeed, it has always been); rather, the diversity of emotional styles, the acceptability of journalistic involvement, and attempts to involve the audience have become more explicit” (Peters 2011: 297). In fact, the emotive influence on discourse has surpassed journalistic discourse (e.g., Belmonte 2019; Stenvall 2008, 2014) to a diversity of discourse types, such as political communication (e.g., Breeze 2019; Hart 2018), literary texts (e.g., Dijkstra et al. 1994; Holoborodko 2018) and advertisements (e.g., Park and Lee 2019; Svetanat, Ballsun-Stanton, and Rutherford in press). Obviously, findings in this domain provide rich insights on the role of emotional meaning in discourse comprehension and the influence of affective values on people’s reactions and perceptions. Additionally, the findings of these studies usually put forward enlightening implications for professionals in relevant disciplines, such as politicians, writers, advertisement designers, and journalists.

## 4.8 Psycholinguistics

Interdisciplinary studies between linguistics and psychology have also demonstrated great interest in the study of emotion. In addition to various attempts to examine the processing of emotion words in isolation (e.g., Altarriba and Basnight-Brown 2011; El-Dakhs and Altarriba 2018, 2019; Kazanas and Altarriba 2016) and in sentential contexts (e.g., Child, Garnham, and Oakhill 2019; Ding, Wang, and Yang 2016; Jiménez-Ortega et al. 2012), the last decade has witnessed a large number of studies examining emotions in social and pragmatic contexts from a joint linguistic and psychological perspective. Sample studies here found a strong relation between receptive vocabulary and literacy, on the one hand, and emotion knowledge, on the other hand, among school-age children (e.g., Beck et al. 2012), an influence for emotion on language choice and use in bi- and multilingual families (e.g., Pavlenko 2004) and a relationship between second language learners’ emotions and their willingness to communicate in the second language (e.g., Dewaele and Pavelescu 2019; Khajavy, MacIntyre, and Barabadi 2018). Other sample studies explored the relationship between linguistic and emotion competencies in specific contexts. For example, Alba-Juez and Pérez-González (2019) showed a positive correlation between emotional intelligence and pragmalinguistic competence in the workplace; Dewaele, Lorette, and Petrides (2019) found a positive correlation between Trait Emotional Intelligence and linguistic proficiency; and Hendon, Powell, and Wimmer (2017) showed a significant positive relationship between

emotional intelligence and social communication competence among information technology professionals. Obviously, these studies have significant practical implications pertinent to the context of study, including children's development, language learning and communication in the workplace.

## 4.9 Illustrative studies

To illustrate how linguistic studies examine emotion in social context, let's have a look at three relevant studies from the fields of communication, Critical Discourse Analysis, and psycholinguistics. An illustrative communication study was conducted by Ożańska-Ponikwia (2019) regarding the perception and expression of emotions by Polish immigrants in England and Ireland. A total of 72 Polish-English bilinguals with varied length of stay in England and Ireland were recruited for the purpose of the study. Data were collected using four questionnaires (personal background questionnaire, socialization questionnaire, L2 use questionnaire and expression of emotion in L2) as well as questions concerning perception of the phrase *I love you* in the participants' L1 and L2. Data were analyzed concerning both perception of emotion in the L1 and L2 as well as expression of emotion in L2. The results showed that even though the emotionality of the *I love you* phrase was stronger in the participants' L1, perception of its emotionality in the L2 varied based on the participants' length of stay in England/Ireland and self-perceived proficiency and frequency of L2 use. Additionally, the statistical analysis revealed that socialization into the L2 culture and the degree of L2 use constituted the strongest predictors of emotion expression in the L2.

Another illustrative study comes from the field of Critical Discourse Analysis. Svantanant, Ballsun-Stanton, and Rutherford (in press) investigated the emotional engagement in Thai and Japanese television commercials of insurance products. The authors built comparable corpora of advertising text in Japanese and Thai languages. The corpora included both spoken text (the advertising narrative delivered in dialogue or voice-over) and on-screen text (captions displayed on the television screen). The corpora were analyzed for salient keywords employing techniques from corpus linguistics, text linguistics, and the appraisal framework. The results showed that Japanese television commercials, on the one hand, highlight information-dense content-words, including the extensive use of statistical numbers demonstrating themes of security, health, and value propositions. On the other hand, Thai television commercials demonstrate a higher audience engagement through the use of metadiscourse markers such as engagement markers and emphatics under the theme of moral and family values.

A final illustrative study (due to space limitations) is a psycholinguistic study. Beck et al. (2012) examined the relation between multiple components of language competence and emotional competence among a sample of 210 school-age children. The children's language competence was measured in terms of receptive vocabulary, verbal fluency, literacy, narrative structure, and the narrative use of evaluative devices. The children's emotional competence was assessed through examining the children's expressive emotion vocabulary, declarative emotion knowledge, awareness of mixed emotions, and facial emotion

recognition. The results showed strong correlations between language competence and emotional competence. Interestingly, receptive vocabulary and literacy were closely related to emotional knowledge.

## 5 Concluding remarks

The study of emotion has received ever-increasing attention across a broad range of disciplines in recent years. While earlier notions of emotion representation focused on the internal value or internal “views” of how emotions are processed, regulated, and interpreted, more recently, emotions are being studied in broader situational, cultural, and social contexts. These investigations are taking place in areas such as linguistics, psychology, sociology, anthropology, and communications, just to name a few. The current analysis indicates that, indeed, emotions are often moderated by external prompts, such as the presence of others, or the mood created by a given situation, not only by internal states of feeling. This kind of analysis derives from data spanning the above areas of inquiry – data that seem to converge on the notion that pragmatics within a culture help to steer or drive emotional reactions, thoughts, and behaviors, as they serve to respond to contextual situations and contextual cues within the environment. Whether linguistic or non-verbal, emotional interpretations and reactions arise based on our analysis of a given situation and the motivation or agenda of the interlocutors with whom we interact. Quite clearly, there is greater value in interpreting emotions and emotional reactions within a pragmatic context than attempting to understand the processing of emotion devoid of that context. The data shared and interpreted within the current chapter serve to underscore this main conclusion. Future research should focus on how different contexts motivated by culture and language serve to influence the ways in which emotions are displayed and interpreted and how they change over time, particularly in a developmental manner, across the human lifespan.

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Claudia Caffi

## 29 Rhetoric, stylistics, and emotion

- 1 Introduction
- 2 A rhetorical-stylistic perspective on language and emotions
- 3 Theoretical premises
- 4 Language and emotion: steps in the rhetorical path
- 5 Language and emotion: steps in the stylistic path
- 6 Linguistic means encoding emotions in spoken Italian
- 7 The temperature metaphor
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**Abstract:** The rhetorical-stylistic perspective has been largely neglected or even ignored by research on language and emotion. Although undoubtedly partial, this perspective offers a vantage point for understanding the interface between language and emotions because speakers shape their identities in ongoing speech through their stylistic choices. The present contribution has two main goals: first, to offer an overview of the most important ideas about the connection between language and emotion from a rhetorical and stylistic viewpoint; second, to present some proposals for describing this connection in a systematic fashion. These issues will be discussed within pragmatics, here considered the heir of classical rhetoric (cf. Caffi 2007, 2010). To achieve the first aim, I will briefly outline some key ideas propounded by the founders of both rhetoric (Plato and Aristotle) and early 20th-century stylistics (Bally, Spitzer). To achieve the second aim, I will draw on Caffi and Janney's (1994b) notion of emotive capacity and on Caffi's (2001, 2007) pragmatic integrated approach.

### 1 Introduction

Watzlawick, Beavin, and Jackson's (1967: 1) first axiom of human communication is: "One cannot *not* communicate." This could be glossed as: "One cannot not communicate *emotionally*". Emotions can be conceptualized in various ways: for instance, as "emotive meaning" or "expressive dimension" as in philosophical semantics (Black 1948; Potts 2007; Hess 2018), as cues relating to "impression management" as in social psychology (Tedeschi 1981), or as "stance" as in sociolinguistics (Jaffe 2009) and conversational analysis (Du Bois 2007). The crucial role of emotions in human language has been widely recognized by scholars across many fields throughout the centuries. However, despite the impressive body of work on the topic, the relationship between language and emotions still lacks a comprehensive and satisfactory account: "What we do have instead are various, partially

overlapping and partially conflicting, conceptualizations of emotional phenomena” (Peräkilä 2012: 275). One basic reason is that, while easy to detect, emotion is hard to describe. In fact, “there is no consensus about the definition of emotion” (Frijda 2001: 59).

This chapter explores the interface between language and emotions in everyday interactions from the combined perspective of rhetoric and stylistics. The focus is on the dialogic concept of style and the role of emotions in speakers’ choices. This will be illustrated with examples from standard spoken Italian.

The approach adopted comprises two phases. The first involves giving an overview of key ideas about the connection between language and emotions from a rhetorical and stylistic point of view as propounded by the founders of both rhetoric (Aristotle, Plato) and 20th-century stylistics (Bally, Spitzer). Being aware of, and grasping, the conceptual milestones of ancient scholarship can shed light on rhetorical and stylistic notions still used today.

The second phase consists in advancing some proposals for describing this connection on the basis of insights from previous theoretical and applied research on the topic. That is to say, a conceptual framework will be employed which shows the pervasiveness of emotion in language. This approach is based on the pragmatic concept of style (i.e., the encoding option expected in a given context).

The discussion will be set in the field of pragmatics, here considered the heir of classical rhetoric. The overarching aim of this chapter is to show that the rhetorical-stylistic dimension of speech can usefully complement other current approaches to emotions in addressing the dynamics of emotional processes. What follows is not intended as a general overview of all the issues involved but as a first focused answer to the question as to what the rhetorical and stylistic perspective can offer for a better understanding of the ways language and emotions are connected.

## **2 A rhetorical-stylistic perspective on language and emotions**

Over the past few decades, research on language and emotion has shifted its focus from a subject-centered, individual, and inner-related view of emotions toward an intersubjective, relational, and dialogic-related view – in other words, from an intra-personal to an inter-personal perspective (Sorjonen and Peräkilä 2012). Goffman’s (1955, 1979) notions of self and footing, Ochs and Schieffelin’s (1996) notion of affect, and, more recently, Du Bois’s (2007) notion of stance, played an important role in that shift. Among the relevant literature on language and emotion, suffice it to mention here that basic theoretical questions are discussed in Niemeier and Dirven (1997). The anthropological dimension of emotions in its interplay with power, identification, and identity is addressed by Wilce (2009). A cross-linguistic point of view inspired by cognitive theories and centered on lexicon is adopted in Wierzbicka and Harkins (2001). Cross-cultural pragmatic research, which combines anthropological and linguistic perspectives, has been carried out by Jaffé (2009). A contrastive perspective is adopted by many contributions in Baider and Cislaru (2014).

On the whole, the expression of emotions is part and parcel of the construction of individual, social or cultural identity. As a result, a true understanding of emotions has to take into account, and bridge the gap between, the following dimensions:

1. The different layers of experience of emotions, which are the surface, goal-directed layer connected with interpersonal work and the deeper layer connected with the inner world of one's feelings. This dimension is relevant to individual identity.
2. The expectations shared by members of a given community about what feeling to express in a given situation in a given encounter. This dimension is relevant to social identity.
3. The suitability of an emotion to a given context and the default way of expressing it as typical of a specific culture. This dimension is relevant to cultural identity.

Exploring these connections calls for interventions from many disciplines, in particular pragmatics, conversational analysis, the social sciences and (developmental, clinical, social and cognitive) psychology. It is also true, however, that rhetoric and stylistics, which have recognized the salience of emotions in speech and in the construction of identity since classical western antiquity, have important insights to offer to current research on emotions. As the French naturalist Buffon (1707–1788) put it, “The style is the man himself” (French “*Le style c'est l'homme*”).

### 3 Theoretical premises

Speakers’ (co-)identity is built up in speech through stylistic choices. These are directly linked with what in psychological research on emotion is viewed as the intensity (Osgood, Suci, and Tannenbaum’s [1957] “potency”) dimension. That is, besides investigating “which” emotion should be expressed in a given encounter, one should also explore “to what extent” it should be expressed. In other words, what “temperature” is appropriate in the expression of emotions in a given encounter?

Within a pragmatic, historically grounded perspective (see Section 4.1), the issue of emotions can be addressed via the pragmatic notion of style, i.e., the communicative choice made by a speaker in a given context (for a general discussion, see Sandig [1978]). It is precisely this notion of style that is the link between psychological approaches to emotions and linguistic pragmatic approaches to emotions. The pragmatic notion of style is rooted both in inter-subjectivity within a complex system of expectations (cultural, social, interpersonal) and in the subjects’ stances in Du Bois’ (2007) sense, i.e., the ways speakers position themselves with regard to both the content of their utterances and their interlocutors.

There is undoubtedly a close connection between linguistic and communicative choices, on the one hand, and expressions of and hypotheses about speakers’ feelings, on the other. Style is the sum of the surface traces of emotional stances at different degrees of intensity. Style results from some type of modulation of a given utterance in a given context. It is *the way linguistic actions are performed*. This means that a situated speech act, i.e., the basic unit of pragmatics (Austin 1962), encompasses affective aspects. Rather than

being mere additions to a hypothetical invariant content (or “ways to express one and the same thing”, Hickey 1989: 8), “stylistic choices can be viewed as the surface traces of monitoring processes shaped by emotive features of interaction” (Caffi 2007: 124).

The fact that style results from modulation means that speakers can downgrade or upgrade their utterances, i.e., attenuate or reinforce them. Stylistic choices are evaluated against the background of the expectations that hold at the beginning of the exchange. The term of comparison is both contextual, i.e., the expectations relevant to a given encounter, a given activity type (Levinson 1992), and co-textual, i.e., the expectations activated by the style adopted by the interactants at the beginning of the encounter (Selting 1994: 384).

On the basis of these remarks, a first conceptual distinction must be made between style as a process and style as a result. If we study style as a process, we focus on the dynamics of interaction. In this case, style is viewed as an interactive achievement (Selting 1989), a matter of negotiation between partners, in which emotive cues play a crucial role. If we study style as a result, we adopt a static view and view style as a product, a “reified” object of analysis. However, in order to clarify the pragmatic perspective where rhetoric and stylistics converge to shed light on the expression of emotions, the following assumptions and distinctions must also be made:

- 1.** Speakers of natural languages are endowed with an “emotive capacity” which is rooted in metapragmatic awareness (Caffi 1994). This “emotive capacity” can be defined as “certain basic, conventional, learned, affective-relational communicative skills that help them [speakers] to interact smoothly, negotiate potential interpersonal conflicts, and reach different ends in speech” (Caffi and Janney 1994b: 327). It is opposed to the unintentional outburst, or “leakage” of emotion, that we labeled as “emotional”. (The concept of “leakage” is advanced in the “leakage hypothesis” by Ekman and Friesen [1969] in their treatment of deception.) The emotive capacity plays a key role in metapragmatic competence as the interface between social emotive dimensions of interaction, on the one hand, and individual emotional dimensions, on the other. To put it briefly, in a given interactional context, it mediates between the participants’ outer and inner worlds.
- 2.** By relying on their emotive capacity, speakers are able to convey, often in very subtle ways, many different types and shades of affective stances that can be strategically modulated: “1) we can all express feelings that we have, 2) we can all have feelings that we do not express, and 3) we can all express feelings that we do not have, or feelings that we think our partners might expect or wish us to have” (Caffi and Janney 1994b: 326). In this way, speakers foreground the connection between social dimensions and psychological dimensions, in other words, between outer and inner worlds.
- 3.** Metapragmatic awareness reflects knowledge of both the words and the world. In addition, it reflects knowledge of the self and is connected to self-awareness (Leary 2003). It foregrounds the connection between different layers in the expression of the inner world, or, to use the categories introduced under 2 above, it foregrounds the connections between emotive “surface” layers, which are interactionally built up, and “deeper” emotional layers. The notion of emotive temperature has proven useful in establishing this connection (see Section 7).

**4.** Another notion crucial to a rhetorical-stylistic pragmatic approach to emotions in discourse is the concept of markedness, a concept which was first advanced in classical rhetoric, then re-introduced by the Functionalist Prague School in the early 20th century and re-interpreted by many authors, such as, for example, the anthropologist and linguist Sapir. An emotively significant choice is marked, somehow divergent, unexpected, surprising (Latin *praeter expectationes* ‘beyond expectations’, Cicero) (for a cognitive psychological approach, see Castelfranchi and Miceli 2014; cf. also Kryk-Kastovsky 1997; Caffi 2015). Expectation and surprise are the opposing tendencies of expressivity (Bally [1932] 1965b: 69). It is self-reflexive in that it calls attention to itself and needs to be interpreted. It has often been described, especially in literary stylistics, using the concept of shift. The criterion of a system of expectations in a given context has also been employed by Fiehler (1990), who regards the sudden changes in communicative behaviors (Fiehler 1990: 187) as cues for emotions.

Different types of divergence were put forward in Caffi and Janney (1994b). Starting from Sapir’s notion of nuclear patterns of behavior (Sapir 1927: 893), which can be viewed as basic schemes of communication, we discussed the idea of divergence from different types of anticipatory schemata. These anticipatory schemata are of the following types: (a) linguistic, i.e., “marked” linguistic choices; (b) contextual, i.e., communicative behaviors which go against expectations holding in given contexts; (c) co-textual, i.e., choices divergent from a previously adopted style. In the first type of divergence, markedness is encoded in the language system, for instance, in connotated lexemes, suffixes and specific syntactic forms (see Section 6). In the other two types of divergence, markedness is indexical, as it is linked to some specific feature of the situated context.

**5.** Discussion of the link between emotion and cognition, and between feeling and thinking (Forgas 2000), is beyond the scope of this contribution. However, it can be re-interpreted within a pragmatic perspective by noting that below a certain degree of emotive involvement no inferential process on the part of the hearer would even be possible. Indirect evidence of this is that in autistic and schizophrenic patients, communication is blocked precisely because the Gricean cooperative principle fails to be applied. This is due to the lack of trust in the addressee as a reliable interlocutor, i.e., the lack of some basic emotional investment in the hearer. (As is well known, according to Grice speakers follow a cooperative principle making their contributions to the ongoing exchange. The principle says that participants will do what is required to further the purpose of their conversation: “Make your conversational contribution such as is required, at the stage at which it occurs, by the accepted purposes or direction of the talk exchange in which you are engaged”, Grice 1975: 43). It is also worth mentioning that the greater the hearer’s motivation, for example, when the issue at stake is of peculiar interest to him/her, the more inferential steps will be taken by the hearer to come up with an interpretation (Arndt and Janney’s [1987:137] “explicative interpretation”).

**6.** Studying the interface between language and emotions requires a focused interdisciplinary approach. Starting from a systematic comparison between the most influential psychological (in particular, Osgood, Suci, and Tannenbaum 1957) and linguistic emotive

categories, in Caffi and Janney (1994b: 354–358) we put forward six types of emotive devices: evaluation (central distinction: positive/negative); proximity (central distinction: near/far); specificity (central distinction: clear/vague); evidentiality (central distinction: confident/doubtful); volitionality (central distinction: self-assertive/unassertive); and quantity (central distinction: more/less). These emotive devices readily lend themselves to being applied to the analysis of real interaction, as will be shown in Section 7.2.

## 4 Language and emotion: steps in the rhetorical path

### 4.1 Rhetoric and pragmatics: the power of speech

Rhetoric, stylistics and emotion studies which take into account the communicative processes basically deal with the same object: a speaker who directs himself/herself toward a hearer, moved by an intentional movement, an intent, with some purpose in mind, in order to teach him/her (Latin *docere*), to seduce him/her (Latin *delectare*), and, in particular, to touch his/her heart (Latin *move*re). The rhetor's three aims, as designated by Cicero (*Orator*), are not only basic criteria for distinguishing between types of discourse; they are also often present in speech simultaneously, though in a different hierarchical order. The rhetorical-stylistic-pragmatic viewpoint foregrounds speakers who move toward an audience with given communicative intentions, plans and goals in mind, choosing from among the expressive resources of their language those means which best suit their plans and goals.

Elsewhere (e.g., in Caffi 2001, 2010), some arguments are advanced to ground the claim for pragmatics being the heir of classical rhetoric. Here, I will briefly reiterate the points of this argumentation which are most directly relevant to an integrated approach to language and emotions. With this specific aim in mind, suffice it to say that (i) both fields of study go beyond the dimension of truth-falsity advocating the overall appropriateness (*πρέπον*, *prépon*, *aptum* ‘appropriate’, *decorum* ‘decent’, i.e., what is appropriate, decent, suitable to a given situation) of speech in a given context. This view anticipates what Austin (1962) was to call the “happiness conditions” of speech acts, i.e., the conditions that must hold for a speech act to achieve its aim. Moreover, (ii) both fields advocate and show the actional nature of speech at the same time, inasmuch as they both assume that saying something means doing something; changes in contexts as well as in minds are brought about by words, whether they are based on rational grounds or on seduction. Further, (iii) the subject of both rhetoric and pragmatics is a rhetor who moves not only cognitively but also emotively toward an audience, simultaneously relying on linguistic, prosodic and kinesic conventional means. As is well known, the codified phases of speech (Latin *oratio*) are invention, arrangement, expression, memory and action (Latin *inventio*, *dispositio*, *elocutio*, *memoria*, *actio*). It is worth noting in passing that what classical rhetoric codified as expression and action involves prosodic as well as mimic and kinesic aspects in what can be seen as an anticipation of a multi-modal approach that readily lends itself to taking emotive aspects into account (*Rhetorica ad Herennium*, I, 2, 3). And, crucially, (iv) both disciplines presuppose that speakers mean more than they say. More than 2,500 years before pragmat-

ics, rhetoric captured the non-literal dimensions of speech, what was hinted at, as an intent (Latin *intentio, voluntas*), a surplus of meaning. Put simply, in speech something is said and something is implied and conveyed at different degrees of conventionality and emotive involvement. The implied, or unspoken, layers of meaning are classified in rhetoric as figures of speech, some of which foreground a complete inversion of literal sense, as in antiphrasis, irony and sarcasm. Language in its real uses is not a transparent object, since the rhetorical dimension does not concern only legal discourse (*genus iudiciale*), political discourse (*genus deliberativum*) or celebrating discourse (*genus epideicticum, demonstrativum*, Lausberg 1998: 34, § 62), but informs the functioning of everyday language to some degree. In order to carry out their manipulative plans, speakers say and do not say, say and imply, do and undo, are present and are absent. What in rhetoric is generically viewed as a gap (French *écart*) between literal and non-literal meaning, as well as a gap between an objective, denotative meaning and a subjective, expressive meaning, will be described in theoretical pragmatic approaches using technical categories such as “intended meaning”, “speaker’s meaning”, “implicature”, etc., to mention just a few (Grice 1975). Thus, the space between literal and non-literal meaning can be described by rhetoric as well as by pragmatics. It is precisely in this space where emotive values, inherent in expressivity and subjectivity, are at work.

Finally, (v) both disciplines have been objects of similar criticisms: rhetoric was accused of being a messy collection of empirical devices, while about 2,500 years later pragmatics was accused of being the wastebasket of linguistics (Bar-Hillel 1971). The primary criticism of rhetoric is to be found in Plato’s dialogues. Since Plato’s criticism is founded precisely on the role of emotions in discourse, let us cover it briefly in the next section.

## 4.2 Plato’s criticism of rhetoric: sense and sensibility

The paradigm of criticism of rhetoric can be found in Plato’s dialogues, particularly in *Gorgias*. This criticism is founded on the fact that rhetoric relies on the power words have over our emotions. In *Gorgias*, through the voice of his character Socrates, Plato makes especially explicit the basic distinction between knowledge (which is at the heart of science and cannot be false) and belief (which is at the heart of opinion and may well be false). Socrates, the archetypal philosopher, is opposed to Gorgias, the archetypal rhetorician, who, applauded and acclaimed by the public that is emotionally under his sway, is presented at the climax of his career.

According to Plato, rhetoric is “a producer of persuasion (*πειθώ, peizò*) for belief, not for instruction in the matter of right and wrong” (Plato, *Grg.* 455a 1). Rhetoric deals with any topic, even without knowing anything about it. Gorgias claims that a person can talk about anything without actually knowing what s/he is talking about. Thus, rhetoric is not an art but a practice. It is *empiria* (*ἐμπειρία, empiria*) rather than science (*τέχνη, tékne*); it is not a science but a messy collection of extrinsic devices, “an empirical knack” (*ἐμπειρία καὶ τριβή, empiria kai tribé*, from Dodds [1959] 1985: 225) which neither presupposes nor generates knowledge. These rhetorical devices are centered on emotions; they are designed to flatter and seduce the addressees.

It should be noted, however, that although Plato attributes this statement to Socrates in this particular dialogue, he does not question the emotive power of words elsewhere. In fact, as Dodds (1985: 10) points out, in another Platonic dialogue, *Phedrus*, the character Socrates describes rhetoric as a spoken word that can change the souls of people, “a fascination of the souls through speech” (“ψυχαγονία τις διὰ λόγων”, Plato, *Phd.* 261a). Plato regards this as a dangerous ability for two main reasons, namely (a) it is not scientific and relies on irrationality, and (b) it is ethically neutral.

According to Plato, rhetorical persuasion is irrational, essentially grounded on emotions. Based on psychagogy, i.e., the magical power of flattering and seducing words (*κολακεία, kolakéia*), it disregards the truth and is therefore to be condemned. Gorgias, although acclaimed by a large audience, is precisely the symbol of rhetoric. Plato’s criticism would signal a condemnation of rhetoric through the centuries. The opposition between science and rhetoric is somehow close to that between sense and (a negative version of) sensibility, between uses of language grounded in truth and meaningful content and uses of language based only on stirring, imaginative, vague words. Even today the label “rhetorical” is still often used to designate false embellished discourse.

Plato’s *Gorgias* marks the beginning of the conception of rhetoric as a collection of merely extrinsic thrills and devices which can be added to a “true”, “bare” statement. Such a conception is also to be found in the works of Latin authors, such as Cicero and Quintilian, and is especially transparent in the metaphor of color, which is employed, in particular, in the *Rhetorica ad Herennium* (whose probable author is Cicero; *Rhet. Her.* 2,2,3). “Color” (rhetorical colors, Latin *colores rhetorici*) is a technical term covering a range of strategies that can be used by the rhetor in court to defend a given line of argumentation both in a mitigating and in a reinforcing direction. For instance, the rhetor may employ colors in order to downplay some mischief or to increase its gravity (Lausberg 1998: 267, § 585). The notion of color, which originates in legal discourse (Latin *genus iudiciale*), presupposes an objective, neutral, “gray” content that can be colored, i.e., made more vivid, embellished with ornaments and strategic devices. This is the “additive” idea of rhetoric and style.

It is worth mentioning here that the color metaphor is also present in the conceptualizations of authors who in their approach to language assigned a crucial role to emotions. I refer in particular to Marty’s (1908: 525) notion of *emotive Farbe* and to Bally’s ([1909] 1970) notion of expressive nuances. Section 5.1 below is dedicated to Bally’s stylistics, often ignored in Anglophone studies in the field. No mention of Bally is made, for instance, in Jeffries and McIntyre’s (2010) textbook.

The “additive” idea of rhetoric, as well as its alleged ethical indifference that is condemned by Plato, are at the core of the largely held suspicious attitude toward rhetoric, which is still today conceived of as an art employed to mask real thoughts and feelings, a set of artifices employed to achieve personal goals by the use of skillfully arranged words. After all, in everyday language the adjective “rhetorical” means “false”. The same holds true in metalinguistic expressions such as “rhetorical questions”. If a question is “rhetorical”, it is not a real question. Real emotions leave us speechless, with our heart pounding or missing a beat. The more elegant the rhetor’s elocution, the deeper the suspicion that his/her soul is elsewhere. The Platonic view of the relationship between language and emotion is that emotions are simply means to exert leverage on others and to influence others’

behavior. (On Plato's view on affectivity see, among others, Zaborowski 2016.) Rhetoric still feels the effects of this Platonic condemnation and continues today to be seen in a negative light, as the art of saying things one does not feel and expressing feelings one does not have. One of the modern versions of Plato's criticism is the myth of objectivity in scientific discourse as opposed to any other emotional and subjective discourse.

### 4.3 Aristotle's rehabilitation of rhetoric: the role of pathos

Aristotle's *Rhetoric* is the foundation stone upon which all modern treatments of goal-oriented discourse are built. It is a metapragmatic treatise on argumentation and argumentative strategies, which are rooted in common ground, the “tanks”, the “containers”, to use Barthes' (1970) metaphor, where shared knowledge is stored (*tóποι, tópoi*) and from which to draw the reasoning schemata (*enthimemes*) for argumentation. The aim of rhetoric is to persuade the addressee. Rhetoric can be defined as “the faculty of discovering the possible means of persuasion in reference to any subject whatever” (Aristotle, I. I 14–II.2 = Aristotle 1975: 15). In what narrow sense is Aristotle's thinking relevant to the relationship between language and emotion?

Aristotle distinguishes between three modes of persuasion, i.e., three different kinds of proof:

Now the proofs furnished by the speech are of three kinds. The first depends upon the moral character of the speaker [*ethos*], the second upon putting the hearer into a certain frame of mind [*pathos*], the third upon the speech itself [*logos*], in so far as it proves or seems to prove. (Aristotle I. II, 3–7 = Aristotle 1975: 17)

A discussion of Aristotle's notions of *ethos*, *pathos* and *logos* with respect to emotions would go far beyond the scope of this contribution (cf., among others, Eggs [2000]; for a general discussion see Fortenbaugh [1975]; see also, in a cognitive-oriented treatment, the interpretation of Aristotle given by Nussbaum [2001]). Suffice it here to note that in Aristotle's *Rhetoric* emotive aspects are not limited to *pathos* but also inform *ethos*, the rhetor's personal character. Today this would be seen as the pool of shared knowledge speakers can rely on and which thus shape the construction of identity in impression management through speech. Obviously, however, *pathos* is more directly linked to emotions, insofar as it concerns the arousal of feelings in the audience. The arousal of *pathos* is thus obtained by means of stylistic and strategic choices, for instance, through a direct appeal to the emotion that the rhetor wants to produce in the audience and through figures of speech. Style is thus the set of means, devices and strategies which can be used to elicit a favorable emotional reaction from the audience to the rhetor's argumentative goals.

Rhetoric as the study of persuasive communication and argumentative strategies would be revitalized in the middle of the 20th century in the “new rhetoric” by Perelman and Olbrechts-Tyteca's *Traité de l'argumentation. La nouvelle rhétorique* ([1958] 2013). In particular, the authors set up a series of “figures of communion” and “figures of presence”, which enhance the sense of closeness and the emotive sharing between the rhetor and the audience (see Section 7.2).

## 4.4 Rhetoric in everyday communication: an example

In order to show that rhetoric as a strategic component of our metapragmatic awareness bridges linguistic, social and psychological dimensions, let us take the following everyday example from spoken Italian, construed as a rhetorical figure, a litotes, resulting from the negation of the opposite (Latin *negatio contrarii*), and a frozen metaphor:

- (1) *Quella [ragazza] là non è un'aquila.*  
 That girl there not is an eagle  
 ‘That girl is not particularly clever.’

Why does the speaker embark on a cognitive effort – symmetrically required from the hearer in the decoding process – by using a negative syntactic structure, which is well known to require longer cognitive processing than affirmative sentences, and a metaphor? What are the advantages of such anti-economical choices? The possible advantages both from a cognitive and an emotive point of view can be sketched as follows. (i) In relation to meaning construction: relying on the indeterminacy of the negative structure (Hübler 1983), the speaker calls the hearer into play to decide on the actual meaning of the utterance: is Anna not particularly clever? Is she just a bit dense? Is she definitely stupid? The meaning to be assigned to the utterance will be co-constructed by the interlocutors. (ii) With respect to the identity construction: the speaker constructs himself/herself as involved in the actual interaction, precisely because s/he chooses his/her phrasing for expressive effect. (iii) With respect to the construction of interactional co-identity: in choosing that particular phrasing, the speaker is probably adhering to a register that is in common use within his/her social group (Dittmar 2009). In other words, the speaker’s phrasing may also work as an in-group marker, both relying on and re-affirming affiliation to a supposedly shared (sub-)code.

Being aware of the rhetorical quality inherent in communication means being aware of the intrinsically ambiguous, ambivalent, and possibly paradoxical nature of human communication (see Section 5.1; for a general approach see Caffi 2007).

Example (1) can be described in different ways using different categories belonging to different theoretical models in different disciplinary frameworks. For instance, it can be described from a social-psychological perspective in terms of Wiener and Mehrabian’s (1968) immediacy. The referent of the noun-phrase *quella ragazza là* (‘that girl there’) is less immediate; in particular it is a “denotative specificity indicator” (Wiener and Mehrabian 1968: 38) with a low value of immediacy with respect to other possible choices in that context or in that “boundary condition” in Wiener and Mehrabian’s terms, i.e., *questa ragazza* (‘this girl’), *lei* (‘she’), *Anna*. It should be noted in passing that the noun phrase in the act of reference can also be described from a linguistic point of view as a case of empathic deixis, since the demonstrative *quella là* bears a distal semantic feature (Lyons 1977: 677).

In Caffi and Janney’s (1994b: 356–357) linguistic pragmatic approach to emotive communication, example (1) can be described in terms of emotive contrasts. In particular, it shows a (non-)proximity device realized by the distal demonstrative (*quella là*) and a (non-)specificity device (*non è un'aquila* ‘is not an eagle’).

Other descriptions of example (1) could be proposed. For instance, from an interpersonal pragmatic perspective that focuses on the interlocutors’ construction of identity, if a speaker

systematically uses understatements instead of direct unmodulated sentences, s/he constructs him/herself as a controlled, detached, maybe somewhat snobbish person. “There’s room for improvement”, is the sarcastic comment made by Claire Underwood, the cold, calculating protagonist in the TV drama series *House of Cards*, as a way of expressing harsh criticism. Once again, “The style is the man himself” (French, “*Le style c’est l’homme*”).

## 5 Language and emotion: steps in the stylistic path

Bally’s stylistics of *langue*, i.e., the whole set of resources that a natural language offers its speakers (Bally [1925] 1965a; [1909] 1970) and Spitzer’s stylistics of *discours*, i.e., the language used by a speaker in a given context (Spitzer 1922, 2007), offer important insights and inspiring ideas to a linguistic-pragmatic approach to emotions. Many core ideas of the most influential authors in pragmatics, such as Gumperz’s (1982) notion of contextualization cues (“Constellations of surface features of message form are the means by which speakers signal and listeners interpret what the activity is, how semantic content is to be understood and *how* each sentence relates to what precedes or follows. These features are referred to as *contextualization cues*”, Gumperz 1982: 131, italics in the original), Hymes’ (1974) notion of key (“the tone, manner, or spirit in which an act is done”, Hymes 1974: 57), and Goffman’s (1955) notion of face (“The term face may be defined as the positive social value a person effectively claims for himself by the line others assume he has taken during a particular contact”, Goffman 1955: 213) were conceived of at the beginning of the 20th century by two authors, namely Bally and Spitzer, who laid the foundations for psycho-stylistics. The basic idea is that stylistic aspects and subjective affective aspects of language are profoundly connected.

### 5.1 Bally’s stylistics of *langue*: the encoding of emotions in language

What has stylistics to offer to the understanding of the connection between language and emotion? An important contribution to answering this basic question comes in the work done by the Swiss linguist Charles Bally (1865–1947). Bally is especially known as one of the editors, together with Albert Sechehaye, of Ferdinand de Saussure’s lectures, *Cours de linguistique générale* (1916). The main reason why Bally is particularly relevant here is that he deals with language in use rather than with language as an abstract system, which was the primary subject of his master. Style, according to Bally, is a notion that can be applied not only to literary works, but also to everyday language. Bally states that it is precisely the notion of style, viewed as expressivity, which is part and parcel of the living language that spans both linguistic and psychological dimensions. Tellingly, the label used by the author to designate his new approach is “psycho-stylistics”. Thus, the notion of style makes it possible to study language as intrinsically marked by expressivity and affect. Far from adopting the deeply rooted and widely applied idea of style as an additive component of language, Bally sees the stylistic component as a constitutive feature structurally inherent in natural languages. In other words, according to Bally, affective values are encoded in

the linguistic system and not just added to it. Starting from these premises, he puts forward the idea of a repertory of expressive means and codified strategies within which the speaker makes a choice that matches his/her utterance to the context:

[...] la stylistique étudie donc les faits d'expression du langage organisé au point de vue de leur contenu affectif, c'est-à-dire l'expression des faits de la sensibilité par le langage et l'action des faits de langage sur la sensibilité. (Bally 1970: 16)

[‘stylistics studies the expressive facts of language from the viewpoint of their affective content, in other words, the expression of feelings through language and the action of language on feelings’, my transl., C. C.]

A fruitful approach to the study of the interface between language and emotion becomes feasible thanks to Bally's (1965a) distinction between two general modes of communication that are constantly and dialectically at work in language. One is the intellectual mode, the *mode pur*, and the other is the affective mode, the *mode vécu*. The two modes represent notional poles of a continuum: a message will be more oriented toward one or the other. The first mode, the *mode pur*, according to Bally, offers the “identifying term”, i.e., the neutral choice to which the series of potential affective synonyms in the second mode, the *mode vécu*, can be compared. His famous example is the comparison between the neutral detached sentence in *mode pur*, *La terra gira* ('The earth revolves'), and Galilei's stubborn assertion *E pur si muove* ('And yet it moves') in a *mode vécu*, where the degree of personal emotive involvement is so high as to put the utterer's life at risk (Bally 1965a: 15). Thus, Bally gives priority to the affective language, to the *mode vécu*, over the *mode pur*, the intellectual language. In doing so, he completely subverts his master's dichotomy between *langue* and *parole*. Whenever we speak, Bally argues, we are called upon to choose the most effective ways of expressing our ideas and feelings, and our feelings come first.

Celles de mes pensées qui germent en pleine vie ne sont jamais d'ordre essentiellement intellectuel; ce sont des mouvements accompagnés d'émotion, qui tantôt me poussent vers l'action, tantôt m'en détournent; ce sont des épanouissements ou des repliements de désirs, de volitions, d'impulsions vitales. (Bally 1965a: 15–16)

[‘Those of my thoughts which sprout in the middle of life are never of a basically intellectual type, they are movements accompanied by emotions that sometimes prompt me to action, and sometimes distract me from it. They are the blossoming or the withdrawal of desires, of volitions, of vital impulses.’, my transl., C. C.]

At the same time, Bally clearly sees the social interpersonal nature of expressive affective language:

[...] on ne peut montrer ce qu'on pense et ce qu'on sent soi-même que par des moyens d'expression que les autres peuvent comprendre. (Bally 1970: 6–7)

[‘one can show what one is thinking and feeling only through expressive means that are understandable to others’, my transl., C. C.]

Bally (1970: 30, 170) distinguishes between two types of affective features: first, “natural affective features” (*caractères affectifs naturels*), which are connected to notions of intensity, evaluation, and beauty; and second, “evocative effects” (*effets par évocation*), which

are connected to the capacity of linguistic expressions to evoke “the milieu where their employment is most natural” (Bally 1970: 30). The first type of feature is mainly centered on the speaker’s encoding, the second on the hearer’s decoding. In particular, the evocative effects are linked to “subcodes”, registers and special languages that implicitly identify the speakers’ cultural level, professions and affiliations to social groups. These evocative effects can be regarded as in some way anticipating Gumperz’s (1982) notion of “contextualization cues”.

Hübler (1987, 1998) elaborates Bally’s notions of *mode pur* and *mode vécu* further. Hübler’s starting point is a version of Grice’s (1975) notion of sincerity as a condition for the application of the cooperative principle in conversation, i.e., the speaker’s involvement. A speaker, claims Hübler, is not only sincere but more or less emotionally identified with what s/he says. In *mode pur* the speaker’s identification can be equated with sincerity, in *mode vécu* the speaker emotionally identifies himself/herself with his/her utterance “to a higher than average degree” (Hübler 1987: 372). Hübler (1987: 373) further proposes two modes of a speaker’s involvement, namely attitudinal attachment and attitudinal detachment.

Either mode can be said to represent the speakers’ involvement equally. They just represent different solutions to the methodological question of how to externalize one’s involvement in terms of linguistic behavior. The mode of attachment represents the mode of “living” one’s involvement. The mode of detachment is a mode of suppressing it without trying to be entirely successful; the attempt not to appear involved is too obvious not to be communicatively relevant. It is as though somebody says “I try not to be involved” and thereby positively calls attention to his involvement. (Hübler 1987: 373)

Hübler’s idea is insightful and opens up interesting paths for the analysis of conversations and texts that adhere to the norm of detachment. Following the rhetorical conventions grounded in the objectivity myth, scientific texts are prototypical examples of Bally’s *mode pur*, or Hübler’s detachment, and offer a largely unexplored field of research relating to the means employed to hide or background the writers’ emotive investment in what is said.

On the whole, Hübler’s remark reminds us of the glossed version of Watzlawick, Beavin, and Jackson’s (1967) first axiom that appears at the beginning of this chapter: “One cannot not communicate but *emotively*”.

## 5.2 Spitzer’s stylistics of *discours*: going toward the other

Leo Spitzer is considered one of the founders of modern literary stylistics, to which he contributed with fundamental works (e.g., Spitzer 1928). His thinking is deeply rooted in the assumption that any emotion, any shift from our normal psychic state is signaled by a shift from our normal linguistic use. And *vice versa*, Spitzer argues that a shift from the usual language is a symptom of an unusual psychic state (Spitzer 1928: 632). A version of this principle, which assigns a key role to psychological and emotive drives, also holds in the analysis of everyday spoken language, which Spitzer carries out in his book *Italian Everyday Language (Italienische Umgangssprache*, Spitzer 1922). As a matter of fact, Spitzer is less known as a forerunner of what can be called a stylistics of *discours*, of language in

action, probably also due to the fact that his extremely complex work *Italian Everyday Language* (Spitzer 1922), only recently translated into Italian (Spitzer 2007), has never been translated into any other language. This impressive work, whose aim is to understand and analyze the psychological drives of dialogical argumentative moves, is a pragmatic treatise on spoken Italian and takes its examples from theatrical dialogues. If the key metaphor in Bally's work seems to be color, in particular, expressive nuances, Spitzer's key metaphor is music: in order to adapt to the communicative situation, speakers modulate their expressive resources both in a reinforcing and in a mitigating direction, "like in music the use of the pedal" (Spitzer 1954: 69). According to Spitzer, Italian dialogic strategies exemplify in refined ways a general human conflict between two opposite needs: the expression of the self and the careful consideration (which can become skillful calculation) of the other.

Two notions – conceptually connected – are of particular interest for the present purposes: (a) the notion of *Entgegenkommen*, lit. 'going toward the other', in an empathic movement, and (b) the idea of an intrinsically paradoxical nature of stylistic choices.

With regard to the former concept, the idea of "going toward the other", Spitzer investigates the ways speakers build up agreement, closeness and intimacy, how they open up and close down in dialogue. An impressive number of expressive markers and strategies – "contextualization cues" in Gumperz's (1982) terms – that signal tact, consideration, and respect are objects of very subtle and in-depth analysis. Many of them would today be classified as positive politeness strategies. Such markers, which perform different conversational and pragmatic functions, basically indicate the speaker's effort to go toward the other. At the same time, however, and this is the second crucial point, precisely because they index an effort, particular attention and cautiousness, they can be interpreted as lacking naturalness and denoting calculation and manipulation on the part of the speaker. Spitzer refers to this paradoxical character of stylistic markers by distinguishing between the notions of politeness (German *Höflichkeit*), considerateness (German *Rücksicht*) and trick (German *Trick*), a strategic device.

At this juncture, two observations are in order. First, the concept of "going toward the other" anticipates psychological notions (even today underexplored on an empirical basis) such as the concept of empathy (for a survey, see Coplan and Goldie 2011) as well as Stern's (1985) notion of attunement. In Caffi (2007) an extended version of the latter notion is integrated into the analysis of real exchanges in doctor-patient and psychotherapeutic interaction. An example of an attunement sequence will be given in the next section.

### 5.3 Stylistics in everyday interaction: an example

Spitzer's notion of "going toward the other" (German *Entgegenkommen*) can be readily integrated into other sociolinguistic and psychological categories. In Caffi's (2007) approach, applied to a corpus of doctor-patient and psychotherapeutic interactions, the category of sequence of attunement was used to explain, through an in-depth linguistic analysis and in concrete terms, how the interactants' tuning-in process, which is at the basis of empathy, is gradually built up. A distinction between thematic attunement and stylistic attunement

was made. The former is typically represented by reformulations made by a psychotherapist in a session, especially one who draws on Rogers' work. Such a therapist is keenly attentive to linguistic micro-choices, which even imperceptibly re-adjust the foregrounding of the client's original formulations (Rogers 1951) and greatly contribute to creating what Rogers thought of as the essential condition of therapy, i.e., empathy. The latter is represented by cases where the interlocutors attune not only to content but also to a given conversational style throughout the ongoing exchange. In sociolinguistics, a related concept is expressed by the category of "accommodation": the more powerful speaker adapts his/her register to that of the other party (Giles and Coupland 1991). Both kinds of attunement can be simultaneously present, as in the following excerpt, taken from a corpus of psychotherapeutic encounters (Caffi 2001), between a psychotherapist, a woman, and a client (following Rogers, who uses this term instead of "patient", to emphasize the person's active role), a young woman who suffers from anorexia.

(2) T: therapist; C: client

C: *no eh niente son venuta qua per: quel problema qua*  
 no eh nothing I-am come here for: that problem here  
 'ehm, I came here because of this problem'

*che ogni tanto: cioè spesso mi abbuffo a mangiare [...]*  
 that every so-often: that-is often RFLP.1SG I-binge at eat [...]  
 'that occasionally, that is often, I binge eat'

T: *ha ventidue anni e lavora.*  
 you-have twenty-two years and you-work.  
 'you are 22 years old and you work'

C: *in un ricamificio.*  
 in an embroidery mill.  
 'in an embroidery mill'

T: *in un ricamificio. allora eh: lei dice di avere questa cosa che*  
 In an embroidery mill. so er: you say to have this thing that  
*si abbuffa.*  
 RFLP.3SG binge-eat.  
 'in an embroidery mill. So, er, you say you have this problem that you binge eat'.

The example is interesting for more than one reason. After the client's formulation of her problem, at the beginning of the session, T repeats the first part of the factual information given by the client (*in un ricamificio* 'in an embroidery mill') with an echo-answer, à la Rogers. After a restarter (*allora eh*: 'No, er:'), the client's problem is restated virtually verbatim, but with slight changes. The therapist adopts the same marked term *si abbuffa* (the informal predicate for 'overeating', 'to stuff with food', 'to binge eat') in what Bally would have called *mode vécu*, triggering some *effets par évocation* (see Section 5.1): diatopically, this is a term that had its origin in central-southern Italy but is now widely used all over Italy; diaphasically, it is a colloquial term typical of a very informal register. At the same

time, the therapist embeds the predicate in a reported speech construction, introduced by a verb of saying (*lei dice che* ‘you say that’) that reformulates the client’s original utterance. Indeed, the client’s designation *quel problema qua* (‘that problem here’) is morphologically marked with respect to the standard demonstrative *questo problema qua* (‘this problem’ + proximity) since it is an incongruent mix of the “distal” demonstrative *quel* (‘that’) and the “proximal” specification *qua* (‘here’). The therapist reformulates the client’s designation with the standard construction *questa qua* (‘this’ + proximal). From an emotive point of view, this reformulation focuses on proximity devices, as these are called in Caffi and Janney (1994a, 1994b). Further, the therapist’s reformulation is mitigated through a weaker, and prototypically vague, term: *la cosa* (‘the thing’) instead of *il problema* (‘the problem’). Through this lexical choice the client’s original designation is downgraded along the interactional parameter of precision, representing a decrease in the emotive dimension of specificity (cf. Caffi and Janney 1994b). At the same time, it amounts to a downgrading in the emotive dimension of evaluation: a “problem” is something inherently negative, whereas a “thing” is neutral from an evaluative standpoint. (On evaluation expressed by morphological means, see Grandi and Körtvélyessy [2015].) The vagueness of the more generic lexeme is clearly functional to the negotiation of the overall meaning between the interactants, thus leaving open the possibility of using a range of more precise terms to describe the client’s experience. In conclusion, the therapist’s lexically mitigated choice goes together with the use of the same marked lexeme employed by the client, *abbuffarsi* (‘to binge eat’). The shared choice of the stylistically marked predicate represents a crucial moment in the building up of common ground, and the predicate will become a textual referent which will be anaphorically referred to by both parties in subsequent turns. The sequence illustrates a case of both thematic and stylistic attunement, an empathic moment (Heritage 2011), a case where interactants *entgegenkommen*, go toward each other (in Spitzer’s terms), and co-construct their relationship, also from an emotive standpoint.

The example also shows that empathy is constructed not only through lexical choices, which seem to be overvalued in therapists’ training, but also through micro-modulated restatements and subtle readjustments pertaining to the rhetorical-stylistic dimensions which affect various linguistic levels and interactional aspects of the overall exchange.

## 6 Linguistic means encoding emotions in spoken Italian

Building up a typology of linguistic means which, at some degree of conventionality, encode emotions, is a task far beyond the scope of this chapter. Moreover, this task would be hindered from the very outset by the simple fact that “practically every word can be endowed with emotive connotation if it is placed in an appropriate social situation or verbal context” (Stanckiewicz 1964: 242). This idea was implicit in notions such as indexical “markedness”, “contrast”, “unexpectedness” (see Section 3).

With these caveats in mind, in the next section a short and very partial list will be presented of linguistic means that in spoken Italian, in its standard variety, encode emotions independently from contexts. They all can be read as examples of what Bally called

the “natural affective features” (*caractères affectifs naturels*) that are connected, at different linguistic levels, to the notion of intensity (Bally 1970: 30, 170) (see Section 5.1).

In his *Rhetoric* [I, (A), 3, 1358b], Aristotle states that there are three different objects of discourse: the speaker, the hearer, and the topic. A rhetorical way of thinking of the connection between language and emotions may foregather around these three objects. In Jakobson's (1960) functionalist model, which is obviously remote from Aristotelian tripartition, what Jakobson called the emotive function (Bühler's *Ausdrucksfunktion*) centers around the speaker (for a general discussion of the “expressive function”, see Foolen 1997). Some specific classes of linguistic expressions can be assigned to this function, e.g., interjections (Ameka 1992; Drescher 1997; Spitzer 2007: 65–73; Poggi 1981; for a study of conceptualizations of disgust in English through adjectives and interjections, see Goddard 2014).

## 6.1 Speaker-centered specialized means

A type of speaker-centered specialized means are interjections at the beginning of a turn in holophrastic expressions such as: *Bello!* ‘Nice!’, *Figo!* [vulgar] ‘Cool!’, *Santo cielo!* ‘Good heavens!’, *Accidenti!* ‘Damn!’, *Perbacco!* [archaic] ‘My goodness!’, *Maledizione!* ‘Damn it!’, *Caspita!* ‘Geel!’, *Cazzo!* [vulgar] ‘Fuck!’, *Porca miseria!* ‘Damn it!’, *Uffa!* ‘Gosh!’, *Che noia!* ‘How dull!’, *Mannaggia!* [regional] ‘Dang!’.

What Jakobson called the conative function (Bühler's *Appellfunktion*) centers on the hearer. According to Jakobson, the specialized linguistic means that realize this function are imperative sentences and allocutions, such as the examples in 6.2.

## 6.2 Hearer-centered specialized means

- Attention-getters: e.g., *Ehi!* ‘Hey!’, *Scusi!* ‘Excuse me!’, *Per favore!* ‘Please!';
- Allocutions/holophrastic insults: e.g., *Scusi signora!* ‘Excuse me, ma'am!', *Dottore, senta!* ‘Doctor, listen!', *Ehi, Anna!* ‘Hey, Anna!', *Vaffanculo!* [vulgar] ‘Fuck off!';
- Vocatives, endearment terms: e.g., *Oh, mio caro!* ‘Oh, my dear!', *Tesoro!* ‘Darling!', *Amore mio!* ‘My love!', *Piccolina!* ‘Little one!'.

As to vocatives, it is worth recalling in passing the well-known emotive impact of the use of proper names, whatever the illocutionary force, in other words, the overall communicative function of the utterance.

Finally, Jakobson's referential function (Bühler's *Darstellungsfunktion*), whose typical linguistic realization is the declarative sentence, centers on the content. Here, the attempt to follow Aristotle's tripartition or Jakobson's functions comes to an end and any typologically aimed *éprit de géométrie* must be given up, since it would take us in the wrong direction.

While interjections and allocutions are “direct” expressions of emotions, more complex theoretical models are needed when addressing expressions of emotion that center on other but interrelated components of the utterance. A suitable theoretical model is that of speech acts (Austin 1962), given its congruence with the classical rhetorical view of language as

action, further enhanced with sociological as well as psychological categories encompassing stylistic aspects at both a micro- and a macro-level. In this respect, the concept of “modulation” (Caffi 2001, 2007) proved its descriptive adequacy and explanatory capacity. All the means that modulate not only the content and the basic propositional structure but also the whole speech act in its illocutionary and deictic (Bühler 1934) aspects – in one of the two directions of stylistic variation, i.e., mitigation or reinforcement – can be considered emotionally laden, or cues for emotive stances, insofar as they calibrate the distances between speaker and hearer, on the one hand, and between speaker and content, on the other. Examples of mitigation include different types of hedges, emotive devices and modulated sentences (Caffi [2001, 2007] presented a typology of mitigation devices in spoken Italian). In the opposite stylistic direction, reinforcement, different types of means and emphasizing strategies can be listed (see below). In this respect, it is useful to recall Mathesius’s ([1939] 1964) distinction, reminiscent of Bally, between reinforcement (German *Verstärkung*) and emphasis (German *Emphase*). While the first concept centers on lexicon, the second centers on prosody and on *Satzmelodie*, aimed at expressing “the speaker’s empathetic attitude toward the sentence content” (Mathesius 1964: 430).

### 6.3 Other specialized means

In the psycho-stylistic approach to communication I proposed under the umbrella term of “mitigation” (Caffi 2007), the emotive component has a crucial role inasmuch as it calibrates interactional distances. Interactants’ control over their identity construction, i.e., their “relational work” (Locher and Watts 2008; Kádár 2017), is indexed by linguistic pragmatic choices, whether they “specialize” in encoding emotions or “leak” them out in less conventionalized ways. The following very provisional list illustrates some of these specialized means that hold not only for assertions but also for other types of speech acts and affect all linguistic levels:

- at the morphological level, e.g., suffixes;
- at the lexical level, e.g., evaluative terms, terms of endearment, “slurs”, i.e., highly charged, often vulgar expressions (Potts 2007; Croom 2011; Hess 2018);
- at the syntactic level, e.g., different kinds of dislocation and marked sentences;
- at the discourse/textual level, e.g., repetitions, evaluative forms of anaphora;
- at the pragmatic level, e.g., different types of hedges, discourse markers and conversational devices (e.g., interruptions, overlaps), behabitive illocutionary acts, i.e., in Austin’s (1962) typology, speech acts centered on various types of social behavior, where the feature + INTENSITY is conventionalized, such as entreaties;
- at the macro-level of text types, e.g., quarrels, squabbles between couples, official complaints, love letters.

Let us give some examples of each category of means taken from a standard variety of spoken Italian. The following list of sentences is for illustrative purposes only and no attempt at an in-depth discussion of each example has been made.

*Morphological means:* suffixes, ethic dative, jussive future, inclusive 1st-person plural (*noi* as opposed to *io*, 1st-person singular). Suffixes represent a category which in Italian,

as is well-known in the long tradition of Romance studies, is particularly rich in semantic nuances. The following examples of diminutives (cf. Spitzer 2007; Dressler and Merlini Barbaresi 1994), and augmentatives (Dressler and Merlini Barbaresi 1992; Grandi 2017) will show just some of the pragmatic and emotional values that can be conveyed by suffixes, boldfaced in the following examples. To reinforce a compliment, one friend says to another:

- (3) *Che bel vestit-**ino**!*

What nice dress-DIM

'What a nice little dress!'

In a proposal among friends, to make the planned dinner more attractive:

- (4) *Domani sera andiamo a mangiare un bel risott-**ino**?*

Tomorrow evening we-go to eat a nice risotto-DIM

'How about going to eat a nice risotto tomorrow evening?'

But also, for analogous purposes:

- (5) *Ci facciamo una bella insalat-**ona**?*

Us we-make a nice salad-AUG

'Shall we eat a nice big bowl of salad?'

In a request made by an academic to a colleague, out of modesty:

- (6) *Vorrei che dessi un'occhiata al mio articolo-**etto**.*

I-would-want that you-gave a look at-the my article-DIM

'I'd like you to have a look at my little article.'

As noted by Dressler and Merlini Barbaresi (1994), if the addressee, after a lapse of time, at the next meeting, were to say the sentences in (11), the first speaker would probably get offended.

- (7) *Ho dato un'occhiata al tuo articolo-**etto**.*

I-have given a look at-the your article-DIM

'I had a look at your little article.'

A general practitioner is talking to a patient, while he is writing his prescription after a visit; he uses a diminutive to reduce asymmetry and increase solidarity, while at the same time furthering the attainment of his practical and professional aim, the perlocutionary goal, in Austin's (1962) terms:

- (8) *Le do uno sciopp-**ino**.*

To you I-give a syrup-DIM

'I'll give you a nice little syrup.'

The frequent employment of “baby-talk” in medical discourse also includes the use of augmentative suffixes, as in the following example, in which a dentist gives a patient a short break between drilling sessions:

- (9) *Adesso una bella sciacquat-onà!*

Now a nice rinse-AUG

‘Now for a nice rinse!’

In spoken Italian an emerging use can be noted of the augmentative suffix to express a mocking attitude, in an ironic key (Hymes 1974), toward a previous utterance, e.g.,

- (10) *Battut ona!* (after the previous speaker’s attempt at cracking a joke)

Joke AUG

‘What a great joke!’

*Lexical means:* adjectives with an emphatic, emotive attitudinal value, e.g., *bello/a*, evaluative terms, derogatory terms, “slurs” (Potts 2007; Croom 2011; Hess 2018), euphemisms, terms of endearment, heavy terms, vulgar terms, “foul” speech. In the following examples, these terms will be boldfaced. Here is an exchange between acquaintances sitting next to each other on sun loungers on the beach:

- (11) *Vado a fare una bella doccia.*

I-go to make a beautiful shower

‘I’m going to take a nice shower.’

In a TV debate (talk show), increasingly strong negative evaluative choices are used:

- (12) *Si tratta davvero di un fatto grav-issimo/una catastrofe/uno scandalo.*

RFLP.3 treats really of an event serious-SUPL/a catastrophe/a scandal.

‘It is really a terrible event/a catastrophe/a scandal.’

Here two acquaintances are talking, rejecting a piece of advice from a legal counselor, in a vulgar derogatory register, with a sexist slur:

- (13) *Non è possibile dar retta alle stroncate di quella puttana di avvocato.*

Not is possible give attention to-the bullshits of that whore of lawyer

‘It is impossible to take seriously the bullshit that whore of a lawyer says.’

*Syntactic means:* left/right dislocations, repetitions, reduplications, tag-questions, e.g.,

- (14) *Questa benedetta spesa, la vai a fare sì o no?*

This blessed shop-for-food, it you-go to do yes or no?

‘This damned food shopping, are you going to go and do it or not?’

It is worth noting that metaphorical locutions, idioms and idiomatic phrasing, whose role as emotion-laden devices has been widely analyzed (cf. Gibbs, Leggitt, and Turner 2002; Potts 2007; Croom 2011; Hess 2018), often occur in cumulative uses. Speakers often simultaneously employ more than one expressive means as if adhering to an implicit form of iconicity between quantity of lexicalized expressions and intensity of expressed affect. This is shown by the following fragments. Two friends are talking; one is complaining about another friend:

- (15) *Ha completamente perso la testa, ha sempre la luna storta non si sa che pesci pigliare con lui. Bisogna andar-ci coi piedi di piombo.*  
 He-has completely lost the head he-has always the moon crooked not  
 one knows what fishes grab with him. It-is-necessary go-there with-the feet  
 of lead.

'He's completely lost his mind, he is always in a bad mood. You don't know how to behave around him. You have to tread carefully.'

A father is forbidding his son to go to a party:

- (16) *Hai proprio un bel programmino. Ma quale festa e festa? Non sognartelo neanche! Tu non andrai proprio da nessuna parte, capito? Te la do io la festa!*  
 You-have just a nice program-DIM. But what party and party? Not dream-RFLP.2SG-it even! You not will-go just to any part,  
 understood? To-you it I-give I the party!  
 'You've got a nice little plan sorted. What do you mean party? Don't even dream of it! You are not going anywhere, do you understand? I'll give you party!'

'You've got a nice little plan sorted. What do you mean party? Don't even dream of it! You are not going anywhere, do you understand? I'll give you party!'

In this example various types of means can be found: lexical, i.e., the adjective *bel* 'beautiful', in an emphatic ironic use, reinforcing adverbs (*proprio* 'really', *neanche* 'not even'); morphological, i.e., the diminutive suffix *-ino* (in *programmino*, lit. 'little plan'); jussive future (*tu non andrai* 'you will not go'); figurative language: idiomatic expressions, metaphors (*ma quale* 'but what', *non sognartelo neanche* 'don't even dream of it', *te la do io la festa* 'I'll give you a party'); syntactic: reduplication (*festa e festa* 'party and party'), left dislocation with *la festa* ('party'), the final tag *capito?* ('do you understand?').

Profanity is used among peers (e.g., family members, school mates) in a vulgar register:

- (17) *Ma si può sapere cosa cazzo vuoi? Piantala subito, porca miseria!*  
 But one can know what cock you-want? stop-it immediately, damn misery!  
 'But is it possible to know what the fuck you want? Pack it in right now, for God's sake!'

Examples of obscenity like the above, more and more frequent especially in blogs, chats, tweets and on social networks, can be subsumed under the label “aggravation”, which is a category not to be equated with impoliteness or rudeness (for a general discussion of impoliteness, see Culpeper 2011). As argued by Merlini Barbaresi (2009), aggravation differs from impolite uses because it is simply symptomatic of an outburst of emotional states. When using aggravated utterances, speakers do not bother to control their actions or keep their language in check, as they are apparently indifferent to the consequences. Some emergent or already consolidated “digital” textual genres such as tweets, also due to their short format and whose main goal is to have an impact on the readers, are typically thought of as containers for giving vent to emotions such as anger. In the wide literature on anger (see, among others, Wierzbicka and Harkins 2001) a discussion that takes a social-constructivist perspective on anger and its connection with aggression can be found in Averill (2001: 339–341).

## 7 The temperature metaphor

### 7.1 The interactional emotive temperature

In Section 4.2, a metaphor was mentioned which traverses centuries of rhetorical thinking: the “color” metaphor covering expressive, affective phenomena in speech. This metaphor entails a static standpoint inasmuch as it focuses on a product, the result of some kind of embellishment (Latin *ornatus*). Cursory mention was also made of Spitzer’s metaphor of music, which on the other hand presupposes a dynamic viewpoint. Another metaphor, which is dynamic in character, can be employed to describe emotive phenomena: the “temperature” metaphor. This is suitable for capturing emotive phenomena, since it has the property of being a matter of degree. It does not focus on *what* something diverges from; rather, it focuses on *how much* it diverges from it. It can be observed in passing that such a metaphor is lexicalized in many languages in phrases combining copula verbs + adjectives belonging to the semantic field of “heat”, and thus serves to refer to emotions. Let us just mention sentences like *David is hot for someone*, meaning that David likes, loves, is deeply emotionally involved in something/someone, or, in German, *David ist heiß auf Christina*. At the opposite pole, the “cold” pole, expressions like *He is rather cold to her*, or *This leaves me cold* are similarly frequent in everyday usage. It is worth mentioning that in Kövecses’ (1990) treatment, the temperature metaphor is implied in one of the specifications of the general metaphor of emotion as a container, described as follows: “the emotions are the heat of a fluid in a container (*I was seething with emotion, His passion for her simmered for years*)” (Kövecses 1990: 148).

In Caffi (2001, 2010, 2015), the metaphor of emotive temperature was employed to explain the dynamics of unfolding interaction, which results in a recalibration of the whole interaction system. This metaphor expands on Watzlawick, Beavin, and Jackson’s (1967) thermostat metaphor, which is consistent with their view of interaction as a homeostatic system. Following Watzlawick, Beavin, and Jackson (1967), the calibrating of an interaction system can be compared to the process of thermostatic adjustment in physics. Every time

an interactional system is re-tuned, scalar functions are triggered like those triggered when a thermostat is readjusted to a higher or a lower temperature. In the integrated approach developed in *Mitigation* (Caffi 2007), the interactional construction resulting from the interplay between various dimensions is indexed by stylistic choices that are cues for speakers' metapragmatic ability to adjust to a given emotive temperature. In Caffi (2013b) the famous scene in Dostoevsky's *The Idiot* of the dinner party at the Epancins' house is reconstructed via a detailed analysis of the participants' turns producing an increasingly hot interactional climate. In Caffi (2015), the metaphor was applied to Pope Francis' first greeting to the world and Rome after his election, when he said "*Fratelli e sorelle buona sera*" ('Brothers and sisters, good evening') from St. Peter's Loggia. In this last example, the choice of *Buona sera*, i.e., an extremely colloquial stylistic choice in one of the most highly ritualized ceremonies in the Christian world, is a marked choice, representing an emotive contrast to: (a) linguistic expectations, (b) contextual expectations, and (c) co-textual expectations, since the first part of the greeting (*Fratelli e sorelle*, 'Brothers and sisters') is a typical ritual formula. The newly elected Pope's unexpected choice resets the interaction to a lower temperature, so to speak. The temperature metaphor has also proven its explicative power in the analysis of a parliamentary debate discussed in Caffi (2017). I will deal with an excerpt taken from this debate in the section below.

## 7.2 Heightening the emotive temperature: an example

In an Italian parliamentary dialogue, a sharp conflict as to the definition itself of the role of Parliament arises between President (Speaker) Boldrini and a member of parliament belonging to the Five Stars Movement, D'Ambrosio (on conflict talk, see Grimshaw [1990]; for a general survey, see Roloff and Chiles [2011]). Two widely diverging views are upheld by the two parties: according to the president, Parliament is the heart of democracy, while according to the member of parliament it has been deprived of its functions by the political encroachment of an arrogant government. My aim here is merely to give an example of a sequence of "heightened involvement" (Selting 1994), where the emotive factors are intertwined with cognitive factors. Many of the categories introduced in this chapter can be applied to an analysis of the following short excerpt where the emotive temperature is seen to mount. It is produced by a deputy belonging to the Five Stars Movement addressing the president of the *Camera*, the Chamber of Deputies. In the preceding exchanges the president had asked the member to use language that was more respectful and appropriate to such a high institutional setting. What is advocated here is the rhetorical notion of appropriateness mentioned in Section 4.1. The whole dialogue was the subject of an in-depth analysis in Caffi (2017).

- (18) Excerpt taken from an Italian parliamentary debate. (25 July 2013, [www.youtube.com/watch?v=AV93az7bPd4](http://www.youtube.com/watch?v=AV93az7bPd4)) Giuseppe D'Ambrosio, Deputy of the *Movimento 5 Stelle*, 'The Five Stars Movement', addresses Laura Boldrini, President of the *Camera*, Chamber of Deputies. (At present, the political roles are inverted: the President of the Chamber is Giuseppe Fico, a member of the Five Stars Movement, and Laura Boldrini's party is a left-wing minority force.)

- 1 *[all'interno delle commissioni sulle quali non è]*  
in-the inner of-the commissions on-the which not is
- 2 *possibile far nulla. noi stiamo per trattare un decreto*  
possible to do anything. **we** are to deal-with a decree
- 3 **costituzionale** sul qual si sta facendo pressione dopo sole  
**constitutional** on-the which one is doing pression after just
- 4 <**due ore e 25 minuti**> di **discussione** di cui **un'ora e**  
**two hours and 25 minutes of discussion** of which **one hour and**
- 5 **25 minuti erano di audizione ma di cosa stiamo parlando?**  
**25 minutes** were of hearing **but of what we-are talking?**
- 6 *e allora presidente io rivolgo a lei un appello accorato per far*  
and then Speaker I address **to you** a plea heartfelt to make
- 7 *tornare QUI la democrazia all' interno di QUESTO. altro*  
return **HERE** the democracy to-the inner of **THIS.** other
- 8 *che modifiche del regolamento, facciamo modifiche del*  
than amendments of-the regulations, we-make amendments of-the
- 9 *regolamento per far tornare QUI la centralità e non la*  
regulations to make return **HERE** the centrality and not the
- 10 *corsia preferenziale per il governo. perché QUI bisogna*  
track preferential for the government. because **HERE** it-is-necessary
- 11 *cominciare a lavorare e non il governo.*  
start to work and not the government.  
'within commissions on which it is not possible to do anything. **We** are about to deal with a **constitutional** decree which is being pushed through after just **two hours and 25 minutes of discussion** of which **one hour and 25 minutes** were the hearing. **But what are we talking about?** And so, Madam Speaker, I make a heartfelt plea **to you** to bring democracy back **HERE** into **THIS.** Amendments to regulations, forget about it. Let's amend regulations to bring centrality back **HERE** and not a fast-track for the government because it is **HERE** that it is necessary to start working, not the government.'

From a rhetorical-stylistic perspective, the excerpt is based on two rhetorical "figures of presence" which "make the object of discourse present to the mind" (Perelman and Olbrechts-Tyteca 2013: 174) and have a strong emotional component: contrast and repetition.

Both strategies are recurrently used as descriptive tools in conversation analysis. As pointed out by Peräkilä and Sorjonen: “the verbal displays of affect often form larger rhetorical units of talk” (Peräkilä and Sorjonen 2012: 6). Within these two basic strategies, from the point of view of emotive communication, many emotive markers can be observed, in particular “quantity devices” (Caffi and Janney 1994b: 338) which indicate a heightened emotive involvement. The utterance at line 5 *di che cosa stiamo parlando* ('what are we talking about') represents the climax of a counter-argumentative sequence. This culminating utterance can be described as a figure of address, as a rhetorical question, an *interrogatio*: “*interrogatio* is the expression of an intended statement in the form of a question to which no answer is expected. The impatient and emotive couching of the statement in the form of a question is intended to humiliate the opposing party” (Lausberg 1998: 340, § 765). From a functional point of view this utterance can also be described as an “emotive figure”, an exclamation, an “*exclamatio*, which is the expression of emotion by means of intensified *pronuntiatio*” (Lausberg 1998: 358, § 809). As a matter of fact, in this and in other passages of this excerpt we can observe increases in volume and pace that index increases in emotive temperature (Couper-Kuhlen 2012; Caffi 2013b, 2015). This crucial variable in the homeostatic system of the exchange entails a recalibration of the interactional system itself. The whole excerpt shows an emphatic style, as made explicit by the deputy himself when he calls the intended macro- illocution, i.e., the overall pragmatic and communicative function of his utterance, an “*appello accorato*” ('I make a heartfelt plea to you'), a strong emotional term.

In conclusion: what does the rhetorical stylistic perspective add to this analysis? The emphatic, “hot” style centers on rhetorical figures that are made up of and interlaced with prosodic means. Besides, there is an iteration of the contrast between opposite emotive devices, in particular, proximity markers, i.e., the topodeictic *qui* ('here'), and its evoked distal counterpart *là* ('there'). The opposition is obviously meant to hold not only within the shared perceptive space but also between two symbolic *loci*: the parliament ('here') and the government ('there'). Other emotive proximity devices are at work, as shown by the sharp contrast between *questo* ('this') on the one hand, and *il governo* ('the government') on the other, a contrast which is made even stronger, at a textual level, by exploiting the rhetorical device of repetition, a type of “figure of presence” whose function is to “make the object of discourse present to the mind” (Perelman and Olbrechts Tyteca 2013: 174).

## 8 Conclusions

From their very beginnings, rhetoric and stylistics have recognized the salience of emotions in speech, whether regarded as flattering seduction (Plato, see Section 3.2), or as functional to an argumentation strategy (Aristotle, see Section 3.3). Throughout the centuries, both fields introduced a view of language-in-use through which a more or less high or low emotional current flows, as in Bally’s equation between affectivity and expressivity and between emotions and style. Closer to a pragmatic approach in its modern sense, Spitzer sees dialogic activity as made up of moves through which speakers “leak” their openings and closures with respect to their partners. Actually, every utterance bears some traces of the

speaker's emotive stance, including those showing the deletion of the subject bearing an emotional investment, as is the case in scientific texts. The basic idea of this chapter is that emotions are part and parcel of our communicative behavior, and their complex intertwining with other communicative dimensions cannot be appreciated if they are marginalized in some scientific compartment or reduced to some specific, though undoubtedly significant, linguistic phenomena, such as interjections, vocatives, and allocutions. My point here is that if we do not want to give up this complex intertwining, we should not confine emotions in speech to: (a) a single disciplinary field, however broad it may be; (b) some specific level of linguistic activity, for instance, the lexicon; or (c) some dimension of speech, for instance, figurative language. With respect to point (b), a satisfactory treatment of language and emotion must take into account the connection between verbal and non-verbal communication, in other words, the connection between linguistic, prosodic and kinesic aspects (cf. the pioneering Arndt and Janney 1987; Goodwin, Cekaite, and Goodwin 2012). In the last few decades, much work has been done from a multimodal perspective, but a comprehensive, systematic approach is still lacking. To address the issue of the interface between emotion and language requires an interdisciplinary effort that would encompass the affective dimension of the interactional system.

In this chapter, key ideas of special relevance to emotions in speech put forward by great authors in rhetoric and stylistics have been mentioned and discussed. Drawing on Caffi and Janney's (1994b) notions of emotive capacity and emotive devices and on Caffi's (2001, 2007, 2013a) integrated approach, some proposals have been advanced which might help in understanding the fine-grained interplay between the linguistic and psychological dimensions of speech. Identifying this interplay means understanding how emotions emerge in stylistic choices. Finally, one of the main aims of this chapter was to show that the rhetorical-stylistic perspective is rooted in all too often forgotten insights from the past. As has hopefully become clear, this perspective is, in its pragmatic re-reading, a vantage point that enables us to grasp the pervasive quality of the interface between language and emotions, and the ways in which speakers shape their identities in speech.

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## 30 Deception and emotion

- 1 Introduction
- 2 Leakage: theoretical mechanisms
- 3 A critical view of the leakage hypothesis
- 4 Why does the leakage hypothesis persist?
- 5 A way forward
- 6 References

**Abstract:** Today, there is an extensive body of work on deception and its detection. This chapter primarily focuses on theoretical ideas about emotional aspects of deception. A popular notion is that liars fail to suppress emotions associated with deception, such as guilt, fear, and anxiety (or other hidden emotions). This so-called leakage hypothesis has been (and is) highly influential in media, popular culture, and law enforcement. The chapter offers a critical discussion of the leakage hypothesis, including its rationale and empirical support. We find the empirical support for the leakage hypothesis severely lacking, and we are critical of its theoretical conceptualization. We conclude that although the leakage hypothesis lacks scientific support, it is an interesting phenomenon in itself. That is, it may be worth studying why the notion of emotional leakage is so influential in both scientific research and popular culture.

## 1 Introduction

No mortal can keep a secret. If his lips are silent, he chatters with his finger-tips; betrayal oozes out of him at every pore. (Freud 1905: 77)

This well-known quotation from Sigmund Freud evocatively conveys the notion – known in the scientific literature as the *leakage hypothesis* – that deception manifests itself in irrepressible clues of one's true feelings, which can potentially be detected by a canny eye, to infer the intention to mislead accurately. This supposed leakage is thought to manifest itself across the spectrum of ways in which humans communicate – that is, in verbal, paraverbal, and nonverbal behaviors. This idea of nonverbal leakage captures the popular imagination, and it closely corresponds to the widespread stereotype about liars being tense, unable to look people in the eye, and tripping over his or her words (see, e.g., Global Deception Research Team 2006). However, decades of research indicate that people are

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good liars, and deception is notoriously difficult to detect reliably by anyone (see, e.g., DePaulo et al. 2003; Luke 2019). Although it is a popular notion and continues to be influential in theory and practice, the leakage hypothesis seems to be at odds with many of the general conclusions of the science of human deception. Thus, it is important that we take stock of the theoretical and empirical state of the leakage hypothesis. Does this intuitive idea hold up to scientific examination? Here, we review the literature to provide answers to this question.

## 2 Leakage: theoretical mechanisms

The idea that deception and emotions are inextricably linked is ancient. For instance, the Vedas (ca. 900 BCE) remark that deceivers could be detected by their fidgety behavior and flushed faces (Trovillo 1939) – presumably signs of anxiety and concern about being caught. More modern proponents of this emotional approach theorize that lying requires people to mask their true emotions while simulating those of a truth-teller (Ekman and Friesen 1969; ten Brinke, Porter, and Baker 2012). However, liars are thought to be unable to fully disguise their actual emotions, which leak in the form of spontaneous nonverbal behavior. For example, a person attempting to stifle anger at a work colleague might have difficulty controlling her facial expressions and appear visibly tense – betraying her true feelings. Relatedly, proponents of this approach posit that heightened motivation to be convincing (viz. high stakes) can magnify such leakage and are likely to result in behaviors that more strongly distinguish truth-tellers from liars (e.g., Frank and Ekman 1997).

Both the ancient and modern conceptions of the leakage hypothesis portray deception as entailing emotional conflict – that true feelings bubble to the surface, despite efforts to suppress them. The modern leakage hypothesis largely stems from Darwin's (1872) assertions that emotional expressions, which reflect an individual's actual state, are evolutionarily ingrained in humans and manifest involuntarily. Based on this proposition, Ekman and Friesen (1969), in their seminal article about nonverbal clues to deception, posited the foundational assumption of the leakage hypothesis (see also Ekman 2009), that nonverbal behavior, such as emotional facial expressions, may be difficult to conceal. Hence, liars are often betrayed by subtle emotional revelations that expose the true inner state they attempt to hide when simulating emotions that resemble truth-tellers. In this view, leakage is inevitable since the complete cessation of all emotional expression, ostensibly the best way to prevent leakage, will automatically arouse suspicion. Thus, deceivers have to simulate truth-tellers' emotions as a substitute, which doubles as a mask for their actual emotions (Ekman and Friesen 1969). In this view, almost all deception involves concealment of true emotions and display of false emotion: When one lies about a transgression (e.g., feigning innocence of a crime), one must conceal nervousness about being caught; when one lies about how one feels (e.g., hiding disgust at an unpalatable meal cooked by a loved one), one must suppress real feelings and display in their place more socially acceptable ones.

It has been proposed that leakage is best detected on the human face because the face is the most accessible conduit of emotional expression from an observer's perspective (Ek-

man 2009). That is, the face is most visible and most challenging to conceal flawlessly. Some evidence suggests that the upper parts of the human face, which are associated with emotional expression, are less compliant to volitional control than the lower parts (Rinn 1984). In that light, exponents of the leakage hypothesis have argued that such facial features with less muscular control are likely to leak evidence of emotional inconsistency during deception (e.g., ten Brinke et al. 2012; Porter, ten Brinke, and Wallace 2012). That is, because of the ingrained emotion-behavior link and the effort deception requires, parts of a deceiver's face are likely to give away their actual emotions in the dissimulation process briefly. Such displays – termed *microexpressions* – are supposedly so rapid (1/5 to 1/25 of a second) that they are difficult to perceive naturally (Ekman 2009; Ekman and Friesen 1969; Ekman and Friesen 1975).

According to Ekman and Friesen (1969), the extent of a deceiver's motivation to deceive, the perceived vigilance with which a detector is watchful (of the deceiver) for such deception, and the extent to which a collaborative or an antagonistic approach is implemented toward uncovering potential deception, influences the difficulty of deception. They note that high-stakes scenarios where a deceiver is motivated to succeed but a detector is highly focused, vigilant, and employs an antagonistic approach to discovering possible deceit, require maximum effort for a deceiver to succeed. Hence, such high-stakes scenarios whereby failure to deceive is costly (e.g., an alleged murderer's alibi testimony), are thought to be more likely to elicit emotional leakage than low stakes scenarios (e.g., white lies), whereby a deceiver is not overly concerned with succeeding, and a detector is not particularly vigilant.

Emotions, motivation, and stakes are thought to influence not only nonverbal displays, but also verbal behavior. Porter and ten Brinke (2010) use the term "verbal leakage" to refer to spontaneous utterances that appear to betray a lie (e.g., using the past tense to refer to a murder victim while deceptively claiming not to know whether they are alive or dead), and the term has been used more generally to refer to changes in verbal behavior predicted to occur as a function of the emotion and arousal thought to accompany deception (see, e.g., Cody, Marston, and Foster 1984). Emotion, particularly the fear of being caught, has been predicted to influence verbal and paraverbal behavior in a variety of ways. For example, fear is thought to induce deceivers to speak less (i.e., with fewer words and shorter utterances) and to speak more quickly, with more filled and unfilled pauses, with more errors, with more repetitions, and with a higher pitch (see Sporer and Schwandt 2006).

### 3 A critical view of the leakage hypothesis

As a general matter, cues to deception – measurable differences between deceptive and truthful messages – tend to be vanishingly weak. DePaulo and her colleagues (2003) found that the median effect size in the deception cue literature was  $d = 0.10$ . Reanalyzing their meta-analytic data, Luke (2019) found an average cue effect size of  $d = 0.064$  – which he argued might in fact be an overestimate. This does not set a promising stage for the tenability of the leakage hypothesis. Is emotional leakage the exception to this general trend of

results? We think not. Below, we critique some of the key premises of the leakage hypothesis: (i) that liars and truth-tellers experience appreciably different emotions; (ii) that emotions, especially strong emotions, cannot be suppressed and manifest themselves as spontaneous nonverbal displays or verbal behavior; and (iii) that one way in which concealed emotions reveal themselves is through brief facial microexpressions. Let us examine each of these in sequence.

### **3.1 Do liars feel differently than truth-tellers?**

The crux of the leakage hypothesis is that a person's real emotions and emotional expressions cannot be masked fully through simulation or suppression. Thus, traces of liars' actual emotions leak when they attempt to imitate the emotional expressions, speech, and behavior of truth-tellers (Ekman and Friesen 1969). This assumption requires that there are emotions and emotional expressions associated with lying, which differ systematically from those experienced by truth-tellers. Ekman (1985) posited that three distinct emotions characterize lies. These are (i) anxiety over getting caught, (ii) guilt induced by the immorality of lying, and in some cases (iii) pleasure (i.e., "duping delight") produced by the achievement of deceiving another successfully.

None of these hypothesized differences are strongly supported by existing data. First, if liars are more apparently tense and anxious than truth-tellers, the difference is rather small (meta-analytic average  $d = 0.099$ , 95 % CI [0.004, 0.194]; see Luke 2019: appendix B). Second, diary studies of naturally occurring deception (as opposed to laboratory-produced lies) suggest that people do not feel especially bad about the lies they tell (DePaulo et al. 1996). Although more serious lies (e.g., concealing marital infidelity) tend to be associated with lie-tellers feeling more distress during and after the deceptive act, DePaulo and her colleagues (2004) found that in two samples (college students and general community members), average levels of deception-associated distress were only slightly above the midpoint of the self-report scale (i.e., just over 5 on a 9-point scale). Thus, liars tend not to experience much guilt or conflict during or after their deceit – though some surely do. Third, to our knowledge, there has been no empirical research on duping delight. In sum, the evidence suggests that to the extent that people experience different emotions when lying compared to telling the truth, those differences are generally fairly small.

Of course, when people lie about their emotions, they are, by definition, experiencing qualitatively different emotions than a truth-teller making the same statements. Thus, there are at least some occasions in which it is certainly true that there are differences in the emotional experiences of liars and truth-tellers. This naturally leads us to interrogate the next premise of the leakage hypothesis.

### **3.2 Are emotions irrepressible?**

There is some evidence to suggest that facial displays of emotion are at least partly spontaneous. For instance, Matsumoto and Willingham (2009) found that congenitally blind peo-

ple, who presumably have not had opportunities as sighted people for learning about how to use facial expressions for social communication of emotions, also appear to make spontaneous emotional facial displays. But to the extent that the first premise of the leakage hypothesis – that is, that there are appreciable emotional differences in deception and honesty – is untenable, the second premise that true emotions manifest themselves in spontaneous displays seems something of a moot point with specific regard to leakage during deception.

However, one could reasonably propose that perhaps there are circumstances under which leakage of concealed emotions is especially likely. Maybe everyday lies, like concealment of unpopular attitudes or false words of encouragement, are unlikely to result in leakage simply because there is nothing to leak. That is, the true feelings that are concealed are insufficiently intense to rise to the surface and can be more easily tamped down. But what about more powerful feelings, like those generated when there are substantial consequences for getting caught?

### **3.3 High-stakes deception**

A major postulate of the leakage hypothesis is that high-stakes scenarios, which motivate liars to bolster their credibility by maintaining complex and consequential lies, elicit greater emotional leakage (e.g., Frank and Ekman 1997; Porter and ten Brinke 2010; ten Brinke et al. 2012). This supposed influence of high-stakes on liars' leakage is based on two premises: (i) that high-stakes lies are typically complex and associated with strong emotions to be concealed or simulated (see ten Brinke et al. 2012), and (ii) that emotions which are high in motivational intensity narrow one's attentional focus (e.g., Gable and Harmon-Jones 2010). Consequently, in this view, it is highly challenging for liars to simulate the emotions of truth-tellers or conceal their actual emotions.

The premise that high-intensity emotions may be difficult to conceal is plausible on its face. However, extant research has provided inadequate support for the hypothesis. Porter, ten Brinke, and Wallace (2012: 512) argued that "emotional leakage was essentially ubiquitous" because 98.3% of their participants ( $N = 59$ ) displayed at least one inconsistent facial expression during a slideshow of 29 pictures from the International Affective Picture System (IAPS, Lang et al. 1997). They also argued that high intensity emotions resulted in greater leakage, as they found that high intensity images resulted in more frequent displays of inconsistent emotion. Although ostensibly compelling, results like these are beset by serious methodological and conceptual problems. Conceptually, it is not clear that this is leakage at all. Porter and his colleagues (2012) treated any facial expression inconsistent with the intended emotional display as leakage. Although they assessed participants' affective experiences and reported results at the aggregate level, it is not clear from the coding of facial expressions whether inconsistent displays corresponded to the participants' actual experienced emotions. Moreover, for inconsistent displays that occurred when participants were instructed not to conceal their emotions at all, it is not clear what could have been "leaking". Thus, the presumed causal sequence of emotional leakage is inadequately explained. Unfortunately, other studies examining purported leakage of concealed emotions have similar flaws (e.g., Porter and ten Brinke 2008).

Additionally, some research that is billed as studying high-stakes deception does not, in fact, have the necessary design to draw inferences about the moderating effect of stakes on the strength of cues to deception. For example, ten Brinke, Porter, and Baker (2012) – in a paper entitled in part, “Observable facial muscle contractions reveal emotional high-stakes lies” – did not have a lower-stakes comparison group. One could argue that it would still be possible to make a between-study comparison of the results of such a study to broader research on lower-stakes lies, but this approach is fraught with difficulties. For example, measuring numerous cues to deception in a single study (as is routine in such research), particularly when samples are small, greatly increases the likelihood of spurious findings (see Luke 2019), making such comparisons less trustworthy.

However, one can still attempt to make between-study comparisons with a meta-analytic approach. Hartwig and Bond (2014) did exactly this when they meta-analyzed the moderating effect of motivation level on the detectability of deception in  $k = 143$  samples. Consistent with DePaulo and her colleagues (2003), who found only small moderating effects of motivation on the strength of verbal and nonverbal cues to deception, Hartwig and Bond (2014) found that stakes had no effect on the detectability of deception (viz. the extent to which cues to deception distinguished between liars and truth-tellers). In fact, DePaulo and her colleagues (2003) found a small tendency for heightened motivation to induce people to produce fewer speech disturbances when lying, in stark contrast to what the leakage hypothesis would predict. Similarly, in Sporer and Schwandt’s (2007) meta-analysis of nonverbal cues, there was some evidence that motivation might decrease the strength of cues more often than it magnifies it (but these effects are quite small). These patterns should, however, be taken with caution, given the small size of the effects and large potential for error (see Luke 2019). Thus, the evidence that stakes influence magnitude of cues to deception is tenuous. In short, there may not be much for liars to leak in the first place, and high stakes do not seem to make them much leakier.

### 3.4 Motivational impairment and context overshadowing

It is worth noting that, separate from the leakage hypothesis, another theoretical perspective implies that motivation may moderate differences in truthful and deceptive behavior. DePaulo’s *motivational impairment* hypothesis suggests that heightened motivation may have deleterious effects on liars’ ability to craft compelling deceptions (see, e.g., DePaulo and Kirkendol 1989; DePaulo et al. 1988). Rather than leakage, in this view, liars are undermined by their own attempts to be more convincing. Specifically, motivation to convince their audience leads liars to increase the control they exert over their verbal and nonverbal behavior, resulting in less sincere and more rehearsed-sounding performances. That is, increased stakes may make liars and truth-tellers speak and act more similarly. It is worth noting that the method of coding inconsistent emotional displays (described above), which is often purported to measure leakage, is also compatible with a motivational impairment interpretation. That is, because we do not know the causal origin of the inconsistent displays, it remains plausible they represent a kind of self-presentational failure, rather than leakage of hidden emotion.

Bond and DePaulo (2006), in their influential meta-analysis of human deception detection accuracy, examined the effect of motivation on the accuracy of deception detection attempts and found some support for the motivational impairment hypothesis when synthesizing within-study comparisons of motivated and unmotivated lies. However, this effect was relatively small ( $d = 0.17$ ).

In their between-study comparisons, which entailed more data (including high-stakes statements from serious crime suspects in police interrogations), Bond and DePaulo (2006) found no advantage for discriminating between more and less motivated lies. Moreover, highly motivated senders were viewed as more deceptive irrespective of their veracity. That is, it seems that increased motivation induces everyone to act more similarly to stereotypical liars – and thus more likely to be judged as deceptive. This falls in line with what Hartwig and Bond (2014) called *context overshadowing* – the tendency for situational influences on behavior to be largely the same for liars and truth-tellers (e.g., high-stakes situations make everyone nervous, regardless of whether they are telling the truth) and for those influences to be much greater than any differences between truthful and deceptive behavior.

### 3.5 Do microexpressions reveal emotional deception?

Perhaps leakage is subtle – only manifesting as fleeting facial microexpressions. Unfortunately, the hypothesis that microexpressions are cues to deception fails in three ways. First, microexpressions do not occur frequently. Second, there is no evidence that they are spontaneous manifestations of emotion. Third, there is no evidence that they distinguish between deception and honesty. Coding faces of people looking at the International Affective Picture System (IAPS) images, Porter and ten Brinke (2008) and Porter et al. (2012) found that only 2% and 1% of the facial expressions in their respective samples ( $Ns = 1,711$  and 697 facial displays) involved microexpressions, all of which involved only part of the face, rather than the full face, as posited by Ekman and Friesen (1975). Thus, rather than a pervasive, irrepressible symptom of concealed emotion, microexpressions are quite rare – so rare indeed that it is essentially impossible to determine whether they are associated with specific emotions or with the veracity of an emotional display. In fact, the small number of microexpressions of inconsistent emotions that have been found in research have occurred in roughly equal frequency in deceptive and honest displays (Porter and ten Brinke 2008; Porter et al. 2012). That is, they are not only rare; their meaning is unclear. The notion that microexpressions are useful cues to deception is roundly rejected by experts (Kassin et al. 2018) – for good reason.

### 3.6 Summary

Despite its intuitive appeal, the leakage hypothesis is largely unsupported by extant research. Its persistence compels us to ask how the hypothesis has “survived” as long as it has. Perhaps the leakage hypothesis has endured for as long as it has, despite the empirical

evidence to the contrary, in much the same way many bankrupt theories linger in psychology. As Paul Meehl (1978) said, “Most [theories] suffer the fate that General MacArthur ascribed to old generals – They never die, they just slowly fade away” (Meehl 1978: 196). But the leakage hypothesis has not slowly faded. Quite the contrary, it has continued to accumulate attention, both in popular media and the scientific literature, not just for a few decades like some scientific fads – but for millennia (see Trovillo 1939). Leakage is the central premise of a recent popular television series (i.e., *Lie to Me*) and, more alarmingly, serves as the basis for security policies that advise examination of microexpressions to detect deceit (see, e.g., Bernal 2018; European Commission 2018; Halsey 2013). The hypothesis having survived from ancient scriptures to modern pop culture – such endurance demands an explanation.

## 4 Why does the leakage hypothesis persist?

### 4.1 Scientific failures: is the leakage hypothesis falsifiable?

I consider it unnecessary to persuade you that most of the so-called “theories” in the soft areas of psychology (clinical, counseling, social, personality, community, and school psychology) are scientifically unimpressive and technologically worthless [...]. [T]he enterprise shows a disturbing absence of that *cumulative* character that is so impressive in disciplines like astronomy, molecular biology, and genetics. (Meehl 1978: 806, emphasis mine)

Examined through the lens of scientific history, the leakage hypothesis is striking in its stagnation. For such an ancient hypothesis, it has evolved little: It has neither accumulated empirical data to have grown substantially in sophistication, nor been sufficiently falsified such that researchers have abandoned it.

Theoretical explanations of emotional leakage remain quite crude and often draw from vague conceptual hypotheses rather than from a body of empirical research that has cumulatively sharpened a collective understanding of the hypothesized mechanisms of leakage. Porter and his colleagues (2012), for example, appeal to the Darwinian idea that emotional expression offers evolutionary advantages to argue the plausibility of the leakage hypothesis, particularly for intense emotions (Darwin 1872). However, there is fairly little more contemporary work to lend support to this hypothesis or to offer a refined theoretical account of relevant psychological processes, moderators, or mediators – or even how to definitively identify that leakage has occurred in a given facial or bodily display.

Earlier, we focused our critique on three premises of the leakage hypotheses, but it is worth noting that these premises are not taken directly from any formal theory or model of emotional leakage in the literature. Rather, those premises were our attempt to do justice to the descriptions of leakage offered in the literature. Indeed, although emotional leakage is addressed by major authors in the deception literature (e.g., DePaulo et al. 2003; Ekman 2009), to the best of our knowledge, there has been no adequately complete presentation of a theory of leakage with sufficient specificity that it could be subjected to severe testing. For example, earlier we noted that operationalizations of leakage in the extant literature (i.e., facial expressions inconsistent with the presumed experienced emotion, irrespective

of the substance of the putatively expressed emotion) are in fact ambiguous as to whether they measure leakage at all. It is not clear that we would really know leakage even if it happened right in front of us.

Additionally, at least part of the theoretical stagnation may be due to the relatively low power of research on the leakage hypothesis (and in deception research in general). Leakage research has tended to have small samples and thus low power. For instance, Ekman's earlier work on leakage in the 1970s to the early 1990s had an average sample size of  $N = 22.6$  participants (calculated from Ekman and Friesen 1972; Ekman et al. 1976, 1985, 1988, 1991). More recent leakage research has used larger samples, but not by much, average  $N = 67.6$  participants (calculated from Hurley and Frank 2011; Porter and ten Brinke 2008; Porter, ten Brinke, and Wallace 2011, 2012; ten Brinke and Porter 2012). Tellingly, ten Brinke and Porter (2012) refer to  $N = 78$  as a "large sample". This sample would provide only 0.42 power to detect  $d = 0.40$  ( $\alpha = 0.05$ ), approximately the average effect size in social psychology (see Richard, Bond, and Stokes-Zoota 2003). The situation is worsened by the fact that some leakage research recodes previously used material (e.g., ten Brinke and Porter 2012; ten Brinke, Porter, and Baker 2012). For context, one needs  $N = 3,142$  for 0.80 power to detect a true effect of  $d = 0.10$  – the median deception cue effect found by DePaulo and her colleagues (2003; see also Luke 2019). If leakage has effect sizes similar to other cues to deception, the relevant research has been dramatically underpowered.

Low power can lead to the proliferation of spurious, unreplicable results which fail to contribute meaningfully to theoretical development (see Luke 2019; Morey and Lakens 2016). Scientists and laypeople alike pervasively underestimate how small samples produce widely variable results (Tversky and Kahneman 1971), which can readily produce false positives and inflated effects (Lane and Dunlap 1978), particularly when a large number of dependent variables are measured (e.g., coding numerous facial actions) and can be analyzed and subset in various ways (e.g., in the upper, lower, or whole face; see Simmons, Nelson, and Simonsohn 2011). Thus, individual low-power studies can appear to produce interesting and informative results, but in accumulation reveal few, if any, meaningful and reliable patterns (DePaulo et al. 2003; Luke 2019).

The trouble is not only that small-sample studies produce spurious results; it is that they are not strong tests of hypotheses (see, e.g., Mayo 2018). If they fail to support the hypothesis, they can easily be written off as methodologically flawed (Meehl 1978) and/or explained with *post hoc* reasoning (Kerr 1998; Munafò et al. 2017; Nosek and Lakens 2014). As such, despite the purported importance of falsifiability in science, one can rarely find dispositive evidence against a hypothesis, as the evidence offered by any given study tends to be weak. Theories in psychology are rarely subjected to sufficiently severe testing to properly falsify them (Meehl 1978; Mayo 1991; Morey and Lakens 2016), and the leakage hypothesis is no exception to this rule.

The idea of leakage may have survived in large part, therefore, because no one has tried seriously to kill it – and if they were to try, they would find the task extraordinarily difficult, given the slipperiness and ambiguity of the hypothesis. Conceptual ambiguity and the methods with which it is studied shield the hypothesis from refutation, such that it is never subject to severe testing but only "rather feeble danger" (Meehl 1978: 821). These issues are not, of course, unique to the leakage hypothesis (Mayo 2018; Meehl 1978, 1990),

and under different circumstances, we might expect the construct of leakage to simply fall out of fashion, as many theoretical ideas do. However, interest and belief in the leakage hypothesis may have an additional source of nourishment that has unnaturally extended its life: People may be motivated to believe it.

## 4.2 A double-standard for judging deception

As a theoretical framework for their meta-analysis on lie judgment accuracy, Bond and DePaulo (2006) proposed the *double standard hypothesis*. According to this hypothesis, people have two sets of moral codes that govern emotions about deception: When thinking about others' lies, people are moralistic (see Saxe 1991) – deception is then a grave moral lapse which gives rise to feelings of guilt and anxiety. However, when oneself is the lie-teller, deception is readily rationalized and therefore does not generate many qualms. To put it in simple and informal terms, when lying, we cut ourselves slack that we do not offer others. We seem to believe that our own lies are told for good reasons, but we fail to extend such favors to others.

The double-standard hypothesis finds support from empirical evidence. Famously, in a survey of the desirability of personal descriptions, Anderson (1968) found that people perceived "liar" to be the most unflattering label. Reporting their beliefs about how people behave when they lie (as opposed to telling the truth), people regularly assert that liars exhibit stereotypical behaviors associated with anxiety and shame, such as gaze aversion and fidgeting (Global Deception Research Team 2006; Masip, Barba, and Herrero 2012; Masip et al. 2011). These stereotypes are broadly incorrect (DePaulo et al. 2003; Luke 2019), but they are broadly held, in cultures across the world (Global Deception Research Team 2006). Rather than deriving from observing patterns in actual deceptive behavior, Bond and DePaulo (2006) argue that these stereotypes are prescriptive: People predict liars will be anxious and ashamed because they *should* be anxious and ashamed for violating basic social and moral norms of honesty (see Bok 1978; Grice 1975).

Contrary to the prescriptive stereotype, as we reviewed above, people tend not to feel especially bad about their lies, even their relatively serious ones (DePaulo et al. 1996, 2004). When lying, again, people demonstrate few, if any, overt signs of nervousness or tension (DePaulo et al. 2003; Luke 2019). Deception, it seems, does not produce the high level of moral trepidation often ascribed to it, or if it does, people are generally adept at rapidly attenuating those negative emotions, perhaps with rationalization or trivialization (see Simon, Greenberg, and Brehm 1995; Gosling et al. 2006).

This double-standard, we believe, may explain why the leakage hypothesis has persisted for so long, despite the lack of evidential support: To assert the leakage hypothesis is to assert the general perception that humans tend to have about deception – that it should be accompanied by irrepressible guilt, shame, and anxiety. Part of the appeal of the double standard hypothesis is its parsimony. It explains the belief that liars experience negative emotions and that such emotions give rise to behavioral cues. Furthermore, it explains why the leakage hypothesis fails: Liars might not experience the emotions we expect them to, since they can easily generate rationales for the lies they tell.

In all likelihood, there is a motivational component to the double standard hypothesis. Social psychological research suggests that people tend to believe that the world is a just place, where transgressions are punished (Hafer and Bègue 2005; Lerner 1980). The notions that lies can go undetected and that liars may feel no guilt or remorse may threaten this fundamental belief, which might explain why the leakage hypothesis remains so persistent (Granhag and Hartwig 2015).

However, one should not oversell the current state of the double-standard hypothesis. It has, to date, enjoyed little empirical attention since its introduction into the literature in 2006. Moreover, to the best of our knowledge, no one has offered a comprehensive argument of the mechanisms and consequences of the double-standard hypothesis. There is a substantial amount of work still to be done if this explanation is to be accepted. That being said, it is broadly consistent with the extant data and, we believe, viable as an explanation of the persistence of the leakage hypothesis – as well as numerous other phenomena related to human deception.

## 5 A way forward

We have offered a critical assessment of the leakage hypothesis and attempted to explain, using existing theory and data, why the hypothesis has survived for as long as it has, both in the scientific literature and in the popular imagination. The discrepancy between the evidence for the hypothesis and its popularity suggests a way forward for research: Perhaps we should study the leakage hypothesis not as a scientific idea, but as a psychological phenomenon and a cultural artifact. The belief in leakage is so pervasive, despite being unlikely to be true, that its existence and underpinning mechanism are worthy of serious scientific consideration. Betrayal may not ooze from every pore of one who lies, but we ought to be interested in understanding why we think that is so and, perhaps more tantalizingly, why we seem to *want* it to be so.

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Shlomo Hareli and Ursula Hess

# 31 Apologies, forgiveness and the social perception of emotions

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**Abstract:** From a semiotic perspective, expressions of emotions can be considered as a kind of language containing the same types of units and organization as spoken language. As such, expressions of emotions can be seen as explicit and compacted representations of information analogs of speech acts communicating various things about the expresser and/or the situation. This language consists of a set of relatively distinctive signals, that is, expressions typically recognized by observers as representing a specific emotion. Each expression is associated with specific information about the internal state of the expressers, the way they evaluated the situation and their likely future actions. The interpretation of the meaning of the emotion expression is based on perceivers' naïve theory of the characteristic antecedents and consequences of specific emotions. However, the interpretation of perceived emotions depends not only on the message contained in the emotion but also on the context in which the expression was observed. This chapter exemplifies the working of this language in the context of apologies, forgiveness and social perception more generally. Specifically, knowing which emotion drove a person's apology, observers use their naïve knowledge of emotions to decide whether the person should be forgiven or not.

## 1 Introduction

Emotion expressions serve a social communicative function (Darwin [1872] 1965; Eibl-Ebesfeldt 1989; Ekman 1992; Fischer and Manstead 2008; Fridlund 1994; Hess, Kappas, and

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Banse 1995; Scarantino 2017; Shariff and Tracy 2011). Specifically, emotions are expressed through observable changes such as the appearance of the face, postural and verbal behaviors and variations in speech and voice (Ekman 1993; Rimé et al. 1991; Scherer 2003; Tracy and Robins 2008). Yet, what is actually signaled by such expressions is a source of dispute among scholars. Whereas some hold the view that expressions of emotions primarily reflect the expressers' underlying emotional states (e.g., Ekman and Friesen 1971; Izard 1971), others insist that expressions of emotions are predominately linked to expressers' social motives (e.g., Barrett 2013; Fridlund 1994). Still others maintain that emotion expressions communicate both an underlying emotional state and a social motive (e.g., Parkinson 2005; Hess, Kappas and Banse 1995). Further suggestions focus on action tendencies (e.g., Frijda 1986) as well as demands from others (Scarantino 2017). What all of these have in common is that emotion expressions communicate something about the emoter and/or the emoter's understanding of the events that elicited the emotion. Importantly, what is communicated through emotion expressions could also be communicated via language.

Whereas the question of what emotion expressions actually represent is of crucial importance for the understanding of the function of emotional expressions for the expresser, it is less important for the understanding and interpretation of such expressions by observers. This is because observers usually assume that expressions of emotions indeed represent emotions, and they react based on this understanding (Niedenthal and Brauer 2012). This is also relevant to the information that can be deduced from observing or learning about an individual's emotional reaction to an event (Hess and Hareli 2015). Namely, observers use emotional expressions of others to infer how the expresser feels, the meaning of the emotion-eliciting situation, the expresser's intentions and personal characteristics as well as the implications of the situation for the observer (Hess and Hareli 2015; Scarantino 2017).

From a semiotic perspective, expressions of emotions can be conceived of as signs conveying information to others. These set of signs can be considered as a kind of language containing the same types of units and organization as spoken language (Birdwhistell 1970). In fact, as will be apparent in what follows, expressions of emotions can be seen as explicit and compacted representations of information analogs of speech acts communicating various things about the expresser and/or the situation (Scarantino 2017); that is, messages that can also be conveyed by other sign types such as spoken words or written text.

The characteristics of this language of emotion expressions are as follows: (a) it consists of a set of relatively distinctive signals, that is, expressions typically recognized by observers as representing a specific emotion; (b) each expression is associated with specific information about the internal state of the expressers, the way they evaluated the situation and their likely future actions; (c) the interpretation of the meaning of the emotion expression is based on perceivers' naïve theory of the characteristic antecedents and consequences of specific emotions; and (d) interpretation of perceived emotions depends not only on the message contained in the emotion but also on the context in which the expression was observed. In what follows, we will present theory and evidence supporting these claims and exemplify its working in the context of apologies and forgiveness, person and situation perception. The focus of the present chapter is on facial expressions. However, much of what we discuss can be applied to emotion decoding processes in general, both those based on nonverbal signs such as postures, tone of voice, and gestures and those based on secondhand information such as verbal descriptions of the expresser's behavior.

## 2 Drawing inferences from emotions: a model of the reverse engineering of appraisals and action tendencies

One of the important consequences of the fact that perceivers consider expressions of emotion as signs of emotions is that they use their naïve knowledge of emotion about the type of events that elicit specific emotions and the behavioral consequences of such emotions to infer not only what the expressers feel but also additional information about them and the situation. For example, people share the knowledge that anger is typically elicited by a perceived intentional insult or hurt by another person which then leads to a tendency to act against the wrongdoer (Frijda 1986). Knowing this enables a perceiver to infer that a person who expresses anger feels hurt by someone else and may wish to act against this person. In other words, by simply taking note of the expression, a perceiver can deduce both what happened to elicit the expression and what is likely to happen next. This knowledge in turn allows the perceiver to adjust their own behavior, for example, either to try to intervene to calm the angry person down or to withdraw from the situation. In this manner, emotions serve to regulate social interactions, a notion already proposed by Darwin ([1872] 1965). Yet, this process assumes that the information deduced by the observer has a reasonable chance to be accurate. That is, the observers' naïve theory has to capture the actual emotion elicitation process reasonably well. Appraisal theories of emotion provide a basis for this assumption.

## 3 Appraisal theory of emotions – emotions have characteristic eliciting conditions

According to appraisal theories of emotion, emotions are elicited and differentiated through a series of appraisals (i.e., evaluations or judgments) of internal or external events based on the perceived nature of the event (e.g., Frijda 1986; Lazarus 1991; Scherer 1987). According to Scherer (1984), a change in the internal or external environment is evaluated according to whether the event is pleasant or unpleasant (pleasantness) as well as whether the change is in line with the motivational state of the individual or obstructs the individual's goals (goal obstruction). Individuals further evaluate their ability to cope with or adjust to the change (coping potential). A further set of evaluations regards the correspondence with the relevant social and personal norms, i.e., how the event is to be judged in terms of ethical, moral or social norms (norm incompatibility). Importantly, these appraisals are specific to the individual and the individual's current state. Hence, while one individual may evaluate an event as a threat that cannot be coped with due to a lack of skill or resources or maybe a submissive personality, another may see a challenge instead. For example, the sight of a bear may elicit fear and terror in most people but pleasant anticipation in a hunter with the appropriate hunting license due to the difference in their motivational state and ability to cope with bears.

Specific emotions are differentiated by their pattern of appraisals. Thus, anger is an emotion that is characterized by appraisals of goal obstruction, high coping potential and a perception of norm violation. By contrast, sadness is characterized by appraisals of goal obstruction, but combined with low coping potential, with norms playing less of a role (Scherer 1984). In this sense, one can say that emotions are like short and simple stories. This is what Lazarus (1991) referred to as core relational themes. In this view, sadness tells a story about loss and anger a story about insult to the self. More about appraisals will be presented later in the chapter.

## 4 Emotions and action tendencies – specific emotions are associated with specific behavioral intentions

Emotions are responses to major concerns of the individual (Frijda 1986). Concerns can best be viewed as a relatively enduring disposition to prefer a certain state of the world, for example, the preference to succeed in what one is doing or to be free of pain (Frijda 1988). As such, emotions prepare the individual to respond appropriately to the emotion-eliciting event. This implies that an appraisal pattern associated with a specific emotion is also associated with a specific action tendency or action readiness. These are behaviors that are likely to address the issue that gave rise to the emotion in the first place (Frijda 1986; Scherer 2005). For example, fear is associated with tendencies to engage in protective behavior, often in flight. By contrast, anger is linked with a tendency to move against, to oppose the source of the anger (Frijda, Kuipers, and ter Shure 1989). Thus, specific emotions are associated with both specific appraisals and specific behaviors (Roseman, Wiest, and Swartz 1994).

In short, according to appraisal theory, a person's personality, skills and world knowledge determine their resources, values and motivations. These in turn define the outcome of their appraisal of an event. The appraisal pattern in turn entrains the emotional and behavioral reaction to the event (see upper half of Figure 31.1).

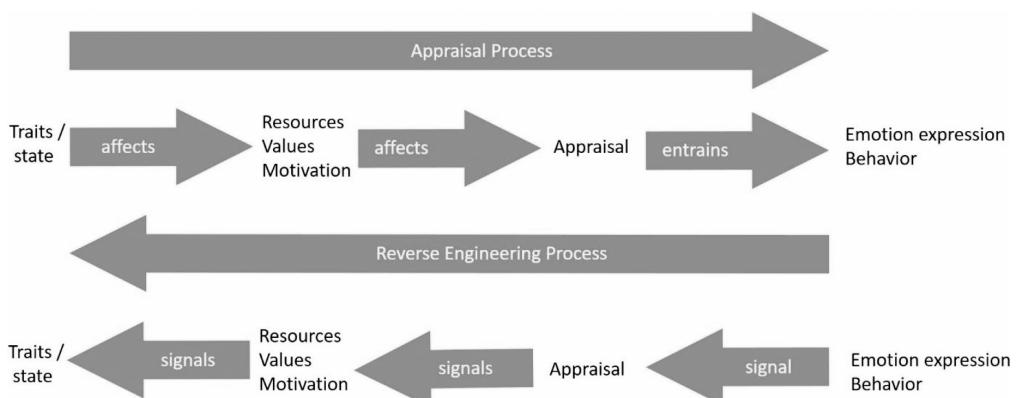


Fig. 31.1: Appraisal and reverse engineering processes (Hareli and Hess 2019).

## 5 Emotion knowledge – people are aware of the links between specific emotions, appraisals and action tendencies

The link between appraisals and action tendencies on one hand and emotion words or stories about emotional events on the other has been well studied (e.g., Fontaine et al. 2007; Frijda et al. 1989; Roseman, Spindel, and Jose 1990; Roseman, Wiest, and Swartz 1994). For example, participants may be asked to read about an emotional event and then reconstruct the appraisals or action tendencies of the protagonist. This line of research generally confirms predictions of appraisal theory (Roseman 1991; Roseman Wiest, and Swartz 1994; cf Hess and Kappas 2009). Even though these studies are not solid evidence for the actual link between emotions, appraisals and action tendencies (Parkinson 1997; Parkinson and Manstead 1993), they provide an insight into participants' naïve emotion theories. These theories tend to be overall in line with appraisal theory (Hareli 2014). In other words, people's naïve theories are a close match to the process described in the upper half of Figure 31.1.

It is important to note that appraisals are typically not the product of reasoning processes (Kappas 2006). However, people can and do reconstruct appraisal patterns consciously after the fact (Robinson and Clore 2002) and, based on the naïve emotion theories described above, they can do so for other people's emotions as well (e.g., Hareli and Hess 2010; Hess and Hareli 2015; Roseman 1991; Scherer and Grandjean 2008). Furthermore, they can use this information to deduce unknown information about the expresser or the situation, based on known information about the expresser's behavior in a process we call reverse engineering.

## 6 A model of the reverse engineering of appraisals and action tendencies

As depicted in the lower half of Figure 31.1, knowing how a person reacted to a given event makes it possible to reconstruct that person's likely appraisal of the event. This in turn provides insights into their goals, values and motivations. Specifically, the mere fact that someone reacts with an emotion to an event signals that the event is relevant to that specific person, which in turn provides information about the person's goals and values. For example, the fact that a person reacts with anger to a perceived injustice signals that the person cares about justice. Likewise, the fact that the person reacted with anger suggests that the event obstructs their motivational goals, i.e., that they would like to see justice served.

The appraisal of coping potential provides information about a person's resources. For example, had the person reacted with sadness, one could conclude that they do not see a way to redress the injustice. The evaluations regarding the correspondence of the event with the relevant social and personal norms provide further information about a person's values.

Thus, an angry person experiences a motivation incongruent (low goal conduciveness) state, but considers the situation to be potentially under their control (high coping potential). In turn, an observer who sees a person react with anger or learns that this person has reacted with anger to an injustice, can conclude that the person has values according to which the event appears unjust, perceives this injustice as incongruent with their own motivational state and also feels endowed with enough resources to act accordingly. How the person acts in accordance with these appraisals provides additional information about their values, goals and motivation as well as their interpretation of the situation.

For example, if someone shows anger at the undesirable act of another person, punishment behavior is a likely action tendency. If the person does not actually act this way, we may surmise that some other value, goal or motivation conflicts with this behavior, maybe the offending person is their boss and they fear for their job, or that the situation is already sufficiently addressed by the mere communication of anger (Darwin [1872] 1965). Importantly, inferences based on both the expression of the emotion and on performed actions need not be sequential, but rather impressions from both sources may be formed simultaneously. One issue that becomes evident in this context is the difficulty of distinguishing between expressive behavior and behavior that addresses the emotion-eliciting event. For example, running away from a threat is both an expression of fear and puts distance between the threat and the person. To avoid confusion, we will confine the term emotion expression to facial and vocal expressions that do not directly address the elicitor.

As outlined above, expressions of emotion and performed actions can provide information about the situational context and the motivations and values of the expresser. Other information that can be deduced regards the personality of the expresser (Hareli and Hess 2010). Specifically, stable traits such as dominance, affiliation, and competence impact the motivational goals, preferences, and resources of a person. Thus, a person who is competent may be expected to have more resources to deal with potential problems than a person who is not. Conversely, seeing a person react with restrained anger in a difficult situation suggests that this person is high in resources in this situation and likely in other situations as well, but also, that this person is capable of maintaining self-control in such situations. In what follows, we will present examples of how reverse engineering is used by observers to make sense of a situation and the people involved in the context of apologies and forgiveness.

## 7 How knowing which emotions motivated a transgressor's apology determine forgiveness

According to a classical view by Goffman (1971), apologies can be best conceived of as means for remedial work. That is, for any social activity whose function it is to change the meaning of what is seen as offensive to something seen as acceptable. For Goffman, apologies split the self into two parts, a “bad” self that is criticized for the misconduct and a “good” self that recognizes the misconduct and promises explicitly or implicitly to behave in a more acceptable way in the future. Apologies tend to be an effective means for restoring broken relationships following a social transgression (Gonzales et al. 1990; Itoi, Ohbu-

chi, and Fukuno 1996; Takaku, Weiner, and Ohbuchi 2001). However, the effectiveness of an apology depends on, among other things, the verbal and nonverbal components of the apologetic message and on how this message is perceived by the injured party. In other words, the likelihood that the message that one is sorry for the wrongdoing will repair the relationship with the victim depends on the context in which this message is conveyed, as analysis of the pragmatics of apologies suggests (see e.g., Blum-Kulka, House, and Kasper 1989). One important contextual factor is the emotions known to have motivated the apology, as described in what follows. To understand why and how such emotions determine the effectiveness of apologies, one needs first to consider how apologies achieve their goal.

Apologies promote forgiveness because by apologizing transgressors attempt to repair the damage caused by their act. Thus, apologies accompanied by offers of help foster forgiveness by contributing to actual reparation of the undesirable outcomes of the transgression (Ohbuchi, Kameda, and Agarie 1989; Scher and Darley 1997). Also, the mere act of apologizing signals that the transgressor acknowledges the wrongdoing and takes responsibility for the transgression, which in turn suggests that the transgressor is likely to avoid similar behavior in the future (Scher and Darley 1997). In doing so, the transgressor also signals that they are in principle a person of good character and that the transgression was a glitch, which also fosters forgiveness by reducing the transgressor's perceived responsibility for the transgression (Ohbuchi, Kameda, and Agarie 1989).

A different aspect of an apology that may encourage forgiveness is its "status equalizing" function. The act of apologizing tends to lower the status of the transgressor because of the disgrace that is part of a public apology (Ohbuchi, Kameda, and Agarie 1989). To the degree that the original offence had a status lowering effect on the victim, the apology then creates a new equilibrium. This effect is analogous to the more general effect of expressions of submissiveness in acts of appeasement (Keltner, Young, and Buswell 1997).

Finally, apologies are also more effective when they are perceived as trustworthy, genuine, and sincere (Takaku Weiner, and Ohbuchi 2001). Any aspect of the apology that conveys these meanings and contributes to the perceived honesty of the apology is likely to enhance its effectiveness.

The emotions that accompany an apology play an important role in this regard. These same emotions can also be a motivating force for the apology. Indeed, realizing that one is the source of someone else's hurt, the wrongdoer may feel guilt or shame for causing the undesirable situation as well as pity for the hurt person (Hareli and Eisikovits 2006). The specific emotions that motivate an apology affect the acceptance of the apology. For example, Hareli and Eisikovits (2006) showed that participants were more likely to forgive a person who hurt them when they knew that the apology was motivated by feelings of guilt and/or shame rather than pity. The reason for the difference lies in the appraisals and action tendencies associated with each of these emotions and what this means for the message conveyed by the apology.

Specifically, guilt follows from a self-judgment of responsibility for the violation of a norm (Baumeister, Stillwell, and Heatherton 1994; Roseman, Antoniou, and Jose 1996) and hence expressing guilt signals the transgressors' awareness that they broke a social norm and that this was a bad thing to do as well as their intention to avoid similar behavior in the future. By apologizing and accepting responsibility, the transgressor also communicates that they do not hold the victim responsible for what happened. Guilt also suggests

an equalization of status between the transgressor and the victim because guilt entails a painful experience that can be seen as a kind of punishment. Moreover, public expressions of guilt involve a degree of disgrace (Ohbuchi, Kameda, and Agarie 1989).

Shame, like guilt, is also elicited by the perceived association of the self with an undesirable action. Also, like guilt, it reflects that the transgressor acknowledges their blame for the situation (Lazarus 1991). However, in the case of shame, the self-criticism refers more to the self as a whole than to a specific act (Lewis 1971; Roseman, Antoniou, and Jose, 1996). The experience and expression of shame also entails aspects associated with self-punishment, derogation of status and submissiveness (Tangney and Dearing 2002). Finally, feeling contrite, as in shame and guilt, may reflect one's good character by showing that one is caring and sensitive to the way one's actions affect others. Thus, both these emotions signal that the transgressor understands the wrongness of their act and suggests that they will not repeat it in the future as well as testify to their good character. The emotion itself is also a form of punishment and serves to equilibrate the status between transgressor and victim. Thus, guilt and shame may be one way by which apologies achieve the desired self-split suggested by Goffman (1971).

The situation for pity is different. Pity, unlike guilt and shame, focuses outward on the victim's unfortunate situation (Weiner 1986). To a degree, pity suggests intentions of help and can thereby create a more positive perception of the transgressor's character (Ben-Zeev 1990), which contributes to forgiveness.

However, expressions of pity do not imply any admission of responsibility, which is considered by some theorists to be a crucial component of forgiveness (Tavuchis 1991). Also, pity signals the belief that the emoter is somehow superior to the individual who is pitied (Ben-Zeev 1990). As such, showing pity does not assure the victim that the transgressor will do better in the future and it further increases the distance in status. Thus, even though pity reflects somewhat positively on the transgressor's character, victims of social transgressions should be more likely to forgive a transgressor whose apology is known to be driven by guilt and/or shame rather than by pity.

These findings by Hareli and Eisikovits (2006) demonstrate, in line with the reverse engineering model, how people use what they know about the characteristics of emotions to infer the character of apologizing transgressors, their intentions and their self-perceived status. Yet, Hareli and Eisikovits (2006) did not provide direct evidence that people use their naïve understanding of emotions to decide if they forgive transgressors when knowing which emotions motivated their apology. Other research that examined the social perception of emotions and assessed inferences that people extract from witnessing others' emotion expressions, tested more directly how an understanding of the language of emotions contributes to such inferences. One such study is presented in what follows.

## **8 Expressions of emotions inform inferences of others' character**

As outlined above, knowing how a person reacts emotionally to an event provides information regarding their character. We have so far only considered guilt and shame as signals of "good character" in a wider sense. But more specific attributions can also be made.

Thus, Hareli and Hess (2010) asked participants to imagine themselves in the role of a human resource employee who interviews a job candidate. One part of the interview was a description of the candidate's narrative of a failure event in their previous job. Candidates were described as reporting that they reacted with anger, sadness or neutrality to the failure. Participants were then asked to rate the candidate, among other things, on aggressiveness, self-confidence, masculinity and emotionality, warmth, and gentleness. Participants also rated how they thought the candidate had appraised the event. The results showed that the rated traits were linked to the presumed appraisals, in line with appraisal theory.

Specifically, as anger is associated with the appraisal of a situation as unpleasant, norm incongruent and requiring immediate action, an angry person can be expected to react assertively and confidently. Congruent with this notion, appraisals of urgency mediated perceptions of aggressiveness and appraisals of unpleasantness mediated perceptions of self-confidence. A person who stays neutral in a negative situation can be perceived as "above the situation" and hence unemotional and cold. In fact, an individual who showed a neutral reaction was perceived as less likely to assess the situation as norm incompatible and unpleasant and these appraisals mediated the perception of the person as less emotional/warm/gentle. Overall, this study shows that emotional reactions signal the individual's appraisal of the situation and that these perceived appraisals mediate observers' perceptions of an individual's personality as a function of their emotional reaction to an event.

The study described above shows that people use others' expressions of emotions to infer their intentions and character. Yet, the expressions of others may also provide observers with information about the situation. Further, we suggested that the context in which the emotion is perceived also plays a role in this process. In the following section, we will describe findings that show how expressions of emotions are used to make sense of a situation and the contribution of context to this function.

## **9 Making sense of an unknown situation based on perceived expressions of emotion – the contribution of context**

As suggested above, emotions are expressed in response to a specific situation and are the result of the emoters' appraisal of that situation (Frijda 1986; Lazarus 1991; Scherer 1984). Accordingly, emotions contain information about the situation as perceived by the expresser, which observers can use to draw inferences about the situation. For example, Hareli, Elkabetz and Hess (2019) showed participants images from a fictitious ball game as well as the emotional responses of spectators. The participants' task was to evaluate the performance of the last player. Yet, the participants did not have any explicit standard that could serve as a benchmark to decide on the quality of the play. They were only given images that showed the playing field as well as spectators who either support the team of the player currently on the field (supporters), the opposing team (opponents), or spectators who do not support either team (unaffiliated spectators). The identity of supporters served as context information.

In Study 1, participants saw the final throw in the game followed by the reactions of an individual who was identified either as a supporter, an opponent, or an unaffiliated spectator and who reacted to the performance either with awe, happiness or neutrality. Regardless of the individuals' identity, when they expressed awe, the quality of performance was perceived as rather high. By contrast, when the individuals expressed happiness or neutrality, the ratings depended on their identity. Specifically, when an opponent expressed happiness, the performance was perceived as rather low. When a supporter or an unaffiliated spectator expressed happiness, the performance seemed of higher quality, and conversely for expressions of neutrality. That is, in order to draw conclusions based on expressions of happiness and neutrality, the participants had to also draw on their real-world knowledge about the negative interdependence of competitors in a game, such that what is good for one is bad for the other and vice versa. Hence both the happiness (which signals a pleasant goal conducive event) of a supporter and the neutrality (which signals an absence of pleasantness and goal conduciveness) of an opponent signal the same thing – that the player played well. Awe, by contrast, is elicited by events that are larger than the self. This includes nature, art, and religion (Keltner and Haidt 2003; Shiota, Keltner, and Mossman 2007) as well as achievements (Campos et al. 2013). Accordingly, in the present context awe signals a high performance regardless of who expresses the emotion.

Overall, these findings indicate that (i) different emotions are perceived as signaling different levels of performance; (ii) contextual factors, in this case knowledge about the identity of the expresser, are involved in inferences deduced from the emotions; and (iii) different emotions vary in terms of the extent to which the context contributes or affects the inferences deduced from them.

To further show that such inferences are the result of reverse engineering of appraisals rather than the positivity of the emotion, Hareli, Elkabetz, and Hess (2019) conducted a second study. This study was similar in all respects to the first except for two aspects. First, only reactions of uninvolved fans were shown. Also, participants received additional, explicit information about the quality of the game. Specifically, a control group received the exact same information as in the initial study. A second group saw the performance of an additional player who played worse than the first player in the same game. A third group saw information about the previous record, which again was somewhat worse than the present performance. Finally, the last group saw the emotional reaction of the observer, which was again neutrality, happiness or awe, to which a speech bubble was added. The bubble included the message “Unbelievable... This is a far better performance than I have ever seen in all the years I have been following this game.” It was only in this last condition that the perceived quality of the player's performance was similar for all expressions. The addition of the explicit awe-like verbal information had no effect when the fan showed awe since the same information was already provided by the expression. In all of the other conditions, however, the perceived level of performance was higher when awe was shown than when happiness or neutrality were shown. That is, for the perceivers, an expression of awe was equivalent to the spoken claim to never have seen a better performance. Overall, this shows again the role of the naïve knowledge of the appraisals contained in emotions in enabling the observer to make sense of the situation at hand.

## 10 Summary and conclusions

The present chapter describes how people use their naïve understanding of appraisals underlying emotions to draw inferences about the expresser and the situation in which the emotion was expressed. From this perspective, emotions can be seen as a simple language that provides observers with information about their social world. Unlike with spoken language, this information can be extracted from the emotional reaction of a person even when the expresser had no intention to convey that information. This information helps observers navigate their social relationships. Just seeing how a person reacts to an event provides valuable information about that person and how the person may react in the future. This information also provides additional information about the situation as seen by the emoter. Hence, an observer can learn that a situation is likely difficult if a person known to be competent shows dejection or that a situation is dangerous if fear is shown. Yet, when the emotion elicitor and the situation become incompatible – for example, when someone shows fear when encountering a kitten – it is more likely that this reaction will be attributed to the person (i.e., fear of cats) than the situation (Hess and Hareli 2017). That is, there are limits to this process which again are informed by the observers' naïve emotion knowledge, which informs them that kittens are unlikely objects of fear.

Whereas the naïve knowledge of emotions includes knowledge about both the characteristic antecedents of emotions and their possible consequences, the present chapter provided evidence only about the role of antecedents. Future research should move further by attempting to explore how knowledge about consequences of emotions can contribute to this process. Further, it is important to better understand when and how context contributes to the process. The present chapter provided evidence that emotions may vary in the extent to which a specific context affects inferences based on the emotion. It appears that one important determinant here is whether the context adds crucial information for the inference in question or not. However, context and the information it provides may contribute to inferences in other ways. For example, by contradicting the information provided by the emotion as shown above in the example of fear of kittens.

In sum, when people see a person reacting emotionally, they assume that the expression shown reflects an internal emotional state which depends on the person's understanding of the situation. This understanding, in turn, depends on the motives, goals and resources that the person brings into the situation. Observers intuitively use this information to glean an understanding of these aspects of the observed and to learn more about the situation. This information is crucial for the effective negotiation of social relationships. As such, the understanding of the language of emotions and their expression is an integral source of our mastery of the social world. This idea is well exemplified in the context of apologies and forgiveness, as well as in other context, as shown in this chapter.

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## 32 The pragmatics of emotion, argument and conflict

- 1 Introduction
- 2 Emotion and cognitive pragmatics
- 3 Meaning and showing
- 4 Emotion in language use: further observations
- 5 Conclusion
- 6 References

**Abstract:** This chapter synthesizes an account of emotions and emotion-reading that fits with work on emotions in cognitive science (Cosmides and Tooby 2000; Deonna and Teroni 2012) and cognitive models of pragmatics (Blakemore 2002; Carston 2001; Sperber and Wilson [1986] 1995, 2015; Wilson 2015). From cognitive science, we adopt two ideas: firstly, that an emotion is a kind of superordinate cognitive mechanism, the function of which is to mobilize cognitive processes responsible for perception and attention, physiological changes, etc.; secondly, that emotions are viewed as attitudes bearing on evaluations. Our account builds on these observations using relevance-theoretic pragmatics. The kind of information conveyed during emotional communication puts the user into a state in which emotional procedures are highly activated, and are therefore much more likely to be recognized and selected by an audience (Wharton 2009, 2015). Central to this thinking is the idea that the notion of cognitive effect needs to be complemented by a new notion of *affective effect*, typically activated by emotion-reading procedures. Our account can be extended to all emotional states, but we concentrate here on positive and negative states, with particular attention paid to their role in argumentation, epistemic attitudes and poetic artefacts (de Saussure 2013, forthcoming).

## 1 Introduction

### 1.1 Beyond propositional meaning

Since the communication of information about emotional states clearly plays a central role in human interaction, it might be presumed that pragmatic accounts of linguistic communication would include well-developed views on how these states are communicated. However, for a range of reasons, those aspects of linguistic communication which feel as if they go beyond the strictly propositional dimension have long been dismissed by scholars

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interested in meaning: as a result, the emotional dimension is nowhere. Although speech-act philosophers found ways to incorporate aspects of non-truth conditional meaning in terms of propositional attitudes, the direct expression of emotional states, as opposed to the description of such states, is largely ignored. As we see in Section 3, for some the domain of a theory of communication is even smaller. Consider the following quote from Steven Levinson: “[A] theory of communication has as its target the full scope of Grice’s (1957) non-natural meaning [...] Meaning<sub>NN</sub> (or something of the sort) draws an outer boundary on the communicational effects that a theory of communication is responsible for” (Levinson 2000: 12–13).

In this chapter, we suggest directions through which the study of pragmatics might be extended beyond the domain of ‘propositional meaning’ and address the communication of emotions. In order to do this, we explore how a pragmatic theory can account for the communication of impressions, expressives and other affect-related, ‘ineffable’ dimensions of human communication. Our aim is to synthesize an account of the pragmatics of emotional communication that interacts in useful ways with work on emotions in cognitive science (Cosmides and Tooby 2000), philosophy (Deonna and Teroni 2012) and cognitive models of pragmatics (Blakemore 2002; Carston 2001; Sperber and Wilson 1995, 2015; Wilson 2015). With that in mind, in the next section we present a short history of the development of modern cognitive pragmatics, offer an overview of how the expressive dimension of linguistics communication is generally treated (or overlooked) and introduce the cognitive pragmatic theory we adopt in what follows. Central to this thinking is the idea that current relevance-theoretic notions need to be complemented by a new one: the notion of *affective effect* (Wharton and Strey forthcoming). In Section 3 we introduce those aspects of cognitive pragmatics which are central to the account we offer and in Section 4 we explore love, argument and conflict.

## 1.2 Affective effects

On 10 November 1988, Philipp Jenninger, then Head of the West German parliament in Bonn, rose to speak on the occasion of the 50th anniversary of *Kristallnacht*. He began by attempting to outline some of the reasons he felt National Socialism had captured the imagination of so many Germans at that time. The rhetorical style he chose was to represent as closely as possible the perspective of an ordinary German of the 1930s who was favourable to the Nazi movement. He would, of course, clearly dissociate himself from the views he was reporting.

And so, mimicking the tone and stance of early Nazi partisans, Jenninger wondered out loud what it was they had found so “fascinating” (his word) about Naziism. Adopting free indirect speech, he continued:

From mass unemployment had come full employment, from mass misery, something like prosperity for the broadest layers of the population. Rather than despair and hopelessness, optimism and self-confidence now ruled. Didn’t Hitler make true what Kaiser Wilhelm II had only promised, namely, to lead the Germans toward glorious times? Had he not truly been selected by Providence, a Führer, as Providence grants to a people only once in a thousand years?

And as for the Jews, had they not, in the past, presumptuously assumed a role which they did not deserve? Shouldn't they finally, for once, have to put up with some restrictions? Didn't they perhaps deserve to be put back in their place? (quote from *Frankfurter Allgemeine Zeitung*, 11 November 1988, our translation; see also de Saussure 2012)

The response his performance elicited was not what Jenninger had hoped for. More than 50 members of the Bundestag promptly walked out. The next day Jenninger was looking for a new job.

Even though there can be little doubt about his intentions – Jenninger had been trying to communicate his abhorrence of Naziism and its crimes – the sensitivity of the members of the Bundestag to anyone who, even apparently, was attempting to legitimise the pro-Nazi vote is hardly surprising. Jenninger himself clearly believed it was *obvious* that he was dissociating himself from the words he had uttered. But his performance was mismanaged and ill-judged. His intention to dissociate himself from the content of what he said *wasn't obvious enough*.

Our purpose in presenting this anecdote is to illustrate the impact that emotion can have. No one present that evening believed Jenninger was a Nazi, or a Nazi sympathiser. They *knew* he *wasn't*. However, the shock, disgust and revulsion his performance generated was simply impossible to ignore. (One year later, Ignatz Bubis, a prominent member of the Jewish community, used several passages verbatim from Jenninger's speech and offended no-one. [Admittedly, he didn't use the word "fascinating".] This corroborates the claim that it had not been the words Jenninger used that caused the response; rather, his whole performance.)

This kind of event is just one case – though admittedly an extreme one – of those usually known as 'misunderstandings'. But this was not a misunderstanding in the traditional sense. Typically, the spark for misunderstandings is a mismatch between the proposition expressed by the speaker and the one retrieved by the hearer, such as in (1):

- (1) A: *My son has grown another foot.*  
 B: *He's grown WHAT???*  
 A: *No! Another foot in height!*  
 (Example from Smith [2001])

'Misunderstandings' such as the one in our introduction occur for very different reasons. The propositional content is immaterial. They rest entirely on emotional responses.

Jenninger's case raises a range of questions, a number of which we will leave aside here (about the role of the institutional setting, the hierarchical position of Jenninger, the background, etc.). In this chapter, we intend to explore the pragmatic processes at play when the expressive dimension of an interaction plays the predominant role in the interpretation of meaning. In our anecdote, the propositional meanings are all but irrelevant: the emotional dimension took over, rendering the content – the propositional dimension – redundant.

## 2 Emotion and cognitive pragmatics

### 2.1 The expressive dimension

When we speak of the ‘expressive dimension’, we have in mind examples such as those in (2) and (4). Both of these utterances contain something ‘ineffable’, which is impossible to capture in either words, truth conditions (or indeed non-natural meaning). Indeed, the truth-conditional content of (2) and (3) are actually identical to the truth conditions of (4) and (5).

- (2) A: (*Disgusted tone of voice*) *That total prick Thompson has offended an entire nation yet again.*
- (3) *Horace Thompson has offended an entire nation yet again.*
- (4) A: (*Angrily*) *Those damn students have asked for an extra bloody class!*
- (5) *Those students have asked for an extra class.*

The phrase ‘total prick’ and the expletives ‘damn’ and ‘bloody’ do not contribute to the truth-conditions of the proposition expressed and, indeed, since they involve natural expressions of emotion, do not contribute to non-natural meaning in Grice’s sense. A possible objection here is that the role played by what are, after all, specifically English linguistic items precludes these examples from being entirely *natural* expressions of emotion. We maintain nonetheless that the kind of tone of voice, facial expressions that would accompany these utterances would be natural, despite superficial variations. We also claim that even linguistic expressives have a flavour of the non-verbal about them (see de Saussure and Wharton 2020). Moreover, whatever their contribution to the utterance is, it is very hard to pin down. They are ‘descriptively ineffable’. To *express* your emotions about someone by using an NP epithet such as ‘that total prick’ is not the same as describing someone as a total prick. That can easily be done by uttering the sentence in (6):

- (6) *Horace Thompson is a total prick.*

While the linguistic status of interjections is much debated (see Wharton 2003, 2009), such expressions also contribute to the expressive dimension of linguistic communication. The utterances in (8) and (10) *describe* emotional states, and indeed are truth-evaluative statements; (7) and (9), by contrast, *express* those states directly.

- (7) *Ouch!*
- (8) *That hurt a lot!*
- (9) *Aha!*
- (10) *I'm surprised!*

When, thanks largely to the work of H. Paul Grice, pragmatics was born in the 1950s and 1960s, non-propositional elements such as those above were still disregarded. This is probably the reason why most semanticists conceived (conceive) of ‘pragmatics’ as a sort of add-on to truth-conditional meaning, which functions simply to resolve the problem of implicatures with conversational maxims (or other mechanisms). David Kaplan (1999) famously refers to pragmatics as a “netherworld”. Those scholars of communication who have tried to better understand the emotional dimension have done so via the range of expressions in language that seem to be irreducible to purely conceptual or propositional meanings and serve another purpose. This purpose is usually named ‘expressivity’. Notable among the early work in this area are the seminal pre-pragmatics works by Charles Bally at the beginning of the 20th century (Bally 1905, 1910, 1923). Bally differentiated between what is said (the *dictum*) and the way it is said (the *modus*), which he assumed contained expressive components. Other linguists of around the same time (Erdman 1900; van Ginneken 1907; Sperber 1914) criticised the ‘ideational orientation’ of the semantics that dominated at the time, suggesting that the study of the expressive dimension to linguistic meaning was at least as important as the cognitive one. But from then onwards, the formal study of language has focused on propositional meaning. Nowadays, emotion is a central topic of cognitive science and philosophy, and yet many contemporary frameworks of cognitive science dealing with pragmatics rarely address the issue of emotions conveyed *directly by language*.

## 2.2 Cognitive pragmatics

Work that has built on the foundations Grice laid has tended to move in one of two directions, each of which was, arguably, inherent in his approach: conventional or cognitive. Firstly, although Grice rarely used the word ‘conventional’, it is often assumed that within his framework sentence meanings are recovered through semantic conventions (the semantic meanings of words and sentences, or ‘what is said’, although most people now agree that propositional content is underdetermined by semantic meaning) and speaker meaning through conventions of language *use*, namely Grice’s ‘Maxims of Conversation’ (in turn underpinned by an overarching ‘Cooperative Principle’). Secondly, and relatedly – and perhaps one of the reasons Grice avoided the word ‘convention’ – in his picture both semantic and pragmatic meanings are viewed as involving complex assumptions about speakers’ mental states. In Grice’s approach, the cognitive processes involved in recovering implicatures are schemes of abductive reasonings. Grice therefore laid the foundations not only of modern pragmatics, but also of a new, *inferential* model of communication.

Contemporary pragmatic theories tend to focus on one of these two directions. On the one hand, the so-called *neo*-Griceans develop the more conventional elements of Grice’s approach and assume as fundamental some kind of recourse to conventional rules of language use (Bach 2006; Horn 2007; Levinson 2000). On the other, *post*-Griceans tend to focus not on conventions of language use (whatever they may be) but instead on the cognitive processes which underlie a hearer’s recovery of the speaker’s intentions. Arguably, the most prominent approach in post-Gricean cognitive pragmatics is Sperber and Wilson’s *relevance theory* (1995).

Relevance theory (Sperber and Wilson 1995; Blakemore 2002; Carston 2001; Wilson and Sperber 2002) is built around two principles. According to The Cognitive Principle of Relevance, the human cognitive system is geared to look out for relevant information, which will interact with information that is already mentally represented and lead to *positive cognitive effects* (in the form of true implications, warranted strengthenings or contradictions of existing assumptions).

The disposition to search for relevance is one that is routinely exploited in human communication. Speakers know that listeners will pay attention only to stimuli that are relevant enough, and so in order to attract and hold an audience's attention, they should make their communicative stimuli appear at least relevant enough to be worth processing. More precisely, The Communicative Principle of Relevance claims that by *overtly* displaying an intention to inform – producing an utterance or other ostensive *stimulus* – a communicator creates a presumption that the stimulus is at least relevant enough to be worth processing, and moreover, the most relevant one compatible with her own abilities and preferences. Utterances are relevant because they give rise to cognitive effects.

Imagine you are on holiday. You are staying on a hill above a beach and wake early in the morning in your room. The following thoughts come to mind. (These thoughts represent the context in which new information will be processed.)

- (11) *I'll (probably) go snorkelling today.*
- (12) *If it's not too windy at the beach, I'll go snorkelling.*
- (13) *If it's too windy at the beach, I won't go snorkelling.*

As you walk down to the beach, you might notice a whole range of things: a dog barking, the sound of a motorboat in the distance, small children playing at the water's edge. But none of these things are relevant to you in the context of the thoughts you are entertaining. Some things are available to your consciousness and you know you are aware of them, while others, such as the dog barking in this example, still accessible among the things you know, are not strongly activated in your consciousness and you may even not be aware that you know them. For example, it's likely that there is a radiator in the room in which you are currently reading this, and you know it, but you may well be unaware of that thing at the moment. Elements of knowledge that are highly accessible to consciousness are *more manifest* and things that are not, are *less manifest*. Cognitive effects are all about giving manifestness to pieces of information that were not manifest to the interlocutor, or giving more manifestness to those which are less manifest than the speaker wishes.

In the example above, what you *do* attend to is the fact that the water is flat calm and the flags on the beach are hanging limply. This new information is highly manifest; it strengthens the assumption in (11) and interacts with assumption (12) in order to yield the implication 'I'll (definitely) go snorkelling'. If, by contrast, you had noticed it was really windy as you were walking down to the beach, this information would interact with the assumption in (13) and yield the implication 'I won't go snorkelling'. Notice, also, that assumption (11) is therefore contradicted. Relevance, then, is a property of inputs to cognitive processes, and is defined in terms of cognitive effects gained and processing effort

expended: other things being equal, the more positive cognitive effects gained, and the less processing effort expended in gaining those effects, the greater the relevance of the input to the individual who processes it. We argue that in order to properly accommodate the emotional dimension, current relevance-theoretic notions need to be complemented by a new one: the notion of *affective effect* (Wharton and Strey forthcoming).

## 2.3 Emotions and affective effects

Before saying more about the notion of *affective effect*, we present what we mean by ‘emotion’. Our view is that an emotional state involves the presence of three separate elements. In this we follow Rey (1980), for whom ‘emotions’ can be distinguished from ‘sensations’ or ‘feelings’ by the fact that they involve an interaction between the *cognitive* element necessary for an emotion proper, as well as the *physiological* and *qualitative* elements involved in sensations and feelings. Let’s take ‘fear’ as an example. This emotion is characterised as involving an interaction between a *sensation*, the physiological element – among which are the secretion of epinephrine, a neurotransmitter associated with changes in heart rate and respiration rate, and cortisol, which heightens awareness and short term memory (and impacts negatively on information processing and rational analysis); a *feeling*, the qualitative element – the physical feeling of being afraid, which is typically accompanied by behaviours consistent with feeling this way; and a *cognitive* element – a belief that you are in danger, knowledge that you are in a situation you would prefer not to be in. Whilst emotional states crucially involve cognitive as well as qualitative and physiological elements, ‘feelings’ or ‘sensations’ need not.<sup>1</sup> On our construal, ‘feeling’ an emotion does not involve the cognitive processes which manage epistemic states and other representational outcomes.

Feelings, after all, need not be conscious at all. Having a ‘feeling’ that the weather is worsening, or that you performed poorly in an exam, differs, we argue, from ‘believing’ or ‘thinking’ either of those things. Having a ‘feeling’ that someone is attracted to you, or that two people are talking about you in a conspiratorial manner, is not the same as believing or thinking those things. While we believe that, ultimately, a theory of cognition should take account of feelings, we do not believe that cognition as it is traditionally construed does.

While the terminology differs, elements of our view make it consistent with the fundamental assumptions of appraisal theory: that emotions consist of several, different components and that they involve an evaluation or appraisal that has caused the reaction (though as we will say below, for us affective effects play a causal role). It also, we claim, fits with the view of emotion presented in Cosmides and Tooby (2000, 2008). They assume that the human mind possesses a species-specific neural architecture which evolved in response to adaptive problems faced by our ancestors. They define emotion as a superordinate cognitive programme, which functions to regulate or mobilise cognitive sub-programmes respon-

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<sup>1</sup> Notice, therefore, that our view of ‘feeling’ is different to those found in Damasio (2006) and appraisal theory (Ellsworth 2013; Frijda 2007; Lazarus 1991; nor in the version by Deonna and Teroni 2012).

sible for perception and attention, goal choice, information-gathering, physiological changes and specialised types of inference.

Roughly since the work of David Hume it has been assumed that rationality alone does not suffice to motivate an individual to engage in an act of reasoning. According to Hume (see Radcliffe 1999), that motivation comes only from the ‘passions’. Cognition and affect, so often regarded as two opposing forces, work together in complex ways. As Greenspan puts it: “[E]motions can function as ‘enabling’ causes of rational decision-making [...] insofar as they direct attention toward certain objects of thought and away from others. They serve to heighten memory and to limit the set of salient practical options to a manageable set, suitable for ‘quick-and-dirty’ decision-making” (Greenspan 2002: 206).

Emotions generate cognitive processing by constraining the construction of the context in which the informative, propositional underpinnings of the emotional state, for example that the speaker is anxious, afraid, angry, excited, etc., derived by a hearer faced with such stimuli, have to be interpreted. It is in that sense that we understand Greenspan’s idea of emotions “limiting the set of salient practical options”. Emotions impact on the manifestness of these options and they do this below the level of consciousness.

The domain of relevance theory has traditionally been that of ostensive inferential communication. Wharton (2009) is an extended defence of the claim that spontaneous, natural behaviours (smiles, shivers) can be deliberately and openly shown (to a greater or lesser extent), which brings such behaviours within the realm of intentional communication. However, we hold that just as utterances are complexes of non-natural and natural behaviours, so much of human interaction typically goes on below the level of intentionality. This claim is not a new one: “At all times, we are communicating information about our emotional state, attitudes, and evaluations of whatever we are currently confronting [...] We produce most of our nonverbal cues intuitively, without phenomenological awareness” (Lieberman 2000: 111).

Emotional communication works on a number of different levels. Interjections, facial expression and affective tone of voice lead to the construction of higher-level explicatures and these (together with the proposition expressed by an utterance) lead to strong and weak implicatures (see Sperber and Wilson [1995] on strong and weak communication and strongly and weakly manifest assumptions) by either providing strong support for a single, determinate conclusion or marginally altering the manifestness of a wide array of conclusions. But these positive cognitive effects, we argue, need to be supplemented by a new type of effect: *positive affective effects*.

A person who is experiencing the kind of sensations and feelings summarised above, and typically associated with fear, automatically becomes hyper-alert. In this state, they will perhaps pay a high degree of attention to perceptual inputs they may not normally even notice. Once cognition becomes involved, they will be equipped with an entirely newly defined set of goals, and directed to prioritised inferential processes. Wharton and Strey (forthcoming) argue that these processes are activated by emotional procedures, which play out below the level of consciousness.

The processing of effects involves a notion of personal, intimate experiencing rather than representation and management of conceptual information. This experience is better described in terms of what Sperber and Wilson call “patterns of activation, none of which

might be properly described as the fixation of a belief" (Sperber and Wilson 2015: 139). It does not involve a search for relevance proper but typically arises as the precursor for such a search if necessary. In some cases, such as the Jenninger case discussed above, the affective effects retrieved exhaust what there is to get out of the utterance. In others, they serve as a starting point for a further processing and search for cognitive effects. Thus, it is not that the recovery of affective effects has nothing to do with the derivation of cognitive effects, but rather that the two dimensions may interact. This happens in particular when the hearer infers that the emotion was deliberately displayed by the speaker. However, this is in no way necessary: an utterance may achieve its communicative affective effects without any further need for relevance.

Let's consider a case of non-ostensive behaviour. If John blushes when he comes into contact with Mary, some kind of emotion is likely to be quite straightforwardly attributed to him by a witness of the scene. The witness might assume from John's blushing that he is attracted to her. Depending on the context, this might have a range of possible consequences. But when the display of an emotional state is perceived as ostensive, things are slightly different, since the hearer has to search the reasons for which the emotional state was at all made ostensive; the answer is to be searched in terms of new inferences, new cognitive effects, in which the emotional state serves to constrain the interpretive context, or, rather, the emotional state allows for raising assumptions that will serve in the interpretive context.

In a famous scene from Michael Cacoyannis' 1965 film *Zorba the Greek*, the hero Zorba is working inside the tunnel of a lignite mine when a part of the roof collapses: the mine has lain dormant for years and working inside, where the network of tunnels is only held up by flimsy wooden supports, is a highly risky business. There is a deafening noise and the mouth of the tunnel is obscured by a cloud of dust. Zorba's friend is mortified, and shouts in anguish: 'Zorba!'. All the workers outside the tunnel are immediately alerted to the fact that there is a problem. They wait, prepared for action.

From his friend's tone of voice, Zorba immediately interprets his emotional state. Yet this emotional state is ostensively presented so the easily accessible epistemic proposition – his friend is terrified that he might be hurt – occurs to him together with the fact that this was intended by the speaker to be manifest to him. In turn, this proposition may have a number of consequences as a premise entering in an inference; in the film, it has in particular one consequence, which is that his friend thinks that Zorba has been acting without prudence in testing the mine's roof. This is an inference which can only be derived inasmuch as an assumption, derived on the basis of an affective effect in the first place, could be taken as a premise. Zorba exits safely and responds in a slightly angry tone of voice:

(14) *What?*

This answer communicates that Zorba pretends not to have grasped the affective effect, because otherwise he has to object explicitly to the idea that he was not prudent enough. On the contrary, sticking to the non-emotional content in his response communicates that his friend had no call to be afraid and that his emotional state was, according to him, inappropriate to the situation. Affective effects, as this example shows, orient the context of interpretation and expectations of relevance.

### 3 Meaning and showing

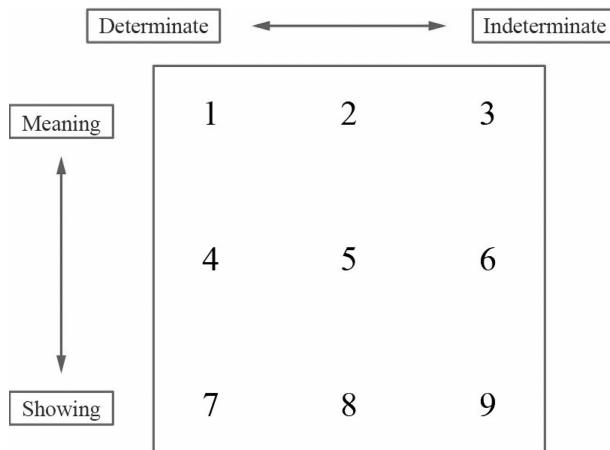
There are two main ways in which the relevance theory account of utterance interpretation diverges from both traditional Gricean and neo-Gricean ones. These two divergences underpin our ultimate claim: that relevance theory is capable of rising to the challenges we raise in this chapter. The first of these is that within relevance theory the informative intention need not always be described as an intention to communicate a single proposition and propositional attitude. Indeed, Sperber and Wilson suggest that, sometimes, whatever that intention is “cannot be rendered as a proposition at all” (Sperber and Wilson 2015: 125). In relevance theory the informative intention is construed more broadly than merely an intention to communicate a proposition *p*: as an intention “to make manifest *or more manifest* to the audience *a set of assumptions I*” (Sperber and Wilson 1995: 58, our italics). When what is communicated is quite vague, it typically involves a marginal increase in the manifestness of a very wide range of weakly manifest assumptions, resulting in an increased similarity between the cognitive environments of communicator and audience. We will argue later that further finessing is needed to describe and explain the direct communication of emotion, but the above change at least goes some way to laying the ghost of proposationality to rest.

The second difference concerns the line Grice (1957) famously drew between showing and non-natural meaning (*meaning<sub>NN</sub>*). It has often been remarked that this line has had a huge influence on the development of pragmatics. Many pragmatists continue to focus on the notion of *meaning<sub>NN</sub>* and abstract away from cases of showing. So where, in fact, should the line be drawn? According to relevance theory, it should not be drawn at all. Cases of both showing and *meaning<sub>NN</sub>* qualify as instances of *ostensive-inferential communication* and instead of there being a cut-off between the two notions, there is a continuum of cases in between.

Sperber and Wilson (2015: 123) amend the original figure of the continuum-as-a-straight-line with a second, separate dimension, which effectively turns the straight line into a square (see Figure 32.1).

The showing-meaning<sub>NN</sub> continuum (now on the vertical axis) reflects the directness of the evidence presented for the basic layer of information being communicated. Evidence is shown when the ostensive behaviour that demonstrates it is fairly direct: pointing at something is a good example. In a coded response, such as a linguistic utterance, the evidence provided is indirect, and an example of *meaning<sub>NN</sub>*. Why indirect? Because in order to interpret an utterance the hearer needs to know the code, as well as infer the speaker’s intentions.

The new dimension of the continuum, the one between determinate and indeterminate import (on the horizontal axis), reflects the nature of the information that is being pointed out ostensively, whether that information is being shown or meant<sub>NN</sub>. When someone points to a particularly salient object in the environment, or utters the name of that object, what is being shown or meant<sub>NN</sub> is highly determinate. Whether shown or meant<sub>NN</sub>, the intended import in cases such as this are easily paraphrased in propositional terms. By contrast, poetic metaphors, for example, are cases where what is meant is highly indeterminate: it is ‘descriptively ineffable’, too nebulous to be paraphrased at all. Some cases of



**Fig. 32.1:** Showing-meaning continuum (Sperber and Wilson 2015: 123).

showing are also indeterminate, too. For example, during the course of a hike, one party stops and takes a deep breath of the fresh air, smiles and sighs ostensively. The sights, sounds and smells (indeed, everything) perceptible in her companion's environment will alter the thoughts he is entertaining, making it possible for him to infer thoughts, memories and feelings similar to her own. What she intended to convey was merely an impression. She did not *mean* any one thing. In contrast to the examples above, the intended import is not paraphrasable at all.

When it comes to the study of expressive meaning, it's hardly surprising that less progress has been made than might be hoped. To ask of an expressive what it *means*, is – in a way – the wrong question.

## 4 Emotion in language use: further observations

### 4.1 Affective effects as a means to overcome the limitations of propositional meaning

Emotions play such an important role in human interaction that we take it as an obvious fact that affective effects are as commonplace in linguistic communication as cognitive ones. Affective effects are central to human communication and may even have played a central role in the evolution of linguistic communication (see the ‘myth’ presented by Grice 1989: 293–297).

In many instances of communication, affective effects allow communicators to overcome the limitations of propositional meaning. The most obvious linguistic cases that involve affective effects are linguistic expressives (see earlier examples), but other cases include the use of what are traditionally called ‘figures of speech’; irony is a case of particular interest as it links directly ineffable attitudes, emotional contents, and aspects of interac-

tion involving a face-threatening dimension. Irony is viewed by relevance theory as a case of ‘mention’, and the same can be said – obviously – of the Jenninger case where free indirect speech is used. What makes utterances ironical, though, is that the ‘mention’ is echoic, that is, it involves a propositional attitude which, in the case of irony, is implicitly but clearly dissociative. For example: John suggests to Mary that they meet later for a walk, assuring her that it will be sunny. When they meet, however, it is raining. Mary utters the sentence in (15) ironically:

- (15) *Yes, lovely weather for a walk!*

Here, she represents John’s earlier utterance with an implicit dissociative attitude. As pointed out by de Saussure and Schulz (2009), the ironical component of these utterances cannot be paraphrased; it is thus descriptively ineffable in a manner analogous to expressive meaning.

Not all descriptively ineffable meanings are necessarily connected to affective effects proper, and, therefore, not all instances of irony may bear affective effects. However, it occurs to us that many instances of irony do, in particular those that target an identifiable individual as the bearer of the thought/utterance being represented, which gives rise to feelings of being dismissed or mocked. We now return to the Jenninger case, suggesting that because of an array of mismanaged aspects of communication, anger as an affective effect was created through ineffability without intention. Then, we take a closer look at Zorba’s case, where, we think, through emotion, a certain type of (friendly) love is palpable. We conclude this section by looking at the notion of *argument* and its connection with affective effects.

## 4.2 Revisiting the Jenninger case: conflict

In irony, a speaker uses an array of (tacit) cues which indicate to the speaker that it is implausible that the speaker would utter the sentence *without* distancing herself from it. By contrast, in free indirect speech it is as common for the speaker to actually exhibit her endorsement of the propositional contents as it is not. It is a classical issue in all sorts of reported speech and thought: if a speaker mentions that some other person *S* has the thought *t*, it may be that the speaker aims at communicating his endorsement of thought *t*, or not. This possibility is clearly left open in reported speech, where the pragmatic processing may or may not lead to assume the commitment of the speaker to the propositions reported (see Morency, Oswald, and de Saussure [2008] about commitment with expressives in reported speech).

In the Jenninger case, it occurs to us that for the audience, a few assumptions are salient which not only prevent a mere ironical interpretation (which might have nonetheless created a similar affective effect, as we venture to suggest below) but also are open to an interpretation where the speaker is sympathetic towards the person whose thoughts he is reporting. Because of that, the audience is unable to infer with any degree of conviction that Jenninger is dissociating himself from the thoughts he is presenting as reported. These

assumptions are (possibly among others): (i) the President of the Bundestag cannot plausibly mock the most obvious representative of the nation, i.e. the ‘ordinary’ German (therefore he can’t really be ironic); (ii) he is delivering a fake pro-Nazi speech (which is shocking under any circumstances but even more so in those); (iii) in doing so he is portraying the ordinary German of the 1930s as drastically antisemitic and obviously pro-Nazi (which is only one among other possible conceptions of the then public opinion). Combined together, these assumptions lead the audience to view the speaker, Jenninger, as either pragmatically incompetent, which he obviously was that day, but which is unexpected from a high-ranking politician, or as sympathetic to some degree with the ‘ordinary’ Nazi German he portrays, which is unacceptable for obvious reasons.

Affective effects arise not because the speaker intends to make his own emotions ostensibly manifest to the audience, but because he fails to predict that these affective effects might arise on their own on the basis of his linguistic behaviour. In a sense, this case is parallel to what happens with propositional misunderstandings such as the one in (1). But interestingly in this case, the affective effects have (quite understandably) led to a complete arrest of anything resembling the processing of propositions, or working out of cognitive effects the speaker actually intended to convey as a message. The audience simply opted out from any kind of interaction and couldn’t even carry on listening and processing. Affective effects were overwhelming: the affective effect of Jenninger’s sympathy towards the ordinary German of whom he was taking the voice triggered a form of anger on the part of the audience.

The Jenninger case rests on a mismanagement of pragmatic communication, on wrongly predicted inferences and reactions – this happened because of very complex effects in communication in the realm of the ineffable. Of course, other emotional expressions such as insults, and emotional speech acts such as threats, do trigger the related emotions: anger, fear, etc.

### 4.3 Argument

In many other instances of human linguistic communication, affective effects obfuscate the processing of cognitive ones. It is mostly obvious when emotions are related to conflict in the sense of anger or anxiety. This occurs, of course, not only when affective effects arise as a result of misunderstandings or mismanagement, but also in circumstances where arguments take place. When an otherwise calm argument grows tense, the more the affective effects conveyed become pervasive and interfere with the analytic thought processes required. This is, we suppose, because emotions related to anger, which inevitably arise when people engage in argument, monopolize mental resources. This is in line with neurocognitive research on cognitive biases: the closely related emotional states of anger, anxiety and fear raise cortisol levels and this has the effect of prompting *action* rather than *reflection*. Suppose a speaker insults someone forcefully with two or three taboo expletives. It is unlikely, from what we know about human interaction, that the addressee will pause, consider the comment seriously and begin a counter-argument asking their interlocutor to supply reasons in support of his view. Insults do not function to exchange ideas and argu-

ments but, rather, to assault the hearer with affective effects. As a result, the interaction will switch to the level of pure (adversative) expressivity, where one **affective** effect prompts another, countering one, in return (until someone leaves or begins a physical fight). This is, we assume, because the non-propositional nature of expressives, and insults in particular, creates other types of effects – affective ones – which orient the attention of speakers to another type of interaction.

Yet even argument in the sense of a ‘rhetorical device aiming at convincing or persuading’ can involve elements that use peripheral routes or ‘cognitive biases’. This is particularly true of fallacies, which often tend to persuade an audience through false reasons. Fallacies as they are classified by rhetoric are not always a problem in actual human communication: they can provide perfectly good results in situations of competent and benevolent communication. For example, an appeal to authority may be perfectly justified; an *ad populum* argument can prove a good reason to make use of the accumulated knowledge of a large number of people, etc. But fallacies can also very much distort a debate when Machiavellian intentions are at stake or, possibly, mere incompetence (see for example de Saussure [2018] on the strawman fallacy in this perspective). Some kinds of argumentative moves have been linked to what we call here affective effects such as appeal to fear, which in turn triggers attitudes such as, for example, increase of confidence towards the speaker and lowering of epistemic vigilance (on that notion, see Sperber et al. [2010]).

#### 4.4 Love and the expressive metaphor

Returning to figures of speech, we argue that creative metaphors can also be privileged agents for affective effects. A metaphor such as (the much discussed) *Juliet is the sun* is simply not paraphrasable without the loss of whatever dimension makes it meaningful and powerful. Sperber and Wilson (2015: 22) argue that creative metaphors of this kind convey what they call ‘impressions’ which cannot be captured by a proposition but rather by what they call an ‘array of propositions’. We would like to go further and suggest that whether or not they convey such arrays of propositions, there is even more to these metaphors: they activate a range of personal memories, intimate experiences, imaginary feelings that match both those triggered by love in an *ad hoc* sense that depends on contextual assumptions (the kind of passionate and exclusive love felt by Romeo) and those that arise in relation with the sun. Besides purely conceptual features such as warmth, light, uniqueness, etc., they prompt feelings of being lit by the sun, of the sun actually shedding bright light on the world around, of being high in the sky, etc.: in other words, not the array of propositions themselves, but the feelings that lie behind these propositions and which actually motivate such a metaphor. It’s about sharing emotion by making them manifest, and expressing feelings rather than merely describing them. It is in this sense that we suggest such metaphors are not only ineffable but also agents of affective effects. Metaphors are certainly descriptions in a sense, but which can, as in this case, trigger affective effects that resonate with one’s intimate emotions, either through memory of personal experience or imagination. Many metaphors can certainly be properly interpreted without any affective effect; for example, when Flaubert says about Leconte de Lisle that ‘his ink is pale’ (in

another much-discussed example), it is unclear that there is anything resembling affective effects at all. It depends how one classifies the derogatory touch of this judgement. But when feelings and affects *are* involved, the hearer finds in his own experience of love elements that do direct him to affective effects. We'd like to suggest that metaphors are not exceptional in terms of how they deal with affective effects: **affective** effects in general have to do with how feelings and emotions *ostensibly* manifested by an individual trigger a response which involves an experiential dimension, that is, either access to memories that echo the feeling manifested, or imaginings that are plausible simulations of them.

Metaphors and non-literal meanings in general are particularly common in literature and poetry, where there is much more to the interpretative process than cognitive effects. Kolaiti (2015) proposes that the notion be supplemented with a new notion of *positive perceptual effect*. We find this idea appealing, but since perception is a sensory phenomenon and – as we saw earlier – emotional states involve the interplay between perception and cognition, we maintain that affective effects are a separate category (see also Kolaiti in press).

For example, we assume that affective effects prompt some kind of experiential response. Successfully understanding, say, a poem relies on the matching between what the utterance makes manifest and some equivalent in the hearer's own experience of his emotional life. The interpretation of poetry, which is very much about making sense of our memories, about the feeling that similar mental states are shared, about the imaginings we can have about human emotional life, fits better within an account that incorporates affective effects.

## 5 Conclusion

The feeling of anger or of being moved, or of being passionately in love is foreign to anyone who has not experienced these kinds of mental states before. Young children, who are yet to experience romantic love, understand love stories rationally but are often relatively insensitive to them. They find it strange if an adult tries to communicate the sophistication of such feelings to them. Only when we have experienced such an emotional state, or when they are capable of imaginings by drawing upon similar or related experiences in their life, can this kind of mental state be passed on. In that sense, affective effects are not *relevant* – in the technical sense defined above – but are somehow relevant nonetheless in that they are virtually effortless ways of activating experiential memories, deliver powerful effects, at virtually no cost. Kolaiti cites Ramachandran and Hirstein's (1999) work on the neurology of aesthetic pleasure. They claim that engaging with certain types of images in certain types of ways is actually reinforcing and rewarding for the individual. It is good for us. What makes her perceptual effects positive is that they improve aspects of cognition. Affective effects, we argue, fulfil a similar function.

Often, affective and cognitive effects will form part of what is *ostensibly* communicated (unless the emotion is only incidentally made manifest to some witnesses). However, since emotional states can't be *meant* proper (unless it is a description of that state, but this is not 'meaning an emotional state' either), we argue that they belong to the realm of

showing as discussed in Section 3. But the question remains whether all aspects of emotional communication even belong on Sperber and Wilson's square.

Emotional communication works on a number of different levels. Yes, interjections, facial expression and affective tone of voice lead to the construction of higher-level explicatures and these (together with the proposition expressed by an utterance) lead to strong and weak implicatures by either providing strong support for a single, determinate conclusion or marginally altering the strength or salience of a wide array of conclusions. But these positive cognitive effects, we argue, need to be supplemented by something else.

Co-evolving with the emotional procedures we introduce in Section 2.3 would have been emotion-*reading* procedures. A person in whom emotional procedures are highly activated, then, is much more likely to have her emotional state recognised and selected by an audience (Wharton 2009, 2015). These procedures are sub-attentive and unintentional and help us read emotional states, irrespective of whether those states are conveyed ostensively or non-ostensively. It should be clear from the above discussion that they do not arise in a hearer's mind through 'inferences' in the usual sense or reasoning.

Feeling the emotional state of another does not involve an inference that can be rendered with schemas, chains of deduction or any other logical derivations. Our claim is that there is a much more direct, immediate way of processing information that leads a hearer to somehow 'catch' an emotional state made manifest by a speaker using expressives or other forms of language loaded with **affective** effects. Affective effects are passed on to a hearer by this kind of immediate process. The idea is not in itself new. There is a large literature on the phenomenon psychologists call emotional contagion (Hatfield et al. 1994), in which not only is information about emotional states conveyed, but the states themselves. Indeed, perhaps in the Jenninger case that begins this chapter, this is precisely what happened once the shock and disgust had begun to register with the first one or two members of the audience.

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