

The Language of Language

A Linguistics Course for Starters

Madalena Cruz-Ferreira
Sunita Anne Abraham

Third Edition

The Language of Language

**A Linguistics Course
for Starters**

Madalena Cruz-Ferreira

Sunita Anne Abraham

Third Edition

Title: The Language of Language

Subtitle: A Linguistics Course for Starters

Authors: Madalena Cruz-Ferreira and Sunita Anne Abraham

xv + 301 pages

Copyright © 2011

Madalena Cruz-Ferreira and Sunita Anne Abraham

Contents

List of Figures	ix
Preface.....	xi
Acknowledgements	xv

Chapter 1 Language and linguistics

1.1 What do we mean by <i>language</i> ?	1
1.2 What do we mean by <i>grammar</i> ?	3
1.3 What competences do language users have?	6
1.4 What are some of the key features of language?.....	8
1.4.1 Arbitrariness	9
1.4.2 Discreteness and compositionality	10
1.4.3 Creativity	11
1.4.4 Rule-governedness.....	12
1.5 Linguistics: the science of language	13
1.6 The nature of scientific investigation.....	14
1.6.1 The object of investigation.....	15
1.6.2 The method(s) of investigation	15
<i>Criteria for evaluating scientific and linguistic analysis</i>	16
<i>Linguistics data and ways of acquiring them</i>	19
1.6.3 The purpose of investigation	21
Food for thought.....	22
Further reading.....	24
References	24

Chapter 2 Language and languages

2.1 Introduction.....	25
2.2 Variation across languages.....	26
2.3 Classifying languages by families	28
2.4 Language change.....	31
2.4.1 Language contact	32
2.4.2 Language spread	34
2.5 Variation within languages	35
2.5.1 Dialect	35
2.5.2 Sociolect	36
2.5.3 Register.....	38
2.5.4 Idiolect.....	39

2.6 Spoken and written language.....	40
2.7 Working assumptions in the study of language.....	41
2.7.1 Standard language	41
2.7.2 The ideal speaker.....	43
2.7.3 Universal grammar.....	44
Food for thought.....	44
Further reading	45
References.....	45

Chapter 3 The grammar of words: words and word parts

3.1 Introduction	47
3.2 The word “word”	48
3.3 Distribution	50
3.4 Morphological units	51
3.4.1 Word classes	52
<i>Lexical word classes</i>	53
<i>Grammatical word classes</i>	59
3.4.2 Morphemes	64
3.4.3 Morphemes and morphs.....	66
<i>Criteria to identify morphemes</i>	69
“Meaningless” morphemes?.....	71
Food for thought.....	72
Further reading	73
Reference	73

Chapter 4 The grammar of words: word building

4.1 Introduction	75
4.2 Word formation.....	76
<i>The building blocks</i>	77
<i>The constraints</i>	79
4.3 Major word formation processes.....	79
4.3.1 Affixation	80
<i>Distribution of affixes</i>	80
<i>Meaning of affixes</i>	81
<i>Affix identification</i>	83
4.3.2 Compounding.....	85
<i>Form of compounds</i>	85
<i>Meaning of compounds</i>	86
4.3.3 Conversion.....	89
4.4 Other word formation processes.....	90
4.4.1 Backformation	90

4.4.2 Clipping.....	91
4.4.3 Acronymy.....	91
4.4.4 Blending	93
4.5 Morphological analysis of complex words.....	93
4.5.1 Interpretation of meanings.....	93
4.5.2 Representation of structure.....	94
4.5.3 A note on spelling and morphological analysis.....	96
Food for thought.....	97
Further reading	98

Chapter 5 Speech sounds

5.1 Introduction.....	99
5.2 The production of speech sounds.....	100
5.2.1 The vocal tract.....	101
5.2.2 Core speech configurations.....	102
<i>Voiced vs. voiceless sounds</i>	102
<i>Oral vs. nasal sounds</i>	103
<i>Vowels vs. consonants</i>	104
5.2.3 Consonants.....	105
<i>Manner of articulation</i>	105
<i>Place of articulation</i>	106
5.2.4 Vowels	107
<i>Vowel height</i>	107
<i>Vowel backness</i>	108
<i>Lip rounding</i>	108
5.3 The transcription of speech sounds.....	109
5.4 The analysis of speech sounds.....	110
<i>IPA representations of speech sounds</i>	112
<i>DF representations of speech sounds</i>	113
<i>Redundancy in phonetic descriptions</i>	116
5.5 Intonation and tone.....	118
<i>Falling tones</i>	120
<i>Rising tones</i>	120
Food for thought.....	122
Further reading	123
References	123

Chapter 6 The grammar of sounds

6.1 Introduction.....	125
6.2 Phonemes.....	126

6.2.1 Minimal pairs	128
6.2.2 Phonemic systems.....	129
6.3 Speech sounds and language sounds.....	130
6.3.1 An example of phonological analysis.....	132
6.3.2 Phoneme and (allo)phones.....	135
6.3.3 Natural classes of sounds.....	136
6.4 Alternation: <i>allo</i> -forms and <i>-eme</i> units	137
6.5 Syllables.....	139
Food for thought.....	143
Further reading	143
References.....	143

Chapter 7 The grammar of sentences: slots and phrases

7.1 Introduction	145
7.2 Syntax.....	145
7.3 Constituency	146
<i>Words must occur in a certain order</i>	147
<i>The position of certain words is interchangeable</i>	147
<i>The position of certain sequences of words is interchangeable</i>	148
<i>Certain sequences of words can be replaced by a single word</i>	148
<i>Particular slots must be filled by particular types of words or word sequences</i>	148
7.3.1 Assumptions behind constituent analysis	149
7.3.2 Tests of constituency.....	150
7.4 Phrases and phrase structure.....	151
7.4.1 Phrases.....	151
7.4.2 Phrase structure.....	154
<i>PS representation in words</i>	154
<i>PS representation in rule notation</i>	154
<i>PS representation in tree diagrams</i>	156
7.4.3 Sentences.....	158
7.5 Recursion.....	159
7.5.1 Coordination.....	160
7.5.2 Subordination	161
Food for thought.....	163
Further reading	164
Reference	164

Chapter 8 The grammar of sentences: slots and functions

8.1 Introduction	165
8.2 Syntactic form and syntactic function.....	165

8.3	Obligatory and optional sentence constituents.....	168
8.3.1	Adjunct.....	169
8.3.2	Subject	170
8.3.3	Object.....	171
8.3.4	Complement.....	174
8.3.5	Summary of syntactic functions	175
8.4	Verb subcategorisation: one example.....	176
	Food for thought.....	180
	Further reading	180

Chapter 9 The meaning of meaning

9.1	Introduction.....	181
9.2	Different types of meaning	182
9.2.1	Sense and reference.....	182
	<i>Deixis</i>	184
9.2.2	Denotation and connotation.....	187
9.2.3	Literal and metaphorical meaning.....	189
9.2.4	Compositional and idiomatic meaning.....	190
9.3	Semantic shift	192
9.4	Relationships between meaning, sound and spelling	194
9.4.1	Homophony and homography.....	195
9.4.2	Homonymy and polysemy	196
9.5	Meaning relationships between words.....	199
9.5.1	Synonymy and antonymy	199
9.5.2	Hyponymy and meronymy.....	202
9.6	Meaning relationships between sentences	202
	Food for thought.....	206
	Further reading	207
	Reference	207

Chapter 10 Meaning in action

10.1	Introduction.....	209
10.2	What functions can language perform?	211
10.3	Speech acts: using language to do things.....	213
10.3.1	Representatives.....	213
10.3.2	Declarations	214
10.3.3	Verdictives	215
10.3.4	Expressives	215
10.3.5	Commissives	216
10.3.6	Directives	216
10.4	The Cooperative Principle.....	218

10.5 The role of politeness in communication.....	219
10.6 The organisation of conversation.....	221
<i>Adjacency</i>	222
<i>Sequencing (A before B)</i>	223
<i>Appropriateness</i>	223
Food for thought.....	225
Further reading	225
References.....	226

Chapter 11 Language in use

11.1 Introduction	227
11.2 Information structure within the clause.....	229
11.2.1 Given and new information	229
11.2.2 Topic and comment.....	231
11.3 Information structure across clauses.....	233
11.3.1 Cohesion	233
11.3.2 The relationship between cohesion and coherence	235
11.4 Clause relations.....	236
11.5 Discourse patterns.....	239
Food for thought.....	242
Further Reading	243
References.....	243

Chapter 12 Language and speakers

12.1 Introduction	245
12.2 The natives	245
12.2.1 Language acquisition.....	246
12.2.2 Language loss	249
12.2.3 Language death	251
12.3 The multilinguals	252
12.4 The others.....	255
12.5 Several speakers, one language.....	261
Food for thought.....	262
Further reading	262
References.....	263
Technical notation and terms	265
Commentary on Activities	269
Readings and resources.....	289
Index.....	293

List of Figures

Figure 1.1	Language as a code	2
Figure 1.2	How language links meaning to expression	3
Figure 1.3	The method of independent corroboration	18
Figure 2.1	Partial tree of the Indo-European language family	31
Figure 3.1	Summary of word classes	63
Figure 3.2	Example sentence with eight word classes	63
Figure 4.1	Examples of affixes in Bontoc, Tukang Besi and Malay	81
Figure 4.2	Types of affix in English	82
Figure 4.3	Example of gender inflection in Swahili	83
Figure 4.4	Word classes of compounds and their stems	85
Figure 4.5	Summary of simple and complex words	89
Figure 4.6	Examples of paraphrases of complex words.....	94
Figure 5.1	Phonetic symbols used in this book	109
Figure 5.2	Partial IPA consonant chart	112
Figure 5.3	Partial IPA vowel chart	113
Figure 5.4	Sample DF labels	114
Figure 5.5	Sample DF matrix	115
Figure 5.6	Examples of tones in Ngbaka	121
Figure 6.1	Summary of allo-forms and -eme units	138
Figure 6.2	Diagram representation of syllable structure.....	140
Figure 7.1	Conventions used in PS rules	155
Figure 7.2	Conventions used in PS diagrams	156
Figure 8.1	The relationship between active and passive sentences	172
Figure 8.2	The relationship between direct and indirect objects	174
Figure 8.3	The relationship between subject and object complements	175
Figure 8.4	Functional syntactic constituents based upon English	175
Figure 8.5	Conventions used in subcategorisation frames	177
Figure 8.6	Flowchart to help determine verb subcategory	179
Figure 9.1	The relationship between homophones, homographs, homonyms and polysemes.....	198

List of Figures

Figure 10.1	The six types of speech act and their defining features	217
Figure 10.2	Grice's Maxims	218
Figure 10.3	Examples of adjacency pairs	222
Figure 10.4	Recursion in an adjacency pair	222
Figure 10.5	An example of adjacency pair organisation in a conversation	223
Figure 11.1	Using dialogue and discourse signals to clarify the relationship between sentences.....	236
Figure 11.2	Problem-Solution discourse pattern	239
Figure 11.3	Situation-Evaluation-Basis for Evaluation discourse pattern	240
Figure 11.4	Recursion in discourse	241
Figure 12.1	Approximate locations of Broca's and Wernicke's areas	250

Preface

Read this *before* starting the book!

What this book is about

Spoken language is the *prime human tool* for expressing meaning – *human* because spoken language seems to be a feature unique to humankind; *prime* because speech has been around a lot longer than writing, which was invented as a way of representing speech; and a *tool* because language serves to link meaning with expression. How language does this is one of the key questions answered in this book.

Given our shared capacity for language, it's hardly surprising that language represents a topic of interest to many of us. We talk about language using everyday words in everyday situations. But, as with any other discipline, linguistics has its own conventions for talking about the object of its inquiry, so that findings and insights can be shared clearly, concisely, and without ambiguity. The language of language explored in this book refers to linguistics, the science of language, and linguists' agreed-upon ways of talking about the object of their investigation. What's interesting about linguistics is that language is both the object of exploration and the vehicle for expressing discoveries about it, much as the brain is both the object of investigation and the vehicle for studying itself, in the brain sciences.

Our approach

Our main purpose in this book is to explore the nature of language, both as a social phenomenon and a human cognitive ability. Our goal is to encourage informed thinking about issues relating to language structure and use, by discussing as broad a sample as possible, in a book of this size, of the kinds of activities that linguists busy themselves with. We do not aim to give comprehensive coverage of any aspect of any language. In other words, we draw on deliberately restricted sets of data to exemplify and query the core analytical tools, methods and purposes current in linguistic thinking, on the

assumption that familiarity with these should enable further independent investigation of language.

Here are a few examples of our selective approach. In our exploration of word patterns, we do not deal with irregular morphology, focusing only on regular patterns. In our discussion of speech sounds, we analyse only 17 of the 40-odd phonemes proposed in standard descriptions of English phonology, to highlight sound properties common to several other languages. Our selective approach is also evident in our overviews of “big issues” like language variation, language contact and spread, language and the brain, and child language acquisition in Chapters 2 and 12. If you’d like to delve deeper into these issues, we refer you to the **further reading** and **references** at the end of each chapter. Here again, we’ve opted for two or three readings per chapter rather than half a dozen, on the assumption that you can generate further reading for yourself by looking up the references in the recommended readings, or that your instructor will assign further readings, as needed.

The origins and outline of the book

The first edition of this book consisted of Madalena’s lecture notes for a 12-week introductory module on language and linguistics, taught at university level. Designed as foundational reading for undergraduates taking their first course in linguistics, the first edition assumed no acquaintance with the concepts or modes of thinking in linguistics.

This third edition similarly assumes no familiarity with linguistics. And, although it is an expanded and revised version of previous editions, it still aims at brevity. We wanted a handy-sized book that could be carried around easily, not a 600-page tome. We also wanted a book that wouldn’t dent your budget. Coloured images, interactive exercises, sound and video files can be accessed through our companion website. Our aim, as mentioned earlier, is not to “cover topics”, but to provide a flavour of what it is that linguists do, in their investigation of language.

The book contains 12 chapters. We open with a brief characterisation of the key features of language and linguistics, before moving on to consider the relationship between language and languages in Chapter 2. Given that the investigation of language as universal human ability must proceed through exploration of individual languages, this chapter considers the twin issues of variation *across* and *within* languages.

The intermediate chapters of the book are organised in pairs, focusing on linguistic patterning at the level of words (Chapters 3-4), sounds (Chapters 5-6), and sentences (Chapters 7-8). Chapter 3 offers a principled basis for

distinguishing different word classes, while Chapter 4 discusses word parts and the rule-governed nature of word formation. In Chapter 5, we consider two alternative ways of classifying speech sounds, before moving to an exploration of the sound systems perceived by users of particular languages, in Chapter 6. In chapters 7 and 8, we address linguistic patterning at the level of sentences, from the complementary perspectives of form and function, respectively.

Having looked at word, sound and sentence patterns, we turn in Chapters 9 and 10 to matters of meaning (linguistic meaning and meaning in action, respectively), before moving on to discourse, in Chapter 11. Here, we look at language as it is used by speakers in a meaningful and coherent fashion. We conclude our exploration of (the language of) language in Chapter 12 by focusing on the relationship between language and its human users (the natives, the multilinguals, the children acquiring language), as well as issues of language loss and language death.

Using this book

Our purpose in writing this book is twofold. Our fundamental aim is to acquaint you with the way in which linguists investigate the prime human tool for expressing meaning – language. But our main objective is to encourage informed thinking about issues relating to language structure and use. Because we assume that you are just beginning your investigation of language, we provide both the definitions of technical terms and the reasons why these terms are needed, as they are introduced. All new terms appear in bold in the text, and are gathered together in the book's index. These terms represent the concepts you should be familiar with, once you've worked your way through a chapter.

We have deliberately chosen not to include a glossary, since genuine knowledge involves understanding the relationship between key ideas. The goal here is for you to understand why these constructs are needed, and how they interact with one another to form a network of concepts that allow linguists to analyse language in the simplest possible way. The **index** provides a useful tool in this regard, by cross-referencing subjects, and listing the pages on which key terms are introduced and discussed. Another useful tool is the summary of **technical notation and terms** used in the book, including how to use them appropriately.

As you work your way through each chapter, start with the **chapter preview**. We've adopted a question-driven approach in chapter previews because questions demand answers. Each preview highlights the **key questions** explored in the chapter, providing a road-map of the investigative

journey undertaken in that chapter. Each also serves a review function. Having read a chapter, you should be able to answer the questions in the chapter preview in a meaningful fashion.

To invite you to think deeper about the issues discussed in each chapter, we've included a **food for thought** section at the end of every chapter. Each chapter is also interspersed with a variety of **activities** that encourage you to learn by doing, or to thoughtfully apply the analytical tools introduced to solve one or more linguistic puzzles. These activities typically have a range of plausible answers, underscoring the fact that there can be alternative solutions to a puzzle. The objective of these activities is to foster rigorous analytical thinking about questions of language form and language use. Where sensible, we have provided **commentary on these activities**, at the back of the book. If you'd like more hands-on practice analysing linguistic data of various kinds, you can attempt the online exercises we've created for you, at the companion website to this book.

Scattered around the book, you will also find examples of **language play** included in some of the activities. Our aim here was to provide you with a fun way of doing linguistics. If you can play with language, on the one hand, and work out the general principles underlying what we do when we play with language, on the other, then you're effectively doing what linguists do. Also, although our data are taken principally from English (the language shared by all users of this book), we encourage you to consider statements made about English in light of other languages that you are familiar with, throughout the book.

Most textbooks, we feel, attempt to teach too much. We've taken a more selective path, emphasising thought processes, or what it means to think and behave like a linguist – making observations, constructing analyses, and evaluating alternative analyses. Having provided these resources, we would consider our job only half-done if this book failed to stir your curiosity about language matters and why language matters, beyond the brief exploration we are able to offer here. Whether we are joking with friends, devising quantum analyses of the cosmos, building multinational corporations or rearing children, language plays a central role in all our lives. It is our sincere hope that you will continue to puzzle over this integral aspect of our humanity, long after you've closed the covers of this book.

Madalena Cruz-Ferreira
Sunita Anne Abraham

Singapore, December 2010

Acknowledgements

We would like to thank David Deterding, Bill Foley, Vivienne Fong and, in particular, Mark Donohue, for their detailed comments on the first edition of this book.

Our thanks go also to Hajar Abdul Rahim, John M. Levis and Shakila Manan, for their equally useful insights on the second edition.

We are indebted to Philip Baker, who provided invaluable feedback on various issues related to the production of the current edition, and who helped us find its subtitle.

Madalena and Sunita

1

Language and linguistics

Chapter Preview

On language:

- What do we mean by *language*?
- What do we mean by *grammar*?
- What competences do language users have?
- What are some of the key features of language?

On linguistics:

- What characterises linguistics as a discipline?
- What are the key features of scientific investigation?
- What criteria do we use to evaluate linguistic analyses?
- How do we acquire data for linguistic analysis?

1.1 What do we mean by *language*?

Have you ever wondered whether language is a capacity unique to human beings? The answer obviously depends on what we mean by the word **language**. If you look in a dictionary, you will find at least two characterisations of language:

- 1 The system of human communication, using arbitrary signs (e.g. voice sounds, hand gestures or written symbols) in combination, according to established principles/rules.
- 2 Such a system as used by a nation, people or other distinct community/social group.

The main difference between the two meanings of the word *language* seems to be a difference between language in theory and language in use.

The first meaning focuses on language as a universal human phenomenon, language as a mental or cognitive phenomenon, which might be paraphrased by an expression like ‘language faculty’. In contrast, the second explanation focuses on language as a social phenomenon, i.e. the language faculty as it is expressed in individual languages like Mandarin, Portuguese, Malay or English. These two notions of language – as a mental phenomenon and as a social phenomenon – are captured, in English, in the one word, *language*. But in French, the language in which the father of modern linguistics, Swiss linguist Ferdinand de Saussure (1915/1974), conveyed his ideas about the nature of language, the two meanings of language are encapsulated in the words *langage*, referring to the language faculty, and *langue*, referring to particular languages. We detail the relationship between the two notions of language in the remaining sections of this chapter, as well as in the next chapter. But, for the moment, let us consider another way in which we might explain what is meant by the term *language*.

Typically, when we wish to explain what something is, we do so in terms of its **form** and/or **function**. For example, if you wanted to explain to someone what a car is, you could describe it as a four-wheeled road vehicle powered by an internal combustion engine and designed to transport passengers. This explanation focuses on both form and function: it tells us what a car is made up of, and what it is for. Similarly, in explaining what language is, we can talk about its form and its function. In terms of form, language can be thought of as a **code**, i.e. a set of arbitrary signs (voice sounds, hand gestures, written symbols) and the rules for combining these into specific patterns, in order to express meaning. The crucial point to note here is the rule-governed (as opposed to random) nature of codes, and therefore of language. Codes comprise definite rules for combining signs into meaningful patterns, and this is why they allow meaning to be expressed through them. To communicate by means of a code, senders and receivers must share the same set of signs and rules for combining them. Likewise, language comprises a set of signs and the rules for combining them, in order to send and receive messages, as shown in Figure 1.1 below:

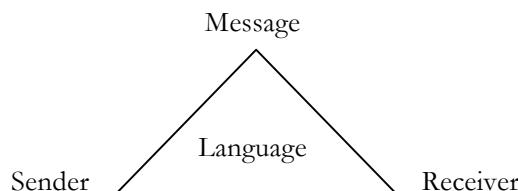


Figure 1.1. Language as a code

Given the analogy between language and codes, you might think that the primary purpose of language is to enable communication. After all, the purpose of codes is to enable communication between senders and receivers of coded messages. But, you would only be partially right. While codes and language are certainly both means of communication, the primary purpose of language, you may be surprised to learn, is not communication but the expression of meaning, as highlighted in the quote below:

Language is a tool for expressing meaning. We think, we feel, we perceive – and we want to express our thoughts and feelings, our perceptions. Usually we want to express them because we want to share them with other people, but this is not always the case. We also need language to record our thoughts and to organise them. We write diaries, we write notes to ourselves, we make entries in our desk calendars, and so on. We also swear and exclaim – sometimes even when there is no one to hear us. The common denominator of all these different uses of language is not communication but meaning.

(Anna Wierzbicka, 1992, p. 3)

The question then becomes: how does language link meaning to expression? The answer is: through **grammar**, as depicted in Figure 1.2 below.

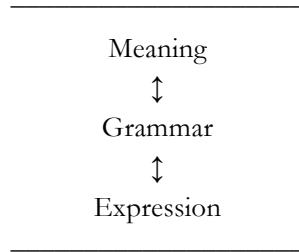


Figure 1.2. How language links meaning to expression

1.2 What do we mean by **grammar**?

Simply put, the grammar of a language comprises a set of signs (its sounds and words) and the principles, or **rules**, for combining these into meaningful utterances.

Given this concept of grammar, it follows that every human being who speaks a language knows its grammar, and it makes no sense for the speaker of any language to say *I don't know any grammar* or *My grammar is poor*. If you

can function in a given language, then you know its grammar, i.e. the code for expressing meaning in that language.

One reason you may think you don't *know* the grammar of your language is that this knowledge is largely unconscious or implicit. An analogy might help to make things clearer. Think about your ability to walk or run. You know *how* to do it, but if someone asked you to explain what is involved in walking or running, you would probably end up with a severe case of paralysis by analysis, as would most people. Analysing what is involved in the process of walking or running is the job of the sports scientist, not the sportsperson. Similarly, all language users implicitly know the grammar of their language, and what the **linguist** seeks to do is to build a model of this mental grammar, i.e. of the implicit knowledge that speakers possess about the structure and use of their language.

At this point, it is worth correcting two common misconceptions about the nature of linguistics, which, we think, might be the source of misconceptions about the nature of grammar. The first is that linguistics is the study of language with the goal of learning to speak well. One of the most frequent questions linguists get asked, at parties and other social functions is: *So, how many languages do you speak?* or its variant *How many languages do you need to speak, if you want to become a linguist?* It certainly is true that some linguists are fluent in two or more languages. But the point is that a linguist is not someone who speaks several languages well. Such a person is a **polyglot** (from Greek *poly* meaning ‘many’ and *glotta* meaning ‘tongue’, or language). In other words, it is not necessary to speak several languages in order to be a linguist. Again, an analogy might help make things clearer. How many musical instruments do you need to play, if you wish to study music theory? The answer is none, since you can study music theory without knowing how to play any particular musical instrument. Obviously, when it comes to language, every linguist speaks at least one, by virtue of being human. But the point is that one does not need to speak any particular language, in order to do linguistics. (To find out how linguists manage to study the grammar of languages they do not speak, see sections 1.6 and 1.7.)

A second common misconception about linguistics is that it *prescribes* how people ought to speak, when, in fact, it *describes* how people actually speak. In other words, linguistics deals with what is, not what ought to be. This distinction between **prescription** and **description** is important in all disciplines, not just linguistics. Consider, for instance, the domain of ethics. If you wish to create a theory of ethics, you have two choices. You can either describe how people actually behave, in terms of the ethical choices they make. Or, you can prescribe how people ought to behave. Similarly, if you wish to create an economic theory, you can describe how people do actually

behave, economically. Or, you can prescribe how you want them to behave. Most academic disciplines take the former stance, describing the world around us rather than prescribing behaviour. This is because prescriptivism tends to be based on the value system of some particular individual or group, and raises the question why that group's value system should be the one guiding everyone else's behaviour. This distinction between prescriptivism and description also applies to notions of grammar.

Activity 1.1

Before you read the next section, write down what you understand by the term *grammar*. Then, compare your understanding of this word with that of your friends, your parents, your teachers. What similarities and differences can you see among the definitions you have collected?

One reason why the notion of grammar that we outlined at the beginning of this section may have surprised you is that many people think of grammar in prescriptive terms, i.e. as a set of rules that tell people how they should speak. Linguists refer to such grammars as **prescriptive grammars** in order to distinguish them from the kind of grammar that linguists are interested in. Prescriptive grammars are so named because they comprise a set of prescriptions about how to speak, which are based on nothing more than the idiosyncratic value judgments of the particular individual or group prescribing the rules. The rules below are all examples of prescriptive grammar rules:

- Never start a sentence with *and* or *but*.
- Never end a sentence with a preposition.
- Never use a double negative.
- Always say *I am not*, never *I ain't*.

If you ask the prescriber the reason for these rules, they are likely to answer that the best people (i.e. the people doing the prescribing or some group whom they wish to emulate) follow these rules, and therefore so should you. Not to speak in the fashion prescribed by them is considered bad form, and likely to be taken as a sign of the speaker's ignorance, stupidity, lack of class, etc. Prescriptive rules seek to control behaviour by telling people what to do/what not to do. Traffic rules are a good example of prescriptive rules. In contrast, descriptive rules state the patterns or regularities observed in the behaviour of entities of various sorts. The rules governing the motion of

physical objects are a good example of descriptive rules. Newton's Laws of Motion describe how objects in motion behave under different circumstances, not how they ought to behave. Similarly, the linguist's **descriptive grammar** is meant to model the principles, or rules, that speakers seem to be implicitly using, when they speak to one another.

Activity 1.2

One of these statements is prescriptive, and the other is descriptive: which is which? How did you arrive at your answer?

- (a) Multilinguals should avoid mixing their languages when they speak.
- (b) Mixing languages is common in multilingual speech.

To summarise, then, prescriptive grammars tell people how they ought to speak, while descriptive grammars describe how they actually speak. In building descriptive grammars, linguists do not judge linguistic utterances to be correct/incorrect. Rather, they accept language users' intuitions about what sounds fine/odd in a given language variety, and seek to explain this asymmetry between what speakers consider acceptable/unacceptable, in the simplest and most general way possible (for more about the criteria used by linguists to evaluate alternative explanations, see section 1.6).

1.3 What competences do language users have?

In the preceding section, we emphasised that anyone who knows a language knows its grammar, i.e. the sounds and words of that language and the established conventions for combining these into meaningful utterances. In attempting to build a model of language users' mental grammar, linguists typically talk about two kinds of competence, or two kinds of knowledge that language users possess, namely, grammatical competence and communicative competence. **Grammatical competence** refers to language users' knowledge of the sounds and words of their language and how to combine these into **well-formed** utterances with the desired meaning. **Communicative competence** in turn refers to language users' knowledge of how to use language **appropriately** in order to carry out specific tasks and achieve the desired effects in specific communicative situations.

Here's an example to help you see the difference between the two kinds of competence. Consider the following utterance: *Can you tell me what time it is?* Speakers of English would judge this a well-formed expression, in contrast to the expressions *Can time it what tell you me is?* Or *You tell me can time is what it?*, which most speakers of English would judge as being ill-formed. This is grammatical competence at work.

Now consider the following exchange between individuals A and B. A doesn't have a watch, and stops a passerby, B. A says to B, *I'm sorry I don't have my watch. Could you tell me what time it is, please?* B answers Yes, and walks off. Were you surprised by B's behaviour? If so, it's because your communicative competence tells you two things. First, that the question *Could you tell me what time it is, please?*, although structurally similar to questions like *Could you buy some milk on your way home?* or *Could you feed the dog tonight?*, which require just a yes or no answer, is different in function. Second, that in asking this question, A was not asking about B's willingness to tell her the time, but was in fact requesting B to tell her the time. In other words, A wasn't saying *Would you be willing to tell me what time it is?* but *Please tell me the time.*

Since there may be a gap between what speakers say and what they actually intend, what is it that helps us reconstruct implicit meaning, and decide what forms are appropriate in a given communicative situation? The answer is: our communicative competence – our awareness of how **situational context**, including the setting, the purpose and the participants in a communicative exchange, affects the interpretation of any utterance. We discuss the importance of situational context in greater detail in Chapters 10 and 11, dealing with pragmatics, or meaning in action, and discourse, or language in use, respectively. For the moment, here's another simple activity to reinforce the idea that every language user, including yourself, possesses both grammatical and communicative competence.

Activity 1.3

How would you interpret the following expressions?

NO BANANAS

NO BICYCLES

Both expressions have the same form. They both comprise two words: *No* followed by a plural noun – *bananas* and *bicycles*, respectively.

In order to make sense of the meaning and the function of these expressions, we need to know the **context** in which they occur. Since you haven't been told what this is, you could scan your memory for past encounters with these expressions. For example, you might have seen *No bicycles* on certain roads or paths, meant only for pedestrians or four-wheeled vehicles. This, combined with your experience of other two-word expressions like *No dogs* or *No children*, might have led you to interpret the expression *No bicycles* as meaning 'No bicycles allowed'. In short, this expression serves a directive function, prohibiting bicycles in the area where the sign appears.

The first expression (*No bananas*) may be a little harder to make sense of, but we can try to imagine a context in which you might encounter it. Suppose you saw these words on a handwritten sign at a fruit store. Would you infer the meaning 'No bananas for sale', on analogy with signs saying *No gas* at petrol stations that have run out of petrol to sell, during an oil embargo? If so, the function of this expression is declarative (telling us what is the case), rather than directive (telling us what to do), as in the case of the *No bicycles* sign.

Activity 1.4

On some buses and trains in South East Asia, the sign *No durians* can be seen. (Durians are a type of tropical fruit with a thick horny shell and a lingering smell, which some people like and others don't.) What meaning and function would you infer from such a sign – the same as the *No bicycles* sign or the *No bananas* sign? Explain how you arrived at your answer.

What the activities above highlight are two important features of language use: the role of context in interpreting meaning, and the lack of one-to-one-correspondence between form and function – themes that we will be revisiting throughout this book.

1.4 What are some of the key features of language?

We now move on to consider five design features of language which, taken together, characterise language as a universally and uniquely human phenomenon, namely, arbitrariness, discreteness, compositionality, creativity, and rule-governedness.

1.4.1 Arbitrariness

We started this chapter with a dictionary definition of language as a system of human communication that makes use of arbitrary signs.

A sign is an indicator of something else, and signs can be divided into two kinds: arbitrary signs and non-arbitrary ones. Non-arbitrary signs have an inherent, usually causal, relationship to the things they indicate. The adage *where there is smoke, there is fire* is a fairly reliable observation, given that smoke-free fires tend to be a rarity. So we can say that smoke is a non-arbitrary sign of fire. Similarly, dark clouds are a non-arbitrary sign of impending rain, because there is a direct connection between the two.

Language is different from these phenomena in that the association between a linguistic form and the meaning it expresses is not inherent but established by convention. This explains why different languages have different signs representing a particular entity. Consider, for example, the animal that English speakers refer to as *elephant*. The linguistic sign for this entity is *gajah* in Malay. Why? Because these are the expressions that speakers of English and Malay have agreed (by established convention) should refer to this particular entity.

Activity 1.5

Can you explain what Juliet means when she says to Romeo:

A rose by any other name would smell as sweet.

What Juliet seems to be highlighting is the arbitrary, or conventional, nature of linguistic signs. The flower that Juliet mentions happens to be called a *rose* because that is what speakers of English have agreed to call it, and not because there is any inherent connection between the word *rose* and the sweet-smelling entity that it designates. Malay speakers refer to the same entity as *bunga mawar*. In other words, Juliet is reminding us that the names that we give to things are not to be confused with the things themselves: linguistic signs should not be confused with the reality they represent.

There are, in fact, two levels of arbitrariness in language. The first is the arbitrary association between the **form** of a linguistic expression and its **meaning**. This level highlights the fact that there is no inherent link between the form of a word, i.e. the sounds that constitute a word, and the meaning of that word. For example, there is no inherent reason why the sequence of sounds [f], [r], [i], that gives us the word form *free*, should have the meanings

that we associate with this word form, e.g. ‘not enslaved’ or ‘not busy’ or ‘without payment’. The same meanings could just as easily be expressed by some other sound sequence, e.g. [gip] or [gub] or [bub]. It just so happens that speakers of English have agreed to associate this particular sound-sequence [fri] with this particular set of meanings.

The second level is the arbitrary association between a **linguistic sign** and its **referent**. This level highlights the fact that there is no inherent link between a linguistic expression and the entity that it designates. For example, there is no inherent reason why the word *tree* should refer to the entity that it in fact refers to. There is no logical reason why the word *tree* could not refer to Juliet’s rose, except that speakers of English have agreed by convention to use the words *rose* and *tree* in the ways that they do.

This double **arbitrariness** between linguistic forms and their meanings, and linguistic signs and their referents is one of the characteristics of language, first discussed by Saussure (1915/1974) in his *Cours de linguistique générale* (*Course in general linguistics*).

1.4.2 Discreteness and compositionality

Discreteness and compositionality are two sides of the same coin. **Discreteness** has to do with the fact that speakers of all languages can identify distinct elements in their languages, such as the different words in a sentence, and the particular sounds in a word.

Consider the utterance *Thecatsatonthemat*. As a speaker of English, you have no difficulty identifying distinct elements in the sound stream making up this utterance – you hear both the individual sounds in every word and the individual words making up this utterance. This ability to distinguish discrete units in a stream of language is in fact one of the things you become aware of, as you acquire a language. You realise that you can make out individual sounds and words in the stream of language you are hearing.

While discreteness refers to our ability to perceive distinct units within larger stretches of language, **compositionality** refers to our perception that larger units of language are composed of smaller units. Speakers of English perceive the utterance *Thecatsatonthemat* as being composed of the words *The*, *cat*, *sat*, *on*, *the*, and *mat*. Similarly, they perceive each word as being composed of individual sounds, e.g. the word *cat* as being composed of three sounds, which we can represent by means of the symbols [k], [æ] and [t].

Putting discreteness and compositionality together, we can say that speakers perceive language as being composed of discrete units which stand in a part-whole relationship to one another. As you continue to work your

way through this book, you will learn more about some of these units and their relationship to one another.

1.4.3 Creativity

Like arbitrariness, which functions on two levels, **creativity** in language manifests itself in two ways. First, language itself is creative in that it enables the expression of new meanings, as and when they are needed, for example through the creation of new words. As will become clearer in the next chapter, language is an organic entity, which changes, grows and dies, just like the human beings that use it. This intrinsic creativity is one of the factors underlying the phenomenon of **language variation**, across time, space and situations of use, which we also explore in greater detail in the next chapter.

What is interesting about the creativity of language is that it involves the “infinite use of finite means,” as highlighted by the 19th century German philosopher Wilhelm von Humboldt (1836/1999: 221). All languages have a finite repertoire of sounds, for example, as we shall see in Chapter 6. Yet, from this finite set of sounds, every language is able to build a vast range of words, to serve the needs of its speakers. From this vast vocabulary or **lexicon** (the inventory of words in a language), in turn, an even greater number of sentences can be constructed to express every possible meaning which speakers wish to convey.

The infinite use of finite means also characterises the second way in which language is creative, namely, speaker’s use of language. Think about your own language use. When you wish to express some meaning, do you have a limited repertoire of sentences stored in memory for immediate recall? Or do you find yourself uttering novel sentences, as and when you need them? Consider, for example, the sentence below:

The little old lady who tried to carry the Golden Retriever disguised as her son into the 601 bus was told off by the commuter holding a fainting bald eagle by its left foot.

We are pretty sure that you will not have encountered this sentence before, since we just made it up ourselves. In other words, this sentence is novel both for you and us. Yet, neither of us has any trouble making sense of the sentence. What this suggests is that speakers of all languages can both understand and produce utterances that they have never before heard or spoken. The reason we are able to do this is that all languages have a limited repertoire of sounds and words, which can be combined to form an infinite number of meaningful utterances through a limited set of rules. This brings us

to the fifth characteristic of language that makes it universally and uniquely human – its rule-governed nature.

1.4.4 Rule-governedness

We started this chapter by comparing language to a code. We said that codes allow the expression of meaning because they comprise a set of signs as well as rules for combining the signs into meaningful patterns. Paradoxically, it is the rule-governed nature of language that makes language use a creative enterprise. It's easy to mistake creativity for a case of anything goes, for absence of rules. That, however, would only result in total confusion, or in the case of language, random noise. What language use involves, as any other creative endeavour, is the combination of a finite set of resources in new and different ways, in order to create new meanings.

When linguists explore the rules that govern language, they tend to focus on two kinds of organisation: **linear order**, or sequencing, and **hierarchical order**, or part-whole relationships. We talked briefly about hierarchical order when discussing compositionality as a characteristic of language, in section 1.4.2. Hierarchical order has to do with constraints in the part-whole relationships assumed by discrete units of language. Linear order in turn has to do with constraints in the sequencing of language elements. Here's an example of linear order in terms of the sound-sequences that form words. Consider the three sounds in the English word *cat*, represented by the symbols [k], [æ] and [t]. Each of these sounds has no meaning in and of itself. But each can be combined with the other two to form meaningful units at a higher level, i.e. words. What's interesting here is that mathematically speaking, three sounds can be ordered sequentially in six ways, as shown below (in linguistics, an asterisk preceding an example indicates a non-occurring form in a particular language):

[kæt] [tæk] *[ktæ] *[tkæ] *[ætk] [ækt]

Yet, of these six sequences, only three are sanctioned by the sound-sequencing rules of English: [kæt] *cat*, [tæk] *tack*, and [ækt] *act*. These data reflect the intuitions of speakers of English about the possible sound-sequences of English. That is to say, if you asked speakers of English which of the six forms above represent English-sounding words, as opposed to foreign-sounding ones, their judgments would match our observation that that [kæt], [tæk] and [ækt] are fine, but not [ktæ], [tkæ] and [ætk]. In other words, the grammar of English disallows sequences like *[ktæ], *[tkæ] and *[ætk]. Once you have read Chapter 6, dealing with the sound systems of

languages, you should be able to revisit these data, and articulate a rule that explains why words like *[ktæ], *[tkæ], and *[ætk] are non-occurring in English.

In discussing these and other examples about the words of any language, it's important to keep in mind the difference between possible and actual words. For any language, there are words which could exist in it, but for some reason don't. **Possible words** are words that could be part of a particular language, i.e. that are sanctioned by the grammar of the language, but just happen not to. This means that there are accidental lexical gaps (word gaps) in all languages. For instance, if you asked English speakers whether the sound sequence [fik] is a possible English word, they would answer yes. In contrast, if you asked the same set of speakers whether [bnik] is a possible English word, they would probably answer no. What [fik] and [bnik] share is that neither is an **actual word** of English. The difference between them is that [fik] is a possible word of English, whereas [bnik] is not. The reason is that the grammar of English allows the sound-sequence [fik] but not the sound-sequence [bnik]. Once again, you should be able to revisit these data, after going through Chapter 6, to articulate a rule that explains why sound-sequences like [bnik] [bnaek] and [bnag] are not possible words of English.

Linear order is important for studying not just possible sound-sequences in words, but also possible word sequences in sentences. Consider, for example, the five-word sentence *The cat licked the boy*. Mathematically speaking, there are 120 ways to sequence five words. Most of these sequences, however, result in nonsensical strings like **Boy the licked cat the* or **Licked cat boy the the*. One results in a different sentence, *The boy licked the cat*. In Chapters 7 and 8, we will be looking more closely at the rules governing word order in sentences. Meanwhile, the sound-sequence and word-order examples above illustrate the rule-governed nature of language. All languages have rules that enable them to convey meaning. The **grammar** of any language is a statement of the coding rules of that language, shared by the speakers of the language. It is these rules that linguists seek to capture and model in descriptive grammars. How they go about doing this is the subject of the remaining sections of this chapter.

1.5 Linguistics: the science of language

In section 1.2, we corrected two common misconceptions about linguistics, pointing out that linguistics is the *scientific* study of language as a human phenomenon. In this section and the next, we explain what we mean by science, and highlight the features that characterise linguistics as the science of language.

Simply put, **science** is the art of looking for patterns, and for ways of explaining them. Scientists look for regularities in the world around us, and propose analyses for these regularities in the simplest, most general and most objective way possible. The characterisation of science as an art is deliberate, on our part, given the tendency to treat science and art as mutually exclusive domains. Certainly, in everyday usage, the word *science* is often used as a cover term for domains of study such as physics, chemistry and biology to distinguish it from areas like history, geography or literature. Science, however, refers not to an area of study but to a way of studying. In other words, any phenomenon can be the object of scientific study.

Every one of us is a scientist to the extent that we look for regularities or patterns in the world around us, and seek to explain them in terms of theories that we hold, either implicitly or explicitly. For example, if you've ever been puzzled by a friend's behaviour, it's because you have a theory about how friends in general behave, and how your friend in particular behaves, within which the quirky behaviour that you observed does not seem to fit. If you then decided to investigate the reason for your friend's odd behaviour, in order to better understand it, you might have ended up having to amend your theory about your friend's behaviour, in particular, and/or friends' behaviour, in general. Observing and analysing situations, critically evaluating alternative analyses, and amending (or rejecting) an analysis on the basis of new (or conflicting) data are elements central to scientific investigation, the topic of the next section.

1.6 The nature of scientific investigation

Any investigation, including scientific investigation, can be thought of in terms of three parameters: the object of investigation, the method(s) of investigation, and the purpose of investigation. These three features correspond to three questions:

- *What* do you wish to study?
- *How* will you study it?
- *Why* do you wish to study it?

Being the science of language, linguistics has an object of investigation, namely, language as a universal human phenomenon. Its method is **empirical**. That is, the conclusions drawn in linguistics, as in any scientific investigation, are based on observation and experience rather than on intuition or pure reasoning. The purpose of linguistic analysis is to explain the nature of language, in order to be able to answer questions like *What constitutes*

knowledge of language? How is language acquired? and How is it used? In the next three subsections, we look at the object, method, and purpose of scientific investigation a little more closely.

1.6.1 The object of investigation

Typically, scientific investigation deals with observable phenomena. In other words, science is interested in factual claims, in assertions which can be demonstrated to be true or false, based on empirical evidence. The difference between **fact** (something that you know to be true) and **opinion** is that the latter cannot be demonstrated to be true or false because it has to do with matters of judgment and taste. Compare, for example, the following two statements:

All Singaporeans speak English.

All Singaporeans speak good English.

The first statement is a factual claim. Its truth can be verified by checking whether or not all Singaporeans do in fact speak English. If you find at least one Singaporean who does not speak English, you will have demonstrated that this statement is false and therefore needs to be amended to a statement like *Not all Singaporeans speak English* or *Most Singaporeans speak English*. The second statement is identical to the first, except for the presence of the word *good*, which expresses a value judgment. In the absence of a shared theory about what makes a particular variety of English good or bad, what we have here is an expression of someone's opinion or taste, which does not fall within the realm of science, including the science of language.

1.6.2 The method(s) of investigation

Scientific investigation typically involves three key activities: observation, analysis and argumentation. **Observation** consists in looking for patterns in phenomena of various kinds. These patterns are then accounted for in terms of **analyses**, which typically comprise a set of theoretical constructs, a set of rules describing the observed patterns, and a set of representations that model the observed patterns.

It's important to bear in mind that a **theoretical construct** is a hypothetical entity assumed by the scientist in order to explain an observed pattern. Gravity, for example, is one of the best known and most useful theoretical constructs, given its immense explanatory power. Newton's theory of gravity explains observations both on earth (why things fall) and in space (why planets don't collide into one another). The constructs that linguists use

to explain linguistic phenomena include assumed entities like *nouns*, *verbs*, *phrases*, *morphemes* and *phonemes*. We will meet these and other constructs in the remaining chapters of this book, as we explore the structure and use of language in greater detail.

Criteria for evaluating scientific and linguistic analysis

Meanwhile, having looked at the first two activities entailed by the method of scientific investigation (observation and analysis), let's consider the third, namely, argumentation. **Argumentation** is necessary in order to critically evaluate alternative analyses. As you know from your own observation and analysis of the world around you, there can be multiple perspectives and explanations for the same phenomenon. How do we decide which analysis is best? Clearly, any disciplinary community needs shared criteria of evaluation. Six criteria that are commonly used to evaluate scientific and linguistic analyses are purpose, accuracy, simplicity, generality, objectivity, and internal consistency. We now deal with each one in turn.

Purpose. Any analysis needs to be motivated, that is to say, it must serve a purpose. The fundamental purpose of scientific analyses is the explanation of observed phenomena, which allows for the prediction of these and other phenomena. A scientific analysis that doesn't explain anything isn't a very useful analysis. Neither is an analysis that explains some trivial fact. The latter raises the "So what?" question: *So, you discovered X. So what?* In other words, scientific researchers need to show how their work contributes to the extant knowledge pool, either by providing new insight on an old problem/puzzle, or by highlighting new frontiers worthy of investigation. If the analysis merely rehashes what is already known, the reaction is likely to be, *Tell us something we don't already know.*

Accuracy. One of the key reasons that we seek explanations is in order to make predictions. Obviously, we want our predictions to be correct rather than incorrect. So, one of the basic requirements of an analysis is that it be consistent with our observations, i.e. that it not yield incorrect predictions. For example, if an analysis predicts that X will occur, but what we observe is not X but Y, we have an erroneous analysis, which clearly has to be rejected or amended to accurately capture Y. Analyses typically comprise a set of constructs and a set of rules, expressed as hypotheses to be verified. A **hypothesis** is a prediction based on an initial set of observations. The purpose of a hypothesis is to be verified (i.e. either confirmed or disconfirmed) through empirical testing. If there is a mismatch between what the hypothesis predicts and what we in fact observe, the hypothesis is

disconfirmed, and has to be rejected. In contrast, if what we see is in fact what the hypothesis predicts, we accept the hypothesis provisionally, putting it through further rounds of testing against new sets of data/observations. In both cases, hypotheses help us progress with our investigation. A disconfirmed hypothesis lets us know that the path we took was wrong, and that we therefore should take an alternative route. A confirmed hypothesis becomes a reliable piece of knowledge upon which we can build other hypotheses. To see this process at work, turn to section 6.3.1.

Simplicity. You may have heard of **Occam's Razor** (also known as *the law of parsimony* or *the law of economy*), a principle attributed to 14th century logician William of Ockham. Simply put, Occam's Razor states that the simplest explanation is the best. In other words, when multiple explanations are available for the same phenomenon, the least complicated version is to be preferred, i.e. the one that makes the fewest possible assumptions. For example, hoof beats can be a sign of approaching horses or zebras. According to Occam's Razor, if one heard hoof beats on a farm, horses rather than zebras would be the preferred explanation, since it requires the fewest assumptions, given what we know about horses and zebras relative to farms. Similarly, burning bushes could be caused by a discarded cigarette or a landing alien spacecraft. Which explanation would you choose, using the simplicity criterion?

Generality. The generality criterion requires an analysis to cover the widest possible range of observations. Why? Because the more general a theory or analysis is, and so the more observations it covers, the fewer theories we need. An analogy might help. One of the reasons we like credit cards is that they can be used for a whole host of transactions, both online and offline. If credit cards didn't have such general coverage, we would need a whole variety of financial instruments to take care of the different transactions we wish to perform. One of the best known theories, Newton's theory of gravitational forces, fulfils the generality criterion by explaining observations both here on earth and in space. A less general theory would account only for some observations (e.g. the ones here on earth) but not others. Similarly, if Newton's theory could only account for some falling bodies (e.g. apples) but not others (e.g. cannonballs or human beings), it would have to be rejected for not being general enough, i.e. for being unable to explain all our observations relating to falling objects.

Objectivity. Scientific knowledge is objective in the sense that it is supported by observation and experience rather than by intuition or pure reasoning. Maximal objectivity refers to the use of different types of evidence, or independent sources of evidence, to support a conclusion. This use of multiple types/sources of evidence to establish a conclusion is in turn known

as **independent corroboration**. When various strands of evidence all point towards the same conclusion, we have **converging evidence** for that conclusion.

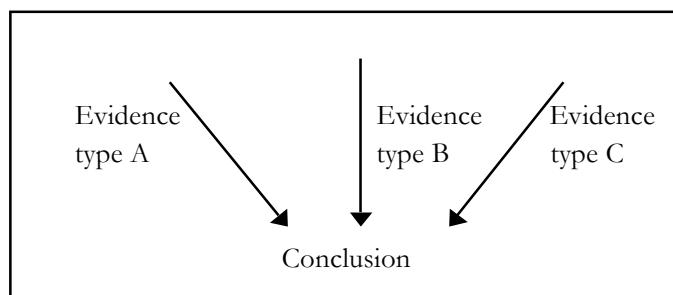


Figure 1.3. The method of independent corroboration

Clearly, the more independent reasons there are for accepting a conclusion, the more reliable that conclusion is likely to be. Why? Because each type of evidence would have to be countered for the conclusion to be refuted. Think of two cables: one comprises just one strand of wire, the other comprising multiple strands of wire. Which cable is likely to be stronger? The latter, because one would have to cut through several strands in order to sever the cable. Here's another example. Let's say you suspect Jim Jones of murdering his wife. All you have is a gut-feeling that Jones is guilty. No court would accept this subjective evidence as sufficient reason to convict Jones of murder. Now, let's suppose you manage to obtain eyewitness testimony, placing Jones at the scene of the crime. This would constitute objective evidence. But this evidence could be weakened, if one or more of the eyewitnesses were shown to be unreliable. One way of strengthening your case, then, would be to find an independent source of evidence, implicating Jones in the murder of his wife, e.g. forensic evidence, so that even if the eyewitness testimony were impeached, you would have another source of evidence leading to the same conclusion.

Internal consistency. Whereas the accuracy criterion requires analyses to be free of error, and thus not to yield incorrect predictions, the internal consistency criterion requires analyses to be free of logical contradiction. An analysis that states/predicts both X and not-X would be internally inconsistent, or self-contradictory, because X and not-X are mutually exclusive terms. For example, an entity can be short or tall, but not both, at the same time. It may seem hard to believe that a careful researcher could

construct an analysis in which one part of the analysis contradicts another. But the possibility remains, especially with longer analyses.

Linguistics data and ways of acquiring them

Having looked briefly at analysis and argumentation, we return to the central activity in the method of scientific investigation, observation. What is it that linguists observe, and how do they go about collecting their data?

To start with the first question, linguistics data comprise language behaviour as well as speakers' intuitions about language, produced either by themselves or others. These data can be obtained through observation of naturally-occurring situations or manipulated situations, as in experimentation. In the case of spoken language, naturally-occurring data are typically obtained by observing spontaneous communicative events like conversations, paying attention to the language behaviour of each participant. For example, who opens/closes the conversation? How do speakers signal their wish to change the topic? Who interrupts whom, when and how? Given the ephemeral nature of spoken language, researchers these days often use video or audio technology to record such exchanges. They can then watch/listen to them, transcribe them, and analyse them more accurately. In this sense, analysing written language is a little easier, given that writing leaves a more permanent record than speech. Since the 1980s, however, linguists at various research sites have been building databases or corpora of both spoken and written language (e.g. The British National Corpus, the International Corpus of English) that linguists wishing to investigate naturally-occurring language can access.

In contrast to observing naturally-occurring linguistic behaviour, observation of elicited data typically involves some amount of manipulation, so as to obtain the language behaviour that the researcher wishes to investigate. For example, back in 1958, psycholinguist Jean Berko Gleason wished to investigate the acquisition of the plural rule among English-speaking toddlers, pre-schoolers, and first graders. Gleason (1958) designed an experiment, known as the Wug test, which called for, among other things, the use of the plural. She and her fellow researchers showed each child in the experiment a picture of a pretend creature, and told the child, *This is a wug*. Next, the child was shown a picture with two of these pretend creatures, and told, *Now there are two of them. There are two....* If you'd like to learn more about Gleason's experiment and her findings, turn to the references at the end of this chapter.

Here's one more example of observation of elicited data, this time involving adult speakers of English in New York City, in the late sixties. You

may have noticed that in words like *four*, *fourth*, *card*, and *car*, some speakers of English pronounce the /r/ sound represented by the letter ‘r’ in these words, while others drop it. While he was still a graduate student, sociolinguist William Labov (1966) hypothesised that the pronunciation of /r/ in New York English was not random, but correlated to social-class. He predicted that people of higher social status would pronounce /r/ more frequently than people of lower social status. To test his hypothesis, Labov investigated the speech of employees in three Manhattan department stores – an expensive, upper-middle-class store; a mid-priced, middle-class store; and a discount working-class store. In each store, Labov asked various employees for the location of a product which he knew was available on the fourth floor of the store. His question elicited the utterance *fourth floor* from the employees, and he was thus able to compare their pronunciation. For more about Labov’s experiment and findings, turn to the references at the end of this chapter.

To recap, then, observation of language behaviour, whether naturally-occurring or elicited, is an integral part of the method of linguistic investigation. But language behaviour is only one kind of data that linguists are interested in. Other data include speakers’ intuitions about their language, typically obtained through questionnaires or interviews, or through **introspection**. The latter refers to linguists consulting their own intuitions about a language, when they happen to speak the language they wish to investigate. As mentioned in section 1.2, however, linguists do not need to speak the language they wish to investigate. If you’re wondering how linguists can be credited with providing trustworthy descriptions of languages that are alien to them, think about how doctors discover what is ailing their patients. Doctors don’t need to be suffering from a particular disease in order to investigate it. What they do is examine patients and ask questions that allow them to infer the nature and cause of the disease. Likewise, linguists examine available language behaviour and ask **native speakers** about their intuitions concerning language. This is what we (the authors of this book) would have to do, if we wished to propose a credible description of Singapore English or Jamaican English, for example, not being native speakers of these varieties of English ourselves. We would both observe the language behaviour of native speakers of these varieties and obtain their intuitions about their language use in order to propose an analysis of the grammar of Singapore English and of Jamaican English, respectively. Our own use of English would tell us only about the varieties of English that we speak, and little or nothing about the variety of English spoken by Singaporeans and Jamaicans.

1.6.3 The purpose of investigation

As mentioned in section 1.5, the purpose of scientific investigation is to explain observed phenomena as simply, generally, and objectively as possible, so that we can not only satisfy our curiosity about the world around us, but also adapt to it by being able to predict events reliably.

At the beginning of this chapter, we also highlighted that in defining/exploring any object, it is possible to focus on form or function. Needless to say, if we are to achieve a holistic understanding of the nature of language, we need to consider both aspects, since function influences form, and vice versa. Given the complex interplay between form and function, it would be virtually impossible to find a branch of linguistic investigation that adopts an exclusively formal or functional perspective.

Moreover, given how language permeates human activity, its study affects and is in turn affected by virtually every other area of human interest. The study of language today tends to be approached from the perspective of many different sciences and professional fields, from which linguists draw knowledge and to which they contribute practical and theoretical insight. Some of these interdisciplinary areas of research include:

- Anthropology: language and culture; ethno-linguistics
- Child studies: language acquisition and development
- Computer science: programming languages; machine translation; “thinking” machines; computational linguistics
- Education: language teaching
- Dentistry: orthodontics and speech
- History: language change over time; historical linguistics
- Law: forensic linguistics
- Mathematics: formal systems of communication
- Medicine: language, mind and brain; neurolinguistics; language pathology
- Music: the singing voice
- Philosophy: language and reasoning
- Physics: voice acoustics; speech synthesis; voice recognition
- Psychology: language and cognition; psycholinguistics
- Rhetoric: language and persuasion
- Sociology: language, ideology, and power; sociolinguistics; critical discourse analysis

In this chapter, we looked briefly at the nature of **linguistics** as the science of language, to systematically observe and explain language structure and use. We also considered two notions of language – as language faculty (Saussure's *langage*) and its manifestation in individual languages (Saussure's *langues*). We might think of these two notions of language as two sides of the same coin. That is to say, no matter what the differences between individual languages, there must be certain shared universal features, given that every language must conform to the constraints of the human brain and of human communicative needs. Conversely, the study of language as a universal human phenomenon can only proceed through the study of individual **languages**. The next chapter considers this relationship between language and languages more closely.

Food for thought

On language

“It is a very remarkable fact that there are none so depraved and stupid, without even excepting idiots, that they cannot arrange different words together, forming of them a statement by which they make known their thoughts; while, on the other hand, there is no other animal, however perfect and fortunately circumstanced it may be, which can do the same.”

René Descartes (1637). *Discourse on the method*.

“If a lion could talk, we could not understand him.”

Ludwig Wittgenstein (1921). *Tractatus logico-philosophicus*.

“It is certainly the business of a grammarian to find out, and not to make, the laws of a language.”

John Fell (1784). *An essay towards an English grammar*.
Reprinted 1974, London: Scolar Press.

On the nature of scientific investigation

“How do we know?”

“The act of observing affects the observed.”

Werner Heisenberg

“It’s a commonly held view that ‘facts’ are just lying about in the world, and the way we make theories is by collecting these facts and then seeing what theories they lead to. Nothing could be further from the truth: in a way, there are no facts without theories. One might even define a theory as – in part – a framework that tells you what a fact is.”

Roger Lass (1998). *Phonology. An introduction to basic concepts.*
Cambridge: Cambridge University Press, p. 6.

“... most writing about [science] focuses only on the *answers*. People cannot make sense of answers if they do not first understand the *questions*. Solutions only have meaning if one has a firm grasp of the problems being addressed, and of why these problems matter.

Why, for instance, does it matter if the earth revolves around the sun or the sun around the earth? In most physics books, and in most classrooms, this is presented as a problem in celestial geometry: Is it the blue dot or the yellow one at the center? With virtually no sense of context we are told that Copernicus finally “solved” this problem by placing the yellow dot in the central position. To most students the whole exercise appears little more than an abstract mathematical game.

Yet the issue matters greatly. The question of whether the sun or the earth is at the center of the cosmic system is not just a matter of celestial geometry (though it is that as well), it is a profound question about human *culture*. The choice between the geocentric cosmology of the Middle Ages and the heliocentric cosmology of the late seventeenth century was a choice between two fundamentally different perceptions of mankind’s place in the universal scheme. Were we to see ourselves at the center of an angel-filled cosmos with everything connected to God, or were we to see ourselves as the inhabitants of a large rock purposelessly revolving in a vast Euclidian void? The shift from geocentrism to heliocentrism was not simply a triumph of empirical astronomy, but a turning point in Western cultural history.”

Margaret Wertheim (1997). *Pythagoras' trousers. God, physics, and the gender wars.* London: Fourth Estate, p. xii.

“... we [the non-scientists] may not be able to follow the details of the scientists’ proofs, but we are entitled to explanations we can understand.”

Lisa Jardine (2000). *Ingenious pursuits: building the scientific revolution.*
London: Abacus, pp. 364-365.

“... to my mind by far the greatest danger in scholarship (and perhaps especially in linguistics) is not that the individual may fail to master the thought of a school but that a school may succeed in mastering the thought of the individual.”

Geoffrey Sampson (1980). *Schools of Linguistics. Competition and evolution.* London: Hutchinson, p. 10.

Further reading

- Brinton, Laurel J. (2000). Chapter 1. The nature of language and linguistics. In *The structure of modern English: A linguistic introduction*. Amsterdam: John Benjamins, pp. 3-11.
- Crystal, David (1986). Chapter 2. What linguistics is. In *What is linguistics?* (4th ed.) London: Edward Arnold, pp. 24-52.
- In Science We Trust. (2002, December). *Scientific American*. Editorial, p. 4.
- Napoli, Donna Jo (2003). Part I. Language: The human ability. In *Language matters: A guide to everyday thinking about language*. New York: Oxford University Press.

References

- Gleason, Jean B. (1958). The child's learning of English morphology. *Word* 14, 150-177.
- Humboldt, Wilhelm von (1836/1999). *On language. The diversity of human language-structure and its influence on the mental development of mankind.* Cambridge: Cambridge University Press.
- Labov, William (1966). *The social stratification of English in New York City.* Washington, DC: Center for Applied Linguistics.
- Saussure, Ferdinand de (1915/1974). *Course in general linguistics*. Eds. Charles Bally and Albert Sechehaye in collaboration with Albert Reidlinger. Translated from the French by Wade Baskin. London: P. Owen.
- Wierzbicka, Anna (1992). *Semantics, culture, and cognition: Universal human concepts in culture-specific configurations.* Oxford/New York: Oxford University Press.

2

Language and languages

Chapter Preview

Why is there variation across languages?

Why is there variation within the same language?

Why do languages change?

What are some of the working assumptions in the study of language?

2.1 Introduction

In Chapter 1, we explored two perspectives on language – one focusing on its universality, the language capacity shared by humans, and the other focusing on its diversity, the variety of languages spoken by human beings. The latter is perhaps the more common understanding of language, given our experience hearing different languages spoken around the world: Arabic, Cantonese, Dutch, English, Finnish, German, Hindi, Italian, Korean, Japanese, Malay, Russian, Swahili, Tagalog, Turkish, and Zulu, just to name a few. It is patently clear that every language has its own repertoire of sounds and words, and rules for combining these into meaningful utterances. Variation *across* languages is what concerns us in section 2.3, along with a brief exploration of how different languages might be related to one another, forming language families.

Less obvious, though equally real, are variations *within* the same language. For example, if you think about the English language, it's clear that there are considerable differences in the sound, word, and sentence patterns of different varieties of English spoken around the world today, such as British English, African English, Indian English, Singapore English or American English. In section 2.4, we discuss variation within the same language in terms of three main parameters: geography (regional variation), socioeconomic status (social variation), and situational context (stylistic or register variation).

Having looked at variation across and within languages, we end this chapter by discussing some of the working assumptions in the investigation of language variation.

2.2 Variation across languages

As you know from your own experience as a language user, different languages have different sound and word repertoires, as well as different ways of putting these together to form meaningful utterances. For example, in terms of its inventory of sounds, Portuguese and French have nasalised vowels, whereas Malay does not (to learn more about the sounds and sound systems of languages, turn to Chapters 5 and 6). If we consider word order in sentences, we find that languages like Japanese conventionally position the object of a sentence before the verb, whereas languages like English do the opposite (to learn more about verbs and objects, turn to Chapter 8).

The inventory of words, or **lexicon**, of different languages, also shows differences: different languages encapsulate meanings in different ways. What constitutes a concept in one language, with a single word expressing that idea, may require several words to express in another language. For example, English has a general word, *camel*, to refer to the animal named by this word, but no single word corresponding to the concept ‘young female camel’. In contrast, Somali has some 46 words specifying different types of camel, based on sex, age, function, and so on. Examples are *aaran* ‘young camels who are no longer sucklings’; *abeer* or *ameer* ‘female camel that has not given birth’; *avr* ‘male pack camel’; *baarfuran* ‘female camel that is not used as a pack camel’ and *dhaan* ‘camel loaded with water vessels’ (Liberman 2004). The fact that different languages have different ways of organising reality should come as no surprise, given that language links meaning to expression, and different languages serve the purposes of different cultures, living in diverse geographical environments, with different socio-economic systems of organisation.

Activity 2.1

The following English utterances all contain the word *bad*:

- (a) *This coffee is really bad.*
- (b) *Bad girl!*
- (c) *This pen is not bad.*
- (d) *He is very bad at maths.*
- (e) *I'm in a bad mood today.*

In other languages that you speak, do you also use one word to express all the meanings of *bad* in (a) to (e)? What can you conclude about the ways of expressing ‘badness’ across the languages that you have examined?

Here’s another example illustrating the different ways in which different languages encapsulate meaning, this time focusing on kinship terms. Consider this English sentence:

She is a grandmother.

How would you translate this sentence into your own language(s)? In several languages, including Mandarin and Swedish, it is impossible to translate the English word *grandmother* unless we know whose mother (father’s mother or mother’s mother) we are referring to. In these languages, there is no general word *grandmother*, only specific words referring to father’s mother and mother’s mother, respectively. The important thing to keep in mind is that all languages can express whatever meanings their speakers wish to convey. In that respect, all languages are equal. What distinguishes one language from another is the way in which it expresses meanings. We are fully capable of expressing concepts like father’s mother and mother’s mother in English. We just do it differently in languages like Swedish and Mandarin. Whereas these two languages express these concepts in single words, English expresses the “same” concepts in the phrases *paternal grandmother* and *maternal grandmother*, respectively.

The myth of linguistic superiority (that some languages are better/simpler/more primitive than others) typically arises from our tendency to treat our own language as a universal lens on reality. This risk is reduced if you happen to be multilingual. Based on their mastery of more than one language, **multilingual** speakers tend not only to expect *systematic* differences between languages, but also to understand that different languages provide alternative ways of viewing reality. The following example involving a comparison of the way in which English and Portuguese express an idea should, we hope, make things clearer.

In English, we could describe a particular event by saying *He swam across the river*. Portuguese speakers describing the same event would say *Ele atravessou o rio a nado*. The literal translation of this sentence into English would read ‘He crossed the river by swimming’. Most English speakers would judge this word-by-word translation a roundabout/awkward way of expressing the proposition *He swam across the river*, just as the literal translation of the English sentence sounds odd to Portuguese ears. The question here is:

why do the word-by-word translations sound awkward? The answer is that each language has its own way of packaging information. Of course, one could argue that the difference between *He swam across the river* and *Ele atravessou o rio a nado* ('He crossed the river by swimming') is trivial or irrelevant because both sentences successfully describe a particular event. But what should be noticed here is that each language provides a different **perspective** on the event being described. In English, what the "he" of the sentence did was *swim*. In Portuguese, what "he" did was *cross* [the river]. The importance of perspective is underscored in the joke about pessimists and optimists: optimists purportedly see the doughnut, while pessimists see only the hole. The same point can be made for the sentences *My cup is half-empty* and *My cup is half-full*. In one sense, both sentences are saying the same thing. But in terms of perspective, the first sentence focuses our attention on the part of the cup not containing anything, while the latter does just the opposite.

To recap then, languages differ from one another in the way that they frame, or capture reality through their sound, word and sentence patterns, but all languages involve a similar level of sophistication in terms of their capacity to express the meanings desired by their speakers.

Activity 2.2

What do you think Roman Jakobson meant when he wrote:

"Languages differ essentially in what they must convey and not in what they can convey."

Roman Jakobson (1959). *On Translation*.
Cambridge, MA: Harvard UP, p. 264.

2.3 Classifying languages by families

A related observation that we can make about languages is that some languages seem fairly similar to one another, while others seem very different. For instance, speakers of Dutch are likely to see German as resembling Dutch, in terms of its sound, word and sentence patterns, compared to say, Maori or Tagalog. Similarly, monolingual speakers of Malayalam are likely to find Tamil more intelligible than Mandarin. Why is this?

Linguists have proposed the notion of **language families** to account for this phenomenon. Based on systematic correspondences in the sound, word

Language and languages

or sentence patterns of different languages, linguists suggest that languages can be grouped or classified into families. If you consider the data below, you will notice that all the languages in Language Set A share similar-sounding words, reflected in similar spellings, for the concept of ‘milk’ and the names of the days of the week. Similarly, all the languages in Language Set B share similar-sounding words for the same concepts.

Language Set A	<i>milk</i>	<i>melk</i>	<i>mjölk</i>	<i>Milch</i>
Language Set B	<i>leite</i>	<i>leche</i>	<i>latte</i>	<i>lait</i>
Language Set A	<i>Monday</i>	<i>Tuesday</i>	...	<i>Friday</i>
	<i>måndag</i>	<i>tisdag</i>	...	<i>fredag</i>
	<i>Montag</i>	<i>Dienstag</i>	...	<i>Freitag</i>
Language Set B	<i>lundi</i>	<i>mardi</i>	...	<i>vendredi</i>
	<i>lunes</i>	<i>martes</i>	...	<i>viernes</i>
	<i>lunedì</i>	<i>martedì</i>	...	<i>venerdì</i>

If we now compare the two sets of languages, A and B, we notice that a recurrent pattern of similarities holds within each set, but not across sets. That is to say, if we look at the word for ‘milk’, all the words within language Set A share a systematic resemblance (*milk*, *melk*, *mjölk*, *Milch*) as do those in language Set B (*leite*, *leche*, *latte*, *lait*), but this resemblance does not hold across the two sets (*milk*, *melk*, *mjölk*, *Milch* bears no resemblance to *leite*, *leche*, *latte*, *lait*).

Based on systematic similarities shared by sets of languages, linguists have attempted to classify the languages spoken around the world into language families. For example, language set A above represents the Germanic family of languages, of which English, German and the Scandinavian languages are members, while language set B represents the Romance, or Latin, family, of which Portuguese, Spanish, Italian and French are members.

The interesting question here is how the similarities in the vocabulary, grammar and pronunciation patterns of the languages in a language family come about in the first place. Is it the result of borrowing from one another? Or are these family resemblances the result of a common ancestor, a single source language from which the various descendant languages evolved? This is the key question addressed by the domain of **language reconstruction**, the dominant trend in nineteenth century language studies, founded on the work of scholars like William Jones and Franz Bopp. By accumulating large

amounts of data, and charting systematic correspondences across the languages of Europe and northern India, these scholars reconstructed an original source language, **Indo-European**, of which languages like Germanic, Latin, Greek and Sanskrit were considered to be the linguistic offspring. It is important to keep in mind that no Indo-European texts actually exist. Rather, Indo-European is a hypothetical construct, a reconstructed proto-language based on the evidence provided by its descendent languages, which in turn are known as members of the Indo-European family of languages. To understand the type of work done in language reconstruction, consider the work of reconstruction done by palaeontologists seeking to identify the species and genus of pre-historic creatures of various kinds, based on fossil evidence.

It's worth mentioning, too, that the Indo-European family is just one of various language families that linguists have identified over the years. Other language families include Sino-Tibetan (comprising about 300 East Asian languages), Austronesian (comprising almost 1,000 languages, including Malay, Javanese, Tagalog, Fijian, Samoan and Malagasy, spread over a third of the southern Hemisphere from Madagascar to Easter Island), Afro-Asiatic (scattered across northern Africa and western Asia), and Dravidian (spoken principally in southern India). The genealogy of each language family is typically shown in the form of a family tree, with each language family having many branches, and languages placed in smaller groupings, based on the closer resemblance that exists between them.

For example, the Indo-European family comprises the Germanic, Italic or Romance, Slavonic, Celtic, Indo-Iranian and Hellenic groups, among others. Each group in turn can be divided into subgroups. For example, the Slavonic group of languages comprises three subgroups: East Slavonic, South Slavonic, and West Slavonic. Similarly, the Germanic group can be divided into the West Germanic, North Germanic, and East Germanic subgroups. English falls within the West Germanic subgroup along with Frisian, German, Yiddish, Dutch and its derivative Afrikaans, while Swedish, Danish, Norwegian, Faroese and Icelandic fall within the North Germanic subgroup. For the purposes of our exploration, it is not necessary for you to know the names of all the language families, let alone the groups and subgroups in each. Although the family trees of many language groups and languages have been firmly established, there is controversy about others, because researchers in any discipline agree on some findings, but not on others, given different ways of interpreting the available data. What is important is understanding the basis on which these proposals have been made, namely, the striking resemblances that the languages within a (sub-) group/family bear to one another in terms of their sound, word and/or sentence patterns, as exemplified in language sets A and B above.

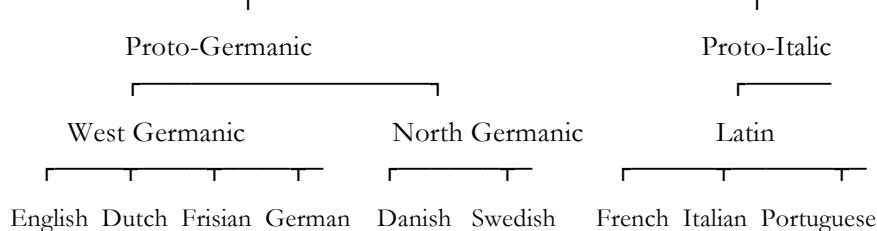


Figure 2.1. Partial tree of the Indo-European language family

2.4 Language change

“Expect change from anything except a vending machine.”

Anonymous

In the previous section, we saw both how languages differ in the way they encapsulate meaning, and how they can be grouped together, based on family resemblances. In this section we consider why languages change both over space and time.

In this respect, it is useful to think of languages as living things. Just as living things are never static, but continuously changing, so languages are always changing. Sometimes the changes are dramatic, but they occur so gradually that it takes several generations for them to be noticed. For example, if you compare your speech patterns with those of your parents and grandparents, you will recognise that the way you speak is different from the way your parents speak, which in turn is different from the way their parents speak. Usually, the most obvious difference is in vocabulary. Your grandparents probably did not use words like *cell phone*, *internet* or *metrosexual* in their youth, because these words hadn't yet been created. Equally, some of the words in use today may become extinct, as they fall into disuse, and are replaced by new words corresponding to new meanings that we wish to express. But it's not just vocabulary that changes. Other aspects of language, like sound and sentence patterns, can also change.

One of the consequences of this ongoing language change is that a single language can develop into several languages. What are then the factors underlying language change? One is internal self-renewal, as languages change to accommodate the needs of new generations of speakers. Two others are due to contact with other languages, either in the same or different countries, to which we now turn.

2.4.1 Language contact

Given the ease and speed of global travel today, most communities around the world have some experience of dealing with speakers of other languages. Contact between speakers of different languages is not unique to our century, as it has been going on for millennia. Over the last few centuries alone, because of the exploratory and colonising enterprises of European nations, a whole host of languages including English, French, Dutch, Spanish and Portuguese came into contact with the languages of Africa, Asia, and the Pacific. The slave trade in America and the Caribbean, for example, not only forced Europeans and non-Europeans together, but also speakers of different African languages, who had to live and work side by side. When speakers of different languages come into contact with one another, four key language effects can take place, namely, multilingualism, nativisation, pidginisation and creolisation.

Multilingualism refers to the use of more than one language among members of a community. Children in multilingual communities typically grow up speaking several languages. Often, each of these languages is used in different contexts, e.g. one language at home and another in school or at work. Multilingualism is such a natural response to the phenomenon of language contact that societies in which multilingualism is not widespread tend to be the exception rather than the norm.

Nativisation takes place when a community adopts a new language, in addition to its native language(s), and modifies the grammar (sound, word, and sentence patterns) of the new language, thus developing a new language variety which becomes characteristic of the community. This is what happened with English in many of the former colonies of the British Empire. Varieties of English like Singapore English, Australian English, American English, and African English are now considered unique varieties of English, with their own structural characteristics. Indian English, for instance, has become one of India's two national languages (the other is Hindi), which is used in education, government, and business.

Pidgins are contact languages that develop among speakers who have no language in common. Given urgent needs to communicate, these speakers create a mixed language, which incorporates features of their various languages and serves a restricted range of purposes, such as trade. (The origin of the word *pidgin* is unclear, but it's been suggested that it may be derived from a Chinese Pidgin version of the English word *business*.) The alternative to **pidginisation** would be for all speakers to acquire one another's languages, which, of course, would take a much longer time and require far greater effort. Being custom-developed to fulfil a limited number of roles,

pidgins represent *ad hoc* languages, with no native speakers. Many of the pidgins spoken around the world today, e.g. in the Pacific, West Africa, and the Caribbean, arose in the context of colonisation, and are based on the languages of the colonisers and the colonised.

Activity 2.3

Suppose you're on holiday in a country whose language(s) you don't speak, and where no-one understands (any of) yours – except perhaps the hotel staff. Suppose you're walking around doing what tourists do, and you see a street vendor selling something that you must absolutely have, be it food, a local map, or a beautiful piece of handicraft.

How would you speak to the vendor? You would probably use a lot of gestures. But try to imagine what kind of words, or sentences, you would use to conduct the transaction and get what you want.

Creoles are former pidgins that have acquired native speakers. This process begins when a pidgin starts to be used in a wider range of communicative contexts, fulfilling a wider range of purposes. For example, instead of using the pidgin only to communicate with traders or colonisers, speakers may begin to use the pidgin at home. Such a situation typically arises in linguistically diversified populations, where members of the community find it convenient to adopt the pidgin as a means to communicate across language boundaries. Small children in such households grow up acquiring this fast expanding language, and become the first native speakers of the new language. And, as the language fulfils more and more communicative roles, its grammar/structure becomes more complex, in order to meet the greater demands being placed on it. This process of **creolisation** eventually leads to the development of a language that is structurally as complex as any other language.

Non-linguists tend to conflate creoles with pidgins, and consider both to be bastardised versions of the languages they are based on. In reality, however, creoles have their own structure, or grammar. You could not pretend to speak an English-based pidgin or creole, for example, by speaking “broken English”. In some areas of the world, creoles have become national languages, used in government, education and the media. In Papua New Guinea, Tok Pisin (from “talk pidgin”) is one of three national languages (along with English and Kiri Motu, another creole), and an important symbol

of national identity. Similarly, in West Africa, other creoles have been used to create significant works of literature.

2.4.2 Language spread

Language spread refers to a situation in which a language gains widespread use. In most countries today, for instance, English is spoken either as a first or second language, making it a **global language**. In this sense, English has become a **lingua franca**, a natural language used as a means of communication among people who have no native language in common.

A lingua franca is often associated with some activity, such as business or academic research. Today, English is the lingua franca of the international business and scientific communities. But, over the course of recorded history, various languages have been used for international communication. At the dawn of civilisation in the ancient Middle East, Egyptian rose to pre-eminence. In the Hellenistic period, Greek was spoken all the way from Athens to Central Asia. With the rise of the Roman empire, Latin reigned supreme from Europe to North Africa. It survived the fall of Rome, and was actively used by scholars as a pan-European language right up to the eighteenth century. These examples show that there is nothing new about the concept of an international language, and equally that no one language has secured this status permanently, though the life span of a successful international language may last a millennium or more.

Language spread can lead to language change because any two entities coming into contact with one another tend to leave traces of themselves on each other, including languages (think of the old adage about friends rubbing off on each other). For example, if you happen to speak Mandarin as a first language and English as a second language, your knowledge of Mandarin is likely to influence your language behaviour in English, and vice versa. Factors of linguistic change like language contact and language spread affect all levels of the structure of languages, including sound, grammar and vocabulary.

The important thing to keep in mind here is that linguistic change, like language itself, is rule-governed. As with physical systems, linguistic systems move towards dynamic equilibrium. In the case of languages, this equilibrium reflects a trade-off between the demands imposed on the speaker and those imposed on the listener, in any given communicative exchange. The **Law of Least Effort**, or **Law of Maximal Economy**, familiar to all of us from our other human endeavours, applies also to language behaviour. Both speaker and listener strive to obtain maximal effect with minimal exertion. For example, relaxed articulation may be effortless and therefore cost-effective for speakers, but will demand greater concentration from listeners in order to be

understood. In contrast, precise delivery requires greater effort from speakers, and less work from listeners in order to understand. So, what speakers and listeners do is maintain a fine equilibrium between the two extremes, in keeping with the law of maximal economy. Both choose the most cost-effective path to achieving meaning exchange. Linguistic **convergence** and **divergence**, where speakers adapt their speech to the perceived decoding abilities of their listeners, are the results of this trade-off (for more on convergence and divergence, see section 2.5.4).

2.5 Variation within languages

Having looked at variation across languages, we now turn to variation within the same language. As mentioned at the start of this chapter, any widely-spoken language is likely to vary not just from region to region, but also across socioeconomic, ethnic and sexual boundaries, as well as across different communicative situations.

2.5.1 Dialect

Geography determines regional varieties of a language, whether across national boundaries or within different regions of the same country. For example, the Portuguese spoken in Portugal and the one spoken in Brazil can be seen as regional varieties of the same language. Similarly, the English spoken in Boston and the one spoken in California represent regional varieties of American English.

The term most commonly used to refer to regional varieties of a single language is **dialect**. A language can thus be seen as a collection of dialects. Keep in mind that there are no linguistic criteria to distinguish a language from a dialect. Rather, a dialect is a regional language variety which characterises a speech community, whose members *choose to see themselves* as speakers of the same language. In other words, whether or not a variety is a language or a dialect of a language is more of a socio-political question than a linguistic one.

Activity 2.4

Dialects and languages are sometimes discussed on the basis of mutual intelligibility. This means that if two communities cannot understand their respective ways of speaking, then we're dealing with two different languages. Conversely, if the two communities understand each other, then we're dealing with different dialects of the same language.

Consider now these examples.

1. Speakers of Hokkien and Mandarin cannot understand each other. Yet Hokkien is considered to be a Chinese dialect, whereas Mandarin is a national language in China.
2. Portuguese speakers speaking in Portuguese can make themselves understood to Spanish speakers and vice versa. Similarly, Swedish, Norwegian and Danish are mutually intelligible. Yet all five “ways of speaking” are considered to be (national) languages, not dialects.

Given these examples (and others that you may think of), comment on the above definition of languages and dialects. What would you say defines a “language” as opposed to a “dialect”?

One of the most challenging issues in the study of **language variation** is where to draw the line between different varieties of the same language, on the one hand, and different languages, on the other. For example, the varieties of English spoken in Asia, America, Australia, and the Caribbean can all be traced back to the English spoken in Britain. Should these national varieties be considered different languages or different varieties, i.e. dialects of the same language? Given the complexity of the question, linguists use labels like **world Englishes**, where the word *Englishes* serves as a conveniently ambiguous cover term for both languages and language varieties.

The second thing to keep in mind is the difference between the terms **dialect** and **accent**. The term *dialect* refers to the entire linguistic system – pronunciation, vocabulary, syntax, semantics, pragmatics, and discourse – whereas *accent* refers only to pronunciation. For example, when we refer to a Yorkshire accent, what we mean is the pronunciation characteristic of the Yorkshire dialect of English. This distinction between the terms *dialect* and *accent* is critical, because it is conceivable that speakers of the same dialect have different accents. Think, for instance, about the children of immigrant parents – the children typically acquire the accent of their newly-acquired dialect, whereas the parents frequently end up speaking the newly-acquired variety with the accent of their first/dominant language.

2.5.2 Sociolect

Whereas geography determines regional varieties of a language, social stratification determines social varieties of a language, or **sociolects**. This is

why linguists can talk about middle-class or working-class varieties, educated varieties, high-status varieties, and so on.

Just as dialects mark regional identities, sociolects mark social affiliation, identifying people as belonging to a particular social group. The parameters usually considered in studies of social variation include education, occupation, social class, age, sex, and ethnic background. The study by sociolinguist William Labov outlined in section 1.6.2, for example, combines working place and socio-economic status by looking at pronunciation differences among employees in three New York City department stores. Focusing on the pronunciation of /r/ following a vowel (known as *postvocalic /r/*) because it is a marker of standard American English (see section 2.7.1, for more on standard varieties), Labov was able to demonstrate that employees differed in their use of postvocalic /r/ and that this differentiation was linked to where they worked. Postvocalic /r/ pronunciation was highest at Saks (an expensive, upper middle class store), somewhat lower at Macy's (a mid-priced store), and much lower at S. Klein (a discount working-class store). Labov concluded that workers identified with the prestige of their employer and customer base, and reflected this affiliation in their language use.

Differences can also be found within groups belonging to the same social class, correlating with factors such as the age, sex or ethnic background of the speakers. In some speech communities, there are marked differences between male and female speech, in the form of quite different pronunciations of certain words or different vocabularies, for example. In fact, when Europeans first encountered the different vocabularies of male and female speech among the Carib Indians, they reported that the different sexes used different languages, when what they were actually seeing was an extreme version of variation according to the sex of the speakers.

Activity 2.5

Are there are differences between the way males and females express themselves in your language(s)? Think of words, expressions, tones of voice, that would be appropriate to one sex but not the other.

If you find any such differences, can you still say that males and females are speaking the “same” language?

Within a society, still other differences in speech may come about because of differences in ethnic background. In America, for instance, the speech of

Jewish Americans and African Americans represent widespread sociolects, cutting across regional differences. The speech patterns of recent immigrants will similarly contain features identifying them as belonging to a particular ethnic group. The difficulty, from a social point of view, is that some sociolects become stigmatised as “bad speech” because of their differences from the prestige variety (see section 2.7.1).

2.5.3 Register

As we saw, dialects and sociolects mark differences *across* speech communities in terms of geography and socioeconomic status, respectively. In contrast, **registers** mark differences *within* speech communities, based on situations of use.

Consider the following situations. If you are out relaxing with friends, you'll probably be doing a lot of talking, none of which is likely to bear any resemblance to a lecture on linguistics, either in structure or content. Similarly, if you are a job applicant, your use of language during an interview is likely to differ from the language used in a linguistics textbook or while relaxing with friends. This variation is a consequence of the fact that language use is always situation-bound, dependent on who is saying what to whom, how, when, where and why. As anthropologist Bronislaw Malinowski puts it:

A statement, spoken in real life, is never detached from the situation in which it has been uttered. For each verbal statement by a human being has the aim and function of expressing some thought or feeling actual at that moment and in that situation, and necessary for some reason or other to be made known to another person or persons – in order either to serve purposes of common action, or to establish ties of purely social communion, or else to deliver the speaker of violent feelings or passions. (Malinowski 1923, p. 307.)

Register is the label we use for situation-bound uses of language that vary according to the **situational context** of a communicative event. This context includes the setting, purpose and participants in the event. We can talk about formal and informal registers. Formal registers are usually associated with government and legal proceedings, education and the media, whereas informal ones typically associated with domestic settings, including conversations with family and close friends. We consider the effect of situational context on language more closely in Chapter 10.

Activity 2.6

During a typical day (or more!) in your life, try paying special attention to the way you express yourself in the following situations:

- With elders (within your family or outside of it)
- With children (within your family or outside of it)
- With peers (at home or in school)
- With shop assistants
- With your teachers

Compare and discuss your findings with one or more partners. What do your findings tell you about what speakers can do with their language(s)?

We end this subsection with the observation that, in multilingual countries, particular languages or language varieties are systematically allocated to specific communicative situations. In Brussels, for example, the use of Dutch is associated with interaction that is informal and intimate, whereas French is used for more official or “highbrow” purposes. But Brussels residents don’t just switch between the two languages, they also switch among varieties of French and varieties of Dutch. In other words, the **linguistic repertoire** of Brussels residents includes not only French and Dutch but also several varieties of each.

2.5.4 Idiolect

Dialect, sociolect and register reflect the variation in language behaviour of speech communities, based on geography, socioeconomic status and situations of language use. But *individual* speakers within these communities also have idiosyncratic ways of expressing themselves, depending on their sex, ethnicity, age, and other factors. The individual variation that reflects our unique way of speaking is called **idiolect**, in the linguistic literature.

As we end our brief discussion of language variation across regions, social groups, situations of use and individual speakers, we should note that each of these parameters interacts with the others, producing a complex picture of language use. For example, speakers of a particular dialect will vary their speech according to the particular situational context they happen to be in. Similarly, within a particular dialect, there can be different sociolects, reflecting the different socioeconomic status of people living in the same geographical region. In addition, two people who speak the same sociolect will have idiolects reflecting their unique language behaviour. As noted by

sociolinguist William Labov, we can make our language patterns **converge** with or **diverge** from those of other speakers, depending on whether we wish to affiliate with them, or disassociate ourselves from them. This makes sense, given that language use, along with physical appearance and cultural characteristics, is one of the key ways in which groups (and individuals) distinguish themselves from other groups (and individuals).

2.6 Spoken and written language

Before we conclude this chapter on language variation, it is worth highlighting the relationship between spoken and written language. Although language underlies both spoken and written communication, the two modes are fundamentally different. Linguists are concerned primarily with speech because all human communities have **spoken language**, but only some have **written language**. Writing represents an advanced technology not possessed by all speech communities. Historically, speech precedes writing in the development of any language, whether it is children's acquisition of language that we are considering, or that of a whole community of human beings. Writing was invented to represent speech. Spoken languages have been around for at least 40,000 years (or longer, according to other opinions), whereas the earliest documented form of writing, Sumerian script, dates from 3,200 BC.

Although speech predates writing by thousands of years, the more permanent nature of writing, compared to speech, has led to the perception of written language as the prestige form. As a result, speakers are often encouraged to comply with the standards of written language, even though the two different modes serve different social and communicative purposes in most communities.

Writing is such an integral part of literate societies that it colours our thinking about language itself. For example, if you ask English-speaking individuals how many vowels there are, they are likely to answer "Five: a, e, i, o, u." In terms of speech sounds, this answer misses the mark, as you will discover in chapters 5 and 6. But what this little experiment shows is the effect of writing on our thinking about language – it is second nature to think of the *letters* of the alphabet, i.e. of spelling, rather than of speech sounds.

Since not all languages have a written form, it becomes clear why linguists wishing to build a grammar of any language variety focus on speech rather than writing. We won't have more to say about the evolution of writing in this book, except to point out that extant **writing systems** can be roughly divided into two major types:

- Those that are phonologically-based, where written symbols correspond to a sound, or group of sounds (usually a syllable). Most languages use this system, for example English and Japanese; and
- Those that are non-phonological, where written symbols represent both the meaning and the pronunciation of a word or morpheme, as in Chinese.

For a wealth of information about the issues discussed so far in this chapter, have a look at David Crystal's (2010) *Encyclopedia of language*. It is a very informative and very entertaining read.

2.7 Working assumptions in the study of language

In chapter 1, we highlighted that the primary objective of scientific investigation is to articulate the simplest, most general and most objective explanations for observed behaviour. In this chapter, we explored briefly the twin phenomena of variation across and within languages. The thing to keep in mind here is that we are able to distinguish one language or language variety from another only because each language/language variety follows its own specific set of rules, or **grammar**. Both perspectives (variation across languages, variation within the same language) are crucial if we are to obtain a holistic understanding of the nature of language. To put it another way, the study of language is concerned with two complementary perspectives:

- The linguistics of **diversity**: the regularity of differences between languages.
- The linguistics of **uniformity**: the regularity of similarities across languages.

Any understanding of the nature of language must take into account the findings from both endeavours. In order to be able to extricate ourselves from the variation and complexity that is inherent to language, a number of abstractions have been proposed in linguistic studies, which have proven fruitful as working assumptions. These include the notions of a standard language, ideal speakers, and universal grammar, as outlined below.

2.7.1 Standard language

A **standard** is a lucky language variety that, for non-linguistic reasons like socioeconomic, cultural or political power, is taken to be the prestige variety

of the language – the linguistic model to be emulated by all speakers of the language. This explains why the standard is the variety spoken by the dominant group(s) within a society. This is also why the standard is the variety taught at school and used in official interaction, e.g. in the media, in government and legal proceedings, and why the standard is often confused with “good”, “pure” usage of the language: the standard is enforced as such by its speakers.

Activity 2.7

Think about the languages spoken in your own country.

Are some languages/language varieties considered inappropriate to particular communicative situations? For example, what languages/language varieties are used as the medium of instruction in schools? Is this the same language/language variety that students and teachers speak outside the classroom, e.g. in the canteen? How did this situation come about? Are there explicit language policies telling citizens which language/language variety to speak in particular communication situations? Or did you learn which language is appropriate to which context from the people you interact with?

One offshoot of the “exemplary” status attributed to the standard is that often, in linguistic literature, features of language varieties are discussed from the perspective of the “standard’ variety which, equally often, remains ill-defined. The following is one example of such a statement:

Many varieties of English lack the vowel distinction in words like “bet” and “bat”.

Two related observations are due here. The first has to do with the different purposes served by *comparisons* and *description*. The purpose of description is to enable us to see the entity being described on its own terms. In contrast, comparisons view one thing in terms of (its similarities to, and differences from) another. As pointed out in chapter 1, the purpose of linguistics is to *describe* languages/language varieties.

Secondly, in describing a language (variety), saying that variety X “lacks” a feature Y is in a sense meaningless. Here’s an analogy that should make this clear. If you were describing humans, it would make little sense to say that human beings lack four legs. The human locomotive system *consists of* two legs. So, the implied comparison to locomotive systems comprising four legs

(e.g. cheetahs, dogs, elephants) is irrelevant. The human locomotive *system* does not lack anything, given its locomotive purposes. Granted, we may regret the “lack” of speed and endurance that a two-legged locomotive system affords in comparison to a four-legged one, but that has to do with our *assessment* of the comparative (dis)advantages of two different locomotive systems. The point here is that each system has to be evaluated on its own terms. For example, both brooms and vacuum cleaners are implements that help us clean house. But they function in different ways. It would be foolish, therefore to judge either implement as being deficient/lacking because it doesn’t work in the way that the other one does.

Activity 2.8

Having understood that there is no linguistic reason for a variety to be chosen as a “standard” variety of a language, there may be a temptation to reject any attempts to impose a standard way of using language.

Can you nevertheless think of *linguistic* reasons why standardised varieties of language play important roles in, for example, international communication?

2.7.2 The ideal speaker

The American linguist Noam Chomsky stated that “[k]nowledge of language within a speech community is shared to remarkably fine detail, in every aspect of language from pronunciation to interpretation” (Chomsky 1999: 43). This conviction led him to postulate an **ideal speaker** of a language, whose knowledge of that language constitutes the object of linguistic description. The difficulty here, as with any idealisation, is that no such individual exists. Compare the notion of the ideal speaker with the notion of the *typical* individual/group in other kinds of investigation, e.g. *The typical Singaporean family has 1.3 children and 0.7 pets*. Clearly, it is impossible for any family to have 1.3 children or 0.7 pets. You should also be wondering who the typical Singaporean family is, when reading statements like the one above. Idealised models are helpful in that they simplify things, thereby providing a useful entry point into complex domains. But the model should never be mistaken for the real thing.

2.7.3 Universal grammar

The term **language universal** refers to any feature shared by all or most human languages. Language universals are assumed to be part of “Universal Grammar” (UG). Universal grammar is itself based on the line of reasoning first mentioned in Chapter 1. Namely, that despite differences between individual languages, there must be certain universal features shared by all languages, given that every language must conform to the constraints of the human brain. Unfortunately, the features of UG tend to coincide with the grammatical features of the language(s) that are available to the researcher. Given that no language has been fully described, and given the limited number of languages studied thus far, the term *universal* needs to be taken with a measure of sobriety, if we are to avoid the fallacy of hasty generalisation.

Despite the difficulties that we note here for each of these assumptions, they have provided linguists with useful ways of attempting descriptions of our research object, language. In addition, we have seen in this chapter that the term **grammar**, taken in the broad sense of a ‘set of rules describing linguistic use’, stands out as a common denominator in the study of both language (Saussure’s *langage*) and languages (Saussure’s *langues*). The remainder of this book therefore assumes that there are uses of language that are common to all human beings, and introduces a sample of analytical tools and methods required for grammatical analysis.

Food for thought

“In a grammar there are parts which pertain to all languages; these components form what is called the general grammar. In addition to these general parts, there are those which belong to one particular language only; and these constitute the particular grammars of each language.”

Du Marsais (c. 1750), *Principles of grammar*.

“England and America are two countries separated by the same language.”

George Bernard Shaw

“A language is a dialect with an army and a navy.”

Max Weinreich

Language and languages

“Standard English is the customary use of a community when it is recognized and accepted as the customary use of the community.”

George Philip Krapp (1909). *Modern English: Its growth and present use.*

“You may laugh, but surveys prove that most of the English population equate good articulation with higher IQs, better looks, cleanliness, sex-appeal and reliability. It’s called Received Pronunciation.”

Kathy Lette (1993). *Foetal attraction.* London: Picador, pp. 97-98.

“The English have no respect for their language, and will not teach their children to speak it. They spell it so abominably that no man can teach himself what it sounds like. It is impossible for an Englishman to open his mouth without making some other Englishman hate or despise him. German and Spanish are accessible to foreigners: English is not accessible even to Englishmen.”

George Bernard Shaw (1916). Preface to *Pygmalion.*

“For pronunciation, the best general rule is to consider those as the most elegant speakers who deviate least from written words.”

Samuel Johnson (1755). *Dictionary of the English language.*

Further reading

- Aitchison, Jean (2001). *Language change: Progress or decay?* (3rd ed.) Cambridge: Cambridge University Press.
Chapter 1. The ever-whirling wheel, pp. 3-18.
Chapter 2. Collecting up clues: piecing together the evidence, pp. 19-37.
Chapter 15. Language birth, pp. 217-234.
Chapter 16. Language death, pp. 235-248.

References

- Chomsky, Noam (1999). On the nature, use, and acquisition of language. In William C. Ritchie and Tej K. Bhatia (eds.), *Handbook of child language acquisition.* San Diego: Academic Press, pp. 33-54.
- Crystal, David (2010). *The Cambridge encyclopedia of language.* (3rd ed.). Cambridge: Cambridge University Press.

Language and languages

- Liberman, Mark (2004, 15 February). The language log. Online at
<http://itre.cis.upenn.edu/~myl/languagelog/archives/000457.html>
- Malinowski, Bronislaw (1923). The problem of meaning in primitive languages. In Charles K. Ogden and Ivor A. Richards (eds.), *The meaning of meaning: A study of the influence of language upon thought and of the science of symbolism*. New York: Harcourt, Brace & World, pp. 296-336.

3

The grammar of words: words and word parts

Chapter Preview

What is a word?

Why are there different types of words?

Can words contain other words?

Can words contain other meaningful elements that are not words?

3.1 Introduction

In this and the next five chapters, we discuss how linguistic meaning is encapsulated in different levels of patterning of linguistic form, looking in turn at words, sounds and sentences. We will do this by looking at language data that illustrate the particular points about linguistic meanings that we wish to highlight. Much of the data will be taken from English, because this is the language that we share: we are writing this book in English and you are reading it in English. Do keep in mind, however, that English is one particular language among thousands of other languages around the world, and that this book deals with how to analyse language in general, not particular languages. This means two things.

First, the language data used in this book are to be taken as **representative** examples. Clearly, no one can use an infinite amount of data in any book. We have chosen the best examples we could think of, to help us bring our points across in the clearest possible way. Here's an example of what we mean. If you had to explain to us what an insect is, you could choose to show us samples, like a beetle or an ant, as representative members of a class of beings called "insects", and then tell us to work out, from these samples, what is it that characterises insects. You could even add that a spider

or an earthworm are not insects, to help us better understand what can rightfully be called an insect and what cannot. This is exactly what we expect you to do from the examples that we give.

Second, the concepts that we exemplify using the English language are meant to apply to other languages as well. Think of our English examples as you would think of using the example of a pendulum, or of a coin dropping to the ground, to explain the general law of gravity. It wouldn't make sense to conclude that the law of gravity applies only to coins or to pendulums, just because we use coins and pendulums to demonstrate the effect of the law.

One very important way in which we human beings understand the world around us and learn to talk about it is by means of **generalisation**. We find certain properties in certain objects, and we extend those properties to other objects that we perceive as similar. This is why some people say that "everybody" knows that "women" enjoy shopping, or that "snakes" are dangerous. No one has ever polled every single woman to check their shopping enjoyment, or every single snake around the world to check their threatening behaviour. Nor every single human being about their opinions on women or snakes. Rather, generalisations such as these are based on observation of a subset of the population of women and snakes, respectively. Here's another example to bring home the same point. If you taste cheese for the first time and find it disgusting, you may conclude that any kind of cheese will taste disgusting. Generalisation is a vital component of any scientific explanation, but with one proviso, that is equally vital. Just as you would have to change your mind about cheese if you decide to try a Camembert and find it delicious, so scientists will narrow down their generalisations, and change the labels by which they call things, when they find **counterexamples**, examples that contradict what they previously thought. In the same way, what we will have to say in this book about English applies generally, across different languages. A good way of reminding yourself of this throughout this book is to try to apply the concepts that we describe here to any other language(s) that you may be familiar with, as soon as they are described. At the same time, you should also be looking out for counterexamples, whether in English or in other languages that you are familiar with. A few activities and exercises in the book will help you keep these two very important points in mind!

3.2 The word “word”

Morphology can be defined as the study of words. Let's start by checking out what a word is.

- (3.1) A very long (Welsh) word
Llanfairpwllgwyngyllgogerychwyrndrobwllllandysiliogogogoch
A medium-sized (multilingual) word
karaoke-singers
A very short (English) word
a

You may or may not agree that all three examples above are words. If you feel any discomfort about calling each of them a “word”, you are not alone. **Word** is in fact one of the concepts in linguistics that defies precise definition. Since everyone talks about words, we might assume that this is a well-understood concept. The truth is that it is not. What is meant by a word varies greatly from language to language. Some languages, like Mandarin, have largely monosyllabic words, which are words that consist of a single syllable (we deal with syllables in section 6.5). Other languages, like Malay, allow the stringing together of several syllables, or several words, to form larger words. This is also the case in Welsh, where the word in (3.1) contains other words, *llan*, *fair*, *pwall*, etc., just like many words of English do too. For example, the English word *handbag* contains the word *hand* and the word *bag*. The difference is that Welsh allows the spelling together of more words than English does. If English had the same spelling rules as Welsh, the English translation of the Welsh word above could be spelt like this:

*Churchofsaintmaryinthehollowofthewhitehazeltreesnearthefiercenwhirlpoolandthe
churchofsaintysiliobyaredcare.*

Similarly, the Swedish word *ettusentrehbundrasjutiofyra* could be spelt:

onethousandthreehundredandsixtyfour

Trying to work out the meaning of a word so spelt is not much worse than trying to work out the meaning of chemical compounds or of medical terms, like this well-formed English word that we found listed in the Oxford English Dictionary:

pneumonoultramicroscopicsilicovolcanoconiosis

What is meant by a “word” also varies within a single language, including whether we are talking about speaking words or writing them. Perhaps you would want to say that *karaoke-singers* is two words, because of the hyphen separating *karaoke* from *singers* in the spelling? Or would it satisfy you better to

say that it is a single word, because it has a unique meaning, just like say, *sopranos* does? This is a single word whose meaning can be rephrased as ‘opera-singers’. The best definitions of the word *word* take either orthography (spelling) or rhythm into account. Orthographic definitions take *word* as a unit that is separated by a blank space on each side, in a printed text. Rhythmical definitions take it as a unit of speech that can be separated by an optional pause, meaning that a word can be pronounced on its own, preceded and followed by silence. The blank spaces on a page represent the possible silences between words. Robot-characters in some science-fiction films pronounce sentences in just this way, word by word.

Activity 3.1

Try to pronounce the following sentences in a robot-like manner, word by word:

- (a) *I saw a black bird by the green house.*
- (b) *I saw a blackbird by the greenhouse.*

How many words do you count in each sentence?

The fact that we do understand what robot-like sentences mean, despite their stilted delivery, reveals one very important feature of human speech. This is that speech is a stream of ordered units, as already discussed in Chapter 1. Human speakers, and robots that attempt to replicate their speech, must order the units that make up their utterances in a particular way, so that the utterances so formed make sense. That is, linguistic units must occur in particular positions along the stream of speech, surrounded by other units. This observation helps us clarify one concept that is central to linguistic analysis, the concept of distribution.

3.3 Distribution

Linguistic units, like people or objects, show up in predictable places, or contexts. You wouldn’t expect to find the morning newspaper tucked away in the fridge, or a cat sitting next to you watching a movie at the cinema, or a palm tree in full bloom in the North Pole. Linguistic units pattern in the same predictable way.

The **context** of a particular linguistic unit is given by the linguistic units of the same type that surround that unit. For example, the context of a particular word is given by the words that precede and follow it. The same holds for

morphemes (see section 3.4.2 below for *morphemes*) or sounds. Analysis of context in these terms is a natural consequence of the fact that speech occurs along the dimension of time: sounds follow sounds, words follow words. The **distribution** of a particular linguistic unit is then the set of contexts in which that unit is found to occur. By the same token, you can also work out your own distribution, if you list all the places in which you are likely to be found.

The distribution of linguistic units may be represented by a **distributional frame**. Given a form like, say, *XYZ*, the context of the unit *Y* is given by a distributional frame with the general form:

X __ Z

This representations is similar to a more familiar one like, say, $a + b = c$, where each letter stands for a number. In both cases, the letters represent a variable that can be replaced by something else, according to conventions that all users of these representations have agreed upon. The conventions in distributional frames are:

- Each symbol *X*, *Y*, *Z*, represents one linguistic unit of the same type, e.g. a morpheme or a sound. These units occur in the given sequential order: *X* precedes *Y*, and both precede *Z*.
- The blank represented by __ indicates the context in which *Y*, the unit in question, occurs. In this case, *Y* follows *X* and precedes *Z*.

For example, given the phrase *the brown cat*, we say that the distribution of the unit (word) *brown* is given by the distributional frame *the __ cat*, where the blank indicates the occurrence of *brown*. Likewise, the distribution of *the* in the same phrase is given by the frame *__ brown*. Or, given the word *cat*, pronounced [kæt], we say that the distribution of the unit (sound) [æ] is given by the distributional frame [k] __ [t] (see Chapter 5 for conventions on the representation of speech sounds).

3.4 Morphological units

There are two chief levels of word patterning that interest morphologists. One deals with patterns of words to form phrases or sentences, based on our observation that different words behave differently when chained together with other words. The characteristic behaviour of particular groups of words allows us to classify words into different word classes. The other level of morphological analysis deals with patterns within the words themselves, that is, with the internal grammatical structure of words.

We now discuss these two analytical levels in turn. Notice, however, that both analytical levels work together to provide us with insight about word patterning.

3.4.1 Word classes

Check the following data:

- (3.2) *The cat sleeps on the mat.*
 **The sleeps cat on the mat.*
 **The cat sleeps the on mat.*

Recall, as said in Chapter 1, that an asterisk preceding a form indicates that that form does not occur in the language under analysis. All three sentences in (3.2) contain the same words. The only difference is that the words pattern differently, resulting in one well-formed sentence and two ill-formed ones. For example, we see that the word *the* can precede the word *cat*, but not the words *sleeps* or *on*. Observations of this kind lead us to assign words to different **word classes**, according to their relative positions in a phrase or a sentence, that is, according to which words can or cannot follow or precede other words. This chain ordering of words tells us about their **distributional properties**, by showing us which particular positions are grammatical for which types of words. In the linguistics literature, *word classes* are sometimes called *parts of speech*, *lexical classes*, *grammatical categories*, *grammatical classes*. For our purposes, you can take all of these terms as equivalent.

Words can be broadly divided into two main word types – **lexical words** and **grammatical words** – according to their distribution and their meaning. Within each of the two types, several word classes can be further distinguished, because each word class patterns in characteristic ways.

Below, we give a number of principles, or criteria, that can help us identify different word classes. As you read through them and think about their application to different words in the same word class, you should keep in mind that none of the current criteria for defining word classes is watertight, including the ones that we suggest here. This means that once you understand how these criteria apply, you will be able to come up both with words that fit the criteria as well as with words that fail the criteria. The latter are **counterexamples**, showing that the criteria represent generalisations about what holds true most of the time, rather than all of the time. We will give a few examples of these ‘bad-behaved’ words ourselves, where relevant. This is not a problem for our analysis: this book presents only a very elementary set of principles to help us deal with language (languages are very, very complex things!), and professional linguists themselves go on being baffled by the

complexity and quirkiness of language. One of them, Edward Sapir, once famously said that “all grammars leak” (Sapir 1921: 38). These “leaks” are precisely what makes us want to go on trying to understand how language works, so that we can fix them to make our analyses “flow” in a satisfactory way. In this sense, a good grammarian is like a good plumber. Take the criteria that we offer here as *typical* criteria, that do useful work in helping us identify word classes, but only in the majority of cases rather than in all cases.

Lexical word classes

Lexical words represent a specific **referent** in the world of our experiences. They refer to objects and substances that we can see, sensations that we can feel, qualities and events that we can observe. Lexical words therefore form the largest group of words in languages. The word classes to which they belong are **open classes**, in that the overwhelming majority of new words that become part of a language are of this type. In the linguistics literature, the terms *lexical words*, *content words* and *open-class words* are sometimes used interchangeably. These terms reflect the fact that whenever a new interesting thing is created, invented or found, we immediately create, invent or find a new lexical word to go with it, so that we can talk about it. When the authors of this book were growing up, there was no email, SMS or blogs, and so there were no words for these things either. There were, however, telegrams, telex and vinyl LPs, and the words for them were part of daily life at the time. New words that restock the vocabulary of languages, and old words that fade away for lack of linguistic demand are all lexical words. We can say that languages keep themselves alive and working through the comings and goings of their lexical words.

Lexical meanings are generally referential and, as such, they are arbitrary and idiosyncratic. Four lexical word classes can be distinguished in English according to their distributional properties. These are nouns (N), verbs (V), adjectives (Adj) and adverbs (Adv). We now discuss each one in turn.

Noun (N)

Nouns are the only lexical word class that can be followed by a mark of plural, in English. Plural forms of nouns are often represented in spelling by - (e)s at the end of the word in so-called regular plurals, where (e) may or may not occur, depending on the spelling of the singular form. For example, the word *cup* is a noun in the singular form, representing a single object that we call “cup”. The word *cups* is also a noun, in the plural form that indicates more than one of those objects. The same is true of a noun like *brush* and its plural *brushes*. Regular forms are forms that are productive, or active, in

languages. Taking English nouns as example, this means that whenever a new noun comes into the language, its plural will be formed by adding *-(e)s* to it, as in *faxes*, *emails* or *modems*.

Activity 3.2

Which mouse?

The plural of *mouse* is *mice*, right?

But what is the plural of *computer mouse*??

By our distributional criterion, if you can fit a word in the following frame, then that word is a noun:

One ____ , *several* ____ *(-e)s*

The regular plural marker is given in brackets to allow for irregular plural nouns like *foot-feet*, *tooth-teeth*, and *goose-geese*, as well as nouns which have the same form for singular and plural, e.g. *sheep*, *deer*, *fish*, and *fruit*. We do not otherwise deal with irregular morphology in this book.

Our distributional frame shows that a word like *cow* (or *foot*) is a noun. However, we need to point out that saying that “only nouns can be pluralised” does not mean that ‘all nouns can be pluralised’. English nouns pattern in two different ways. Nouns like *cow* can be pluralised because their referents can be counted. These nouns are therefore called **count nouns**. A word like *milk* cannot fit the given frame, because phrases like **one milk* and **several milks* are not well-formed for most speakers of English. But words like *milk* fit other distributional frames associated with nouns, e.g. patterning after a determiner (see below). The word *milk* is therefore a noun too, although its referent cannot be counted. The reason is that nouns like *milk* refer to shapeless substances, and counting applies only to referents with well-defined dimensions. This being so, we can propose a frame that provides a shape-giving context for non-countable nouns:

A ____ *of* ____

The first blank can be filled with countable, shape-giving words like *box*, *packet*, *loaf*, *glass*, *bowl* (sometimes called *measure words*), much in the way that classifiers are used before nouns in Chinese and other Asian languages. The non-countable noun fills the second blank. For example, *a glass of milk* is a well-formed English phrase. “Shapeless” nouns like *milk* are called **mass nouns**.

Activity 3.3

1. Can we use the following frames to help us distinguish count nouns from mass nouns?

many _____ much _____

2. Which of these frames would you choose for nouns like *luggage*, *cattle*, *sugar*, *coffee*, *tea*?

Besides plural forms, another feature that characterises nouns is that they can be followed, in writing, by -'s, a mark that is used to indicate possession, or belonging, and that is called *possessive* or *genitive* in the literature. When used with a noun followed by another noun, the possessive mark indicates that the second noun in some way is part of, or belongs to, the first one. For example, when we refer to *the cat's tail* we are talking about the tail of a particular cat.

Nouns name entities of various kinds. Nouns that name people, places, institutions and brands, like *Jane*, *Malaysia*, *Telecom* or *Stradivarius*, are called **proper nouns** (or *proper names*) and are also treated as nouns in the literature. All other nouns are **common nouns**. Like common nouns, proper nouns can be followed by the possessive '-s. One example is a phrase like *Malaysia's climate*.

However, the remaining properties of proper nouns are different from those of common nouns. First, proper nouns cannot be said to have well-established referents across the board. The name *India*, for example, refers to a particular country, but the word *India* does not “mean” the country named by this word, nor does it mean a set of objects with perceivable shared properties. Rather, it is a label that the country goes by, just like *Mary* is a label that people called *Mary* go by. It would be hard to find a common feature of meaning among all people named *Mary*, parallel to the feature of meaning that allows us to designate all cups by the name “cup”. What all the individuals named *Mary* have in common is that someone decided to call them “Mary”.

Second, these words fit only marginally in both of the distributional frames given above. They do not designate substances, and we can “count” *Jimmies* and *Chloes* in particular groups (children love to do this), or *Ugandas* and *Englands* if we want to highlight, say, striking features of different parts of the same country (adults love to do this), but only in a marginal sense.

Third, proper nouns pattern equally marginally with other words that can precede nouns, like determiners and adjectives (see below): expressions like *That Japan is my favourite one* or *This is a green Matthew* are, to say the least,

unusual. Given these provisos, we follow here the traditional classification of proper nouns as nouns.

Verb (V)

Verbs can be followed by a mark of past tense, often represented in spelling by *-(e)d* in so-called regular verbs. As noted above, we are only concerned with regular morphology. A word like *bake* fits this frame, and is therefore identified as a verb:

Today I / it _____, yesterday I / it _____ (-ed)

Some sentences contain only one verb. Examples are *I tripped* or *My neighbours have two dogs*, where *tripped* and *have* are the verbs. Other sentences contain several verbs, from two up to a maximum of five, in English. Examples are *Janet is singing* and *The laundry would have been being washed*, where *is singing* and *would have been being washed* are all verbs. Some people doubt the “correctness” of the latter string of verbs, but there’s nothing grammatically wrong with it: it is simply a less common construction.

We call the last verb in strings like these the **main verb**, because this is the verb that carries the referential meaning that is being talked about. The other verbs are called **auxiliary verbs**, or **auxiliaries**, because their function is to help specify the time and duration of the action or state indicated by the main verb. In sentences with only one verb, this verb is of course the main verb. For example, the sentence *Janet is beautiful* has only one verb, *is*, and this is the main verb.

Three English verbs, *be*, *do* and *have*, can function either as main or auxiliary verbs. In the sentence *My neighbours have two dogs* the verb *have* is the main verb, whereas it is an auxiliary in the sentence *The laundry would have been being washed*. Because of this dual function, these verbs are very common in English, and because they are so common they are also very irregular. We saw above that newcomer words to a language, like *email*, that are therefore just becoming common in it, follow regular patterns, not irregular ones. Words are like clothes, the more you use them the more shapeless they get and the less they look like new clothes off the rack. The verb *be* is in fact the most irregular verb in English, in that it can appear in eight different forms. Just to satisfy your curiosity, these forms are: *am, are, is, was, were, being, been* and *be* itself!

Verbal forms that vary according to tense (and/or person, see below) are called **finite forms**. For example, forms like *are, were, baked, bakes*, are finite. If a sentence contains only one verb, the form of that verb is finite. The verb *have* is finite in the sentence *My neighbours have two dogs*, because it changes to

had when we talk about the past, or to *has* when we say *My neighbour has two dogs*. Verbal forms that remain unchanged regardless of tense and person are **non-finite** forms. For example, *(to) speak, speaking, spoken*, and *(to) be, being, been*. In a sentence with main verb and auxiliaries, the first auxiliary is finite and all the other verb forms are non-finite. In the sentence *The laundry would have been being washed*, only the auxiliary *would* is finite.

Activity 3.4

1. Indicate whether the underlined verbs are used as main verb or auxiliary.
 - (a) I am doing my homework.
 - (b) I am a teacher.
 - (c) I have been doing my homework.
 - (d) I have seen that film.
 - (e) I did my shopping yesterday.
2. Now indicate whether the same verbs are finite or non-finite.

Activity 3.5

Can you explain the language play in this dialogue?

Speaker A. *Time flies!*

Speaker B. *I can't, they fly too fast!*

Hint: the play has to do with nouns and verbs.

Adjective (Adj)

Adjectives pattern in two typical ways. They can immediately precede nouns, or they can follow forms of a verb like *be* (more on what we mean by “a verb like *be*” in section 8.4). The distributional frames for these two patterns are:

A _____ cow *This cow is _____*

If a word can pattern in these two ways, then it is an adjective: *brown* is one example. Typical adjectives do indeed pattern in these two alternative ways, although a few do not. Some adjectives can be used only before nouns. For example, you can say *the current president*, where *current* is an adjective, but you

cannot say **the president is current*. Conversely, other adjectives pattern only after *be*-like verbs: you can say *dinner is ready*, but not **a ready dinner*.

The function of adjectives is to modify nouns. This means that adjectives tell us something about a noun, specifying a property or a quality of that noun. If we say *the green book* or *that large whale*, we're indicating which particular book or whale we mean: green, not red, and large, not tiny. This qualification of nouns can also be a matter of **degree**. If we see first a large whale, and later a very, very large whale, we can express this by saying that the second whale is *larger* than the first. If we then see a third, absolutely enormous whale, we can say that this one is the *largest* of them all. In both cases we are comparing sizes, and grading them: one is larger than another, like one can be smaller than another, or one can have the greatest (or smallest) size compared to all the others. The technical names for these uses of adjectives are **comparative** and **superlative**, respectively.

Degree forms of adjectives vary according to the length of the adjective word. There are two rules. For short adjectives with one or two syllables, we add *-(e)r* and *-(e)st* at the end of the word. For long adjectives, we add separate words, *more* and *most* before the adjective. We can say that *dolphins are more intelligent than whales*, or that *they are the most intelligent marine mammals*, but we don't say that they are **intelligenter* than whales, or the **intelligentest* of all. By the same token, we say *easier*, not **more easy*, and *easiest*, not **most easy*. (And yes, this short word vs. long word rule has several exceptions: short adjectives like *tired* and *ready* are examples.)

Adverb (Adv)

Traditionally, the “class” of adverbs is a sort of ragbag: if morphological criteria cannot clearly identify the class of a lexical word, the solution is often to call it an “adverb”.

This is not simply an easy way out of a difficulty in classifying certain words. It underscores the difficulty itself instead. Similar problems of classification usually arise for two main reasons: either we are basing our classification framework on insufficient data, or the classification framework itself needs revamping. In other words, either the number of clearly identifiable words that we have observed, large though it may be, is not enough to help us decide the word class of a particular word; or perhaps we should start thinking about discarding the class “adverb” altogether, and create new word classes that better explain what makes “adverbs” special. Zoologists, for example, had to create a new zoological class to account for platypuses, the very odd mammals that lay eggs instead of giving birth to live young as “regular” mammals do. Facts, about living beings or language,

cannot be changed to suit a theory that doesn't explain them. It is the theory, no matter how respectable or how popular, that must change in order to serve our understanding of these facts. Adverbs may well be the platypuses of the grammatical zoo.

The facts are that attempting to identify adverbs on formal or distributional grounds is not straightforward, in that they may vary widely in shape as well as in patterning within phrases and sentences. The most common criteria used in the definition of adverbs are of two kinds. One, a referential criterion, states that the meaning of adverbs can modify the meaning of different words or phrases, including other adverbs. That is, their meaning attributes some quality to the meaning of another word. For example:

- (3.3) *She is very pretty.*
(3.4) *She speaks very fast.*

In (3.3), *very* modifies the adjective *pretty* by intensifying its meaning. In (3.4), the word *fast* modifies the verb *speaks* by specifying the way in which the speaking takes place, and *very* in turn modifies *fast*. Both *very* and *fast* are therefore adverbs.

The second criterion is distributional, and states that adverbs are generally mobile words. This means that they may occur in different positions within an utterance without loss of grammaticality. For example:

- (3.5) *Sadly, she is an idiot.* *She, sadly, is an idiot.*
 She is, sadly, an idiot. *She is an idiot, sadly.*

The mobility of *sadly* identifies it as an adverb. Note that mobility is further demarcated by pauses, in speech, and by commas, in print. Note also that this criterion would fail to identify *very* as an adverb.

Activity 3.6

What is the adverb *sadly* modifying in this sentence?

Sadly, she is an idiot.

Grammatical word classes

We said above that lexical word classes express content in terms of concepts of various kinds. In contrast, grammatical words represent distributional relationships between lexical words. Grammatical words belong in **closed**

classes, in that new words of a language rarely are of this type. Across languages, the number of words in grammatical word classes is therefore much smaller than in lexical word classes. In the literature, other terms that designate grammatical words are *closed-class words* and *function words*.

The meanings of grammatical words can be said to be structural and systematic, rather than referential and idiosyncratic. These meanings are the “glue”, as it were, that helps us express and understand the meaning relationships between lexical words. Four classes of grammatical words are usually described for English. These are determiners (Det), pronouns (P), conjunctions (C) and prepositions (P), as follows.

Determiner (Det)

Determiners can precede both N and Adj: *this cow* and *this large cow* are both well-formed in English, where *this* is a determiner. A frame for Det might then be, where the brackets indicate an optional word:

_____ (Adj) N

This frame identifies words like *the, a, these, my, your, both*, as determiners.

Activity 3.7

The word class *determiner* includes different types of words that fit the frame above.

Would the distribution of determiners in the following data allow us to say that there are different types of determiner in English? Why?

Note: all the words in the examples are determiners, except *friends* and *cars*.

all my friends	*my all friends	
my three cars	*three my cars	
all my three cars	*my all three cars	*all three my cars
all three cars	*three all cars	

Pronoun (Pr)

Pronouns can replace sequences of an optional determiner, followed by an optional adjective, followed by a noun (check section 7.4.1 for clarification of the term *optional*). Using the symbol \approx to indicate distributional equivalence, we can formalise the distribution of pronouns in this way:

(Det) (Adj) N \approx Pr

In the three sentences in (3.6), the word sequences in italics can all be replaced by a word like *they*, identifying this word as a pronoun:

- (3.6) *Those black cats* are so annoying.
 Black cats are so annoying.
 Cats are so annoying.

Pronouns are interesting words, because they work by *proxy*, as it were. Hence their name, *pro*-nouns. **Personal pronouns**, for example, are used to replace direct reference to ourselves and our interlocutors. Instead of referring to ourselves and our conversation partners by name, we use pronouns. The pronoun *I*, for example, is used by speakers to refer to themselves, while the same speakers use *you* to refer to their listeners. When listeners in turn become speakers, they use the two words in exactly the same way. These are therefore called **first person** and **second person** pronouns, respectively – the speaker comes “first”. English has first person pronouns that have singular and plural forms, *I* to refer to the speaker only, and *we* to refer to a group including the speaker. In contrast, the English second person pronoun *you* has the same form to refer to one or more than one interlocutor. **Third person** pronouns refer to what the conversation is about. In English, these pronouns have three forms for the singular, *he*, *she* and *it*, the first two usually referring to sexed beings, and the latter to inanimate referents or beings whose sex is irrelevant or unknown. The plural form is the same for all three, *they*.

Other pronouns are also used in relation to the participants in an exchange. **Possessive pronouns** (e.g. *his*, *hers*, *mine*, *theirs*, *yours*) indicate whether something belongs to or is a characteristic of those participants. **Demonstrative pronouns** (e.g. *this*, *those*) show the distance between the speaker and the referent that is being talked about. Take, for example, the sentence:

- (3.7) *These are yours.*

This sentence contains two pronouns, *these* and *yours*. The first is demonstrative, and signals a referent that is near the speaker. (In contrast, the pronoun *those* signals a referent further away from the speaker.) The second pronoun is possessive, indicating that the listener owns whatever the speaker is referring to.

Activity 3.8

What is the word class of the underlined words in these sentences? Explain how you reached your decisions.

1. That man really loves boiled squid.
2. I can't understand that.
3. My plate of barbecued squid is much tastier than his.
4. I find his choice of food very funny.

Conjunction (*Conj*)

Conjunctions are linking words, “conjoining” other words or phrases in order to enable multiple occurrences of the same word class or phrase. Conjunctions link units that are of the same type, e.g. an adjective with an adjective or a pronoun with a pronoun (section 7.5 deals with conjunctions in greater detail). In these two examples, the italicised conjunction *and* joins two pronouns in the first sentence, and two sequences of Adv Adj in the second sentence:

- (3.8) You *and* I need to talk seriously.
 My cat is very beautiful *and* very stupid.

Preposition (*P*)

Prepositions are linking words that typically show relationships of space and time between other words or phrases. They are followed by (Det) (Adj) N sequences, or by pronouns, which replace these sequences. The distributional frames for a preposition are:

_____ (Det) (Adj) N _____ Pr

These frames identify words like *in*, *under*, *despite*, *through*, as prepositions. The meanings expressed by prepositions can be referential, like those of lexical words. For example, the word *under* regularly means a location tucked below something on a higher level in space. Or a preposition like *during* typically refers to a period of time. Other prepositional meanings are not fully lexical. For example, a word like *in* does not mean anything that can be usefully generalised from uses like *in the house*, *in a moment*, *in conclusion*, *in fact*, *in neat rows*, *in Swahili*. Similarly to the problems raised in the classification of adverbs, discussed above, these observations about prepositional meanings

raise other problems for our analytical framework. In this case, we may question the adequacy of a watertight distinction between “lexical” and “grammatical” word meanings, that leaves prepositional meanings scattered between both.

Once particular words have been safely assigned a word class, we can use those words as shortcut tests of the class of other words. This is the **substitution** criterion, to which we return in section 7.3.2. By this criterion, any word that can replace the noun *cow* in contexts where *cow* is found is also a noun. The same principle applies to the other word classes.

Here is a summary of the word classes discussed in this chapter.

	Word class	Examples
Lexical words	N	ant, flower, beauty, contradiction
	V	do, think, snore, drink, explain
	Adj	blue, tall, necessary, expensive
	Adv	really, quite, wonderfully, never
Grammatical words	Det	a, some, many, our, those
	Pr	she, mine, theirs, this, those
	Conj	and, as soon as, because, if, however
	P	in, on, into, from, in front of

Figure 3.1. Summary of word classes

And here is one example of a sentence containing all eight word classes:

Her cat looks nice, but it always sleeps on their finest couch.
Det N V Adj Conj Pr Adv V P Det Adj N

Figure 3.2. Example sentence with eight word classes

Activity 3.9

Create a table consolidating the criteria that identify a word as belonging to each of the word classes above. Try creating new distributional frames for each word class.

Activity 3.10

1. Choose any printed text (newspaper or magazine article, book, online article, etc.) and try to classify the words in one of its paragraphs into the word classes introduced in this chapter. Discuss any problems with a partner, or in a group.
2. Count the total number of lexical and grammatical words in your text.
3. Then count the number of repeated lexical words and repeated grammatical words that you found. How do your findings help you make sense of the labels *open class* and *closed class*, respectively, for these words?

3.4.2 Morphemes

We saw above that words like *handbag* and *karaoke-singers* may contain words, each of which is meaningful in its own right. We also find other words that contain “parts” of words, to which we feel that we must assign meaning too. For example, the word *repaint* means something like ‘to paint again’. We therefore observe that the word part *re-* adds some meaning of repetition to the meaning of the verb *paint*. Similarly, the final *-s* in the word *houses* adds the meaning ‘more than one’ to the noun *house*, i.e. it builds a plural noun. Forms like *re-* or *-s* are clearly meaningful, just like *cat* and *house* are meaningful but, by our definitions of “word” in section 3.2 above, they cannot be said to be words of English.

On the other hand, many words of English cannot be split into smaller units: *cat* and *house* are examples. The same is true of the word parts *re-* and *-s*. In order to account for the common properties of linguistic units like *cat* as well as *re-*, we need the concept of ‘a meaningful unit that contains no smaller meaningful units’. This concept is traditionally labelled a **morpheme**, duly defined as a minimal unit of meaning, i.e. the smallest meaningful unit in a language. By this definition, the words *cat* and *house* contain one morpheme each, as do the forms *re-* and *-s*, and words like *repaint* and *handbag* contain two morphemes each. By the same definition, two working assumptions follow:

- Any word consists of at least one morpheme, given that words express meaning, and morphemes are the smallest units of meaning in a language.
- Any morpheme must contribute meaning to the overall meaning of the word of which it is a part.

Morphemes are therefore **compositional** units of meaning. That is, words must be exhaustively broken up into morphemes. Let's practise with a few examples.

Activity 3.11

How many morphemes would you say are contained in words like the following?

caterpillar unhappier carpet cat-food uncle

We immediately observe that, as predicted, it is **meaning**, not **spelling**, that provides the guidelines for morpheme analysis. If spelling mattered, we would be justified in splitting the word *caterpillar* into *cater* and *pillar*, two well-formed words of English. The point is that neither *cater* nor *pillar* contribute to the meaning of *caterpillar* – nor does *cater-* in *caterpillar* sound like the word *cater*.

Similarly, the word *carpet*, which may sound like the words *car* and *pet* pronounced in sequence, does not obviously mean something like 'a pet to be kept in a car'. That is, the meaning of *carpet* has nothing to do with cars or pets: *carpet* contains one morpheme only.

In contrast, the word *unhappier* clearly contains three morphemes, *un-*, *happy*, and *-er*. Note that, as usual, we are concerned with sound, not spelling: spelling *happy* with 'y' or 'i' is irrelevant for our analysis. All three morphemes contribute to the meaning of this word. The meaning of *happy* is part of the meaning of *unhappier*, *un-* contributes the negative meaning of the word, and *-er* contributes its comparative meaning, as discussed above for the word class Adjective.

On the pattern of *unhappier*, we might want to split *uncle* into *un-* and *cle*. This is clearly wrong, in that *cle* is meaningless in English and therefore not a morpheme. It follows that *un-* is not a morpheme either in this word, because *un-* cannot be contributing meaning to something that is itself meaningless. We then conclude that the word *uncle* contains one morpheme only.

Finally, the word *cat-food* contains two morphemes, that happen to be represented in writing with a hyphen in between (which is not the case in e.g. *handbag*). The meanings 'cat' and 'food' are part of the meaning of the word *cat-food* (just like the meanings 'hand' and 'bag' are part of the meaning of the word *handbag*).

Activity 3.12

Can you explain this “Funny Dictionary” definition?

Coffee – someone who is coughed upon.

Which other words of English helped your reasoning?

Depending on the number of morphemes that they contain, words can be classified as:

- **Simple** words, that contain one morpheme only. For example, *clever, chimpanzee, a, from, the, mother*.
- **Complex** words, that contain more than one morpheme. For example, *establishment, impressive, kindness, karaoke-singers*.

Depending on their patterning, morphemes can in turn be classified as:

- **Free** forms, that are themselves words of the language. For example, *in, of, a, berry, intelligent, hand, bag*.
- **Bound** forms, that always occur as part of a word. For example, *re-, un-, -ly, -ness, -ish*.

Section 4.3.2 in the next chapter provides a schematic summary of different types of words according to their morphology.

Activity 3.13

1. Explain whether the following words are simple or complex:

rubbish	shoulder	girlish
friendship	party-goer	harness

2. Classify the morphemes in these words as bound or free.

3.4.3 Morphemes and morphs

Morphemes are abstract entities. They are constructs that we assume to exist in the system of a language, to help us describe features of that language.

Morphemes cannot therefore be spoken or heard. What can be spoken and heard is the concrete pronunciation of each morpheme, that we call a **morph**.

To clarify this distinction between abstract concepts and their concrete realisations, let's discuss something that we all understand very well: food. Supposing you've eaten chilli crab before, and we ask you: "Do you like chilli crab?", you may answer yes or no. Let's take a look at what went on in your head when you read this question. Whatever your reaction to this dish, you thought of "chilli crab" as the generic name of a dish. You did not think of any individual crab cooked in chilli. Similarly, whether you love or hate classical opera, you don't love or hate one particular opera but the generic type of music called "classical opera". In other words, you have in your head generic concepts of chilli crab and classical opera.

Generic concepts are abstract entities: they are ideas that live in your mind. These ideas, however, are based on your concrete experience of, for example, chilli crab in real life: you've tasted it, and formed an opinion about it. The same is true of morphemes and morphs. Just like your different experiences of chilli crab helped you form the abstract concept of it, so our different experiences with hearing language spoken around us help us form abstract concepts about its units. We all pronounce and hear things differently, because we are all individuals. But we are all able to recognise the same units, no matter how differently pronounced they may be. For example, the song *Happy Birthday to You* is always the same song whether we, you, your neighbours or the National Chamber Choir sing it. Despite different renditions of it, we still recognise it as the song *Happy Birthday to You*. Similarly, the morpheme {banana} remains the morpheme {banana} whether you or someone else says it, whether we yell it or whisper it, and whether you say it in good health or with a badly blocked nose (in print, morphemes are usually represented between curly brackets, as we show here).

Activity 3.14

Ask three or four people to write the sentence *I love chilli crab* on a piece of paper.

Then make it clear to yourself why they all wrote the "same" sentence, despite their different handwritings.

Since we are dealing with *spoken* language, let's see how these notions of concrete difference versus abstract "sameness" apply to the pronunciation of morphemes. Some morphemes are always pronounced in the same way, e.g.

{un-}, {happy} and {-er}. However, the pronunciation of other morphemes sometimes varies, and we need to understand why this is so.

We said above that you could work out your own distribution by noting down all the places where you can be found. Supposing that you are a student with a keen interest in swimming and basketball, it is likely that we will find you at school, at the pool and in a basketball court. But this also means that you will look different in these three places, not least because you will be dressed in a way that is appropriate to each environment. Nevertheless, the way you dress is not central to your identity: you, in swimming gear, basketball kit or city clothes, are still the same person, not three different people. In other words, we would be able to recognise you as ‘you’ regardless of the way you actually look in these different contexts that are part of your distribution, because we know that your dress depends on the particular context where you happen to be at different times. The same is true of some linguistic units: they also dress appropriately to their contexts, as it were, and therefore look different despite being the same unit. Let’s check with some data:

(3.9)	Set 1	Set 2
	<i>an apple</i>	<i>a house</i>
	<i>an owl</i>	<i>a tree</i>
	<i>an idea</i>	<i>a mistake</i>

We observe that there is one word, *an*, preceding the nouns in Set 1, and a different word, *a*, preceding the nouns in Set 2. Before dismissing this puzzle as a random quirk of English, we may instead try to find a reason for it. Knowing now that context plays role in linguistic analysis, we reason that the cause of variation may lie in some difference in the units that *follow* the forms *a* and *an*. The preceding context cannot provide any explanation, because it is the same: in both cases there is nothing, i.e. there is silence. We observe that the words following *an* in Set 1 all begin with a vowel (usually spelt with the letters *a, e, i, o, u*), and those following *a* in Set 2 all begin with a consonant.

We can then conclude two things. First, that the reason for the observed variation in form must be that the immediate context of each form is a vowel or a consonant, respectively; and second, that the two forms *an* and *a* must therefore represent two variants of one same unit, not two different units. They are two morphs of the same morpheme. We may now give the morpheme any label of our choice. Traditionally, as you may know, the label for this morpheme is {indefinite article}.

Activity 3.15

Our conclusion that the morpheme {indefinite article} has two different morphs was based on a very limited dataset and must therefore be provisional. But conclusions must be general, in order to have any scientific validity. In this case, our conclusion must predict other occurrences of *an* and *a*, given similar contexts. Our next step is therefore to hypothesise, from these observations, that *an* precedes a vowel and *a* precedes a consonant, and check this prediction with data that are not part of the original datasets.

Ask yourself which morphs of {indefinite article} occur in contexts such as these:

cat *essay* *understatement* *salad*
 armchair *opportunity* *van* *necklace*

On the basis of these additional observations, is our hypothesis confirmed or disconfirmed?

Criteria to identify morphemes

Given that certain morphemes always have the same morph, whereas others have different morphs, how do we know that we are dealing, at all times, with “the same” morpheme? Three criteria help us decide.

- **Sound.** A morpheme either has a constant pronunciation, or its pronunciation is predictable from its context. The morpheme {cat} is pronounced in the same way regardless of context, whereas the pronunciation of the morpheme {indefinite article} as *an* or *a* varies according to the context in which it occurs and can be predicted from it.
- **Grammar.** A morpheme regularly patterns with the same type of units. The morpheme *re-* in the word *repaint* consistently precedes verbs. The morpheme {indefinite article} can precede nouns or adjectives.
- **Meaning.** A morpheme has a constant meaning. The morpheme *re-* in *repaint* always means repetition of the action indicated by the verb, and the meaning of *an* vs. *a* remains the same, regardless of form.

Activity 3.16

Let's check these criteria against some data.

In the following set of words, can you identify one or several *-er* morphemes? Why?

<i>singer</i>	<i>oyster</i>	<i>baker</i>
<i>greater</i>	<i>potter</i>	<i>louder</i>

Try to work this puzzle out on your own before reading our analysis below!
Explain your reasoning very clearly.

The first observation is that all forms spelt *er* are pronounced in the same way. In case all of them are found to be a morpheme, or the same morpheme, they therefore obey the sound criterion.

The best way to make sense of the two remaining criteria is to **paraphrase** the meaning of each word. A paraphrase uses different words to give the same meaning, describing it as clearly as possible. So what is a singer? The meaning of *singer* can be paraphrased as 'someone who sings'. By using the verb *sing* in the paraphrase we immediately realise three things that will help us solve our puzzle: one, the word *singer* contains the morpheme *sing*; two, this morpheme is a verb; and three, *-er* must be a morpheme too, because *singer* and *sing* are both meaningful words and they mean different things. We have thus found out that in the word *singer*, *-er* contributes the meaning 'someone who sings', i.e. 'someone who does the action represented by the verb'. The form *-er* is therefore attached to a verb. We can find a similar patterning in the word *baker*, where the verb *bake* plus the form *-er* also mean 'someone who does the action represented by the verb'. The criteria of meaning and grammar are therefore satisfied: *-er* is the same morpheme in both words.

In the word *potter*, however, *-er* contributes a different meaning: *pot* can be a noun or a verb, but even taking it as a verb, the word *potter* does not mean 'someone who pots'. It means 'someone who makes pots', where *pots* is a noun. The morpheme *-er* is therefore a different morpheme in this word, first because it attaches to a noun, and second because it gives the meaning 'someone who makes the objects represented by the noun' to the word *potter*.

The words *louder* and *greater*, in turn, show another pattern: *-er* attaches to an adjective, contributing the comparative meaning 'more of the quality expressed by the adjective'. The word *oyster* clearly contains one morpheme only: *oyst* is meaningless, and so is *er*, in this word.

We then conclude that the data show examples of three different morphemes, that all happen to be pronounced in the same way. There is one *-er* morpheme attaching to verbs, with the shorthand meaning ‘someone who Verbs’ (or shorter still, ‘someone who Vs’), another *-er* morpheme attaching to nouns, meaning ‘someone who makes N’, and a third *-er* morpheme attaching to adjectives, meaning ‘more Adj’.

One reminder: our linguistic analysis concerns spoken language, i.e. **speech**. Discrepancies in **spelling** like *sing-singer* vs. *bake-bak(e)r* should be disregarded throughout this book. Both *sing* and *bake* end in a consonant *sound*, despite their spellings.

Activity 3.17

Can you explain this lame joke?

Question. *Where does a general put his armies?*

Answer. *In his sleeries.*

Which other words of English helped your reasoning?

“Meaningless” morphemes?

The meaning compositionality of certain words is a matter of controversy. How many morphemes would you count in words like *strawberry* or *ladybird*?

The morphemes *straw*, *berry*, *lady* and *bird* exist in English, but they do not contribute any meaning to these two words that they apparently form. True, a strawberry is a berry, but how do we fit the meaning of *straw* into the overall meaning of the word *strawberry*? By the approach taken in this chapter, morphemes are compositional units of meaning. This entails that if we cannot assign *compositional* meaning to word parts, even if those word parts are words of the language in their own right, with clear meanings, then we must conclude that those word parts are not morphemes.

A similar problem arises with words like *gooseberry* and *cranberry*. The first part of these *berry* words, although non-compositional (or simply meaningless, like **cran*), nevertheless appears to serve the function of distinguishing one type of berry from another. This may be so, but the assumptions that we made for morpheme analysis concern the meaning of morphemes, not their distinctive function in words. We are thus forced to analyse *berry* words like these as simple words, and to do the same for words like *ladybird* or *butterfly*. The word *cranberry*, incidentally, gained fame in morphological analysis because it became the technical term for words like itself: the apparently

meaningless word parts of words that appear to contain one other genuine morpheme are called **cranberry morphemes**.

As in our earlier discussion of adverbs, here too we see that particular analytical frameworks, which necessarily include assumptions, sometimes leave our analyses with several loose ends. Alternative frameworks, with different assumptions, will reach different conclusions. This is as true, and as natural, in the science of language as in other sciences: physicists, for example, are also divided about whether it makes more sense to talk about light as consisting of waves or of particles, to mention just one of many controversies in physics. This is where the controversy lies: in any science, controversy simply means different ways of looking at the same things. Following the assumptions introduced in this chapter, we next look at how morphemes combine in different ways to form different types of words.

Food for thought

Why English is so hard to learn

We must polish the Polish furniture.
He could lead if he would get the lead out.
The farmer used to produce produce.
The dump was so full that it had to refuse more refuse.
The soldier decided to desert in the desert.
This was a good time to present the present.
A bass was painted on the head of the bass drum.
When shot at, the dove dove into the bushes.
I did not object to the object.
The insurance was invalid for the invalid.
The bandage was wound around the wound.
There was a row among the oarsmen about how to row.
They were too close to the door to close it.
The buck does funny things when the does are present.
They sent a sewer down to stitch the tear in the sewer line.
To help with planting, the farmer taught his sow to sow.
The wind was too strong to wind the sail.
After a number of injections my jaw got number.
Upon seeing the tear in my clothes I shed a tear.
I had to subject the subject to a series of tests.
How can I intimate this to my most intimate friend?

Further reading

Deterding, David H. and Poedjosoedarmo, Gloria R. (2001). Chapter 3. Word classes. In *The grammar of English. Morphology and syntax for English teachers in Southeast Asia*. Singapore: Prentice Hall, pp. 18-35.

Hudson, Grover (2000). Chapter 4. Morphemes. In *Essential introductory linguistics*. Oxford: Blackwell, pp. 57-68.

Reference

Sapir, Edward (1921). *Language. An introduction to the study of speech*. New York: Harcourt Brace.

4

The grammar of words: word building

Chapter Preview

How are new words formed?

What kinds of new words can be formed?

What does word formation tell us about the grammar of words?

What does the grammar of words tell us about the grammar of language?

4.1 Introduction

We saw in Chapter 2 that speakers keep their languages alive and usable by changing the vocabulary of their languages (and, less easily, their grammar) according to what they need to express.

Language users do this in three major ways. One way, as we saw in Chapter 2, is to simply import a useful word from another language, just like people import useful products from other countries. This is how an Italian word like *pizza* or a Japanese word like *karaoke* became English words. Words that are circulated in this way among languages are called **borrowings**. Secondly, language users can change the meaning of words already in the language, to make them mean different things. The English word *sad*, for example, is currently used to mean something similar to ‘pathetic’, besides keeping its meaning of ‘unhappy’. In this new use, a *sad joke* is not a joke that makes you cry, but a joke that doesn’t make you laugh. We will look at this and other ways of creating new words out of the meaning of old ones in Chapter 9. A third way of creating new words in a language involves manipulating not just their meaning but also their grammar, by disassembling

the morphemes from the words in which they appear, and reassembling them into new words. This is what word formation is about. Knowing that a morpheme *-er* means ‘someone who Vs’, as we saw in the previous chapter, we can safely create a brand-new noun *emailer* to mean ‘someone who emails’, and use it straight away to say that *My friend Janice is a compulsive emailer*. Speakers of English will have no difficulty understanding what this new word means, even if they have never heard it before, given their knowledge of the meaning and the grammar of the morphemes making up this newly-minted word. Whether the word will ever become accepted in English is another matter, as discussed in Chapter 2.

This chapter deals with several processes that allow language users to build new words, often called *word formation processes* in the literature, with special emphasis on processes that involve the grammatical make-up of words.

4.2 Word formation

Word formation concerns the processes that allow us to create new words with grammatical resources already available within a language. These processes must of course obey the rules of the language, i.e. its grammar. The word *emailer* is a well-formed word of English, as are other possible words like *downloader* or *rebooter*, because they follow the same word-formation rule of English that allows words like *writer* or *daydreamer*.

Activity 4.1

Can you explain why this ad for an entertainment outlet is an example of creative language use?

Never Unfun

Assuming, as we did in the preceding chapter, that words are made up of morphemes, word formation involves a patterning of morphemes within words, whose rules we can find out. Let’s use some data to see what we mean by morpheme patterning.

(4.1)	<i>room</i>	<i>rooms</i>	<i>*sroom</i>	<i>*roosm</i>
	<i>darkroom</i>	<i>*roomdark</i>	<i>darkrooms</i>	<i>*darksroom</i>
	<i>unhappy</i>	<i>*happyun</i>	<i>happily</i>	<i>*lyhappy</i>
	<i>commit</i>	<i>commitment</i>	<i>commitments</i>	<i>*commitsmment</i>
	<i>songbird</i>	<i>birdsong</i>	<i>*unments</i>	<i>*mently</i>

We observe that:

- Morphemes must occur in certain positions within a word. For example, the {plural} morpheme in *rooms*, spelt -s, must occur at the end of the word, not at the beginning (**sroom*) or in the middle of it (**roosm*).
- The word class to which lexical morphemes belong is important for their ordering within complex words. The forms *darkroom*, *songbird* and *birdsong* are well-formed, whereas the form **roomdark* is not.
- Certain bound forms must occur before others. The form *commitments* is acceptable, whereas the form **commitment* is not.
- Bound forms cannot be combined with one another. Whereas *birdsong*, with two free forms, is well-formed, neither **unments* nor **mently* are.

Observations like these help us tell apart different types of morphemes, which in turn helps us tell apart different word formation processes.

There are two players involved in word formation processes. If we think of building words as we think of, say, building a wall, we need the items that we are going to put together (morphemes, or bricks of various types) and we need a way of putting them together (rules, or a building plan). Attempting to fit morphemes together at random won't result in words, just like throwing bricks around or heaping them together won't build a wall. We need both building blocks and constraints to build walls and words properly.

In word formation, the building blocks are of two types, and so are the constraints.

The building blocks

- **Stem:** a morpheme, or a word, to which other morphemes can attach.
- **Affix:** a morpheme that attaches only to a stem.

How can these two concepts help us explain some of the observations above? We can see, from the data in (4.1), that the words *commitment* and *happily* are well-formed, whereas **mently* is not. Using the concepts just introduced, we can now explain why this is the case. Both *commitment* and *happily* are complex words, i.e. words comprising more than one morpheme. Both words also comprise a stem and an affix: *commitment* comprises the stem *commit* to which the affix -*ment* attaches, while *happily* comprises the stem *happy* to which the affix -*ly* attaches. In contrast, if we treat **mently* as a complex word, it seems to

comprise two affixes (*-ment* and *-ly*) attached to one another, rather than a stem and an affix. But our definition of affix says that affixes only attach to stems, not to other affixes.

Activity 4.2

Go back to our data in (4.1), and do two things. First, decide whether each of the building blocks in *rooms*, *unhappy*, *darkrooms*, *songbird* and **unments* is a stem or an affix.

Then, with the help of this decision, explain why *rooms*, *unhappy*, *darkrooms*, and *songbird* are well-formed, but **unments* is not.

Activity 4.3

Knowing that *un-* and *-able* are both affixes in words like *uncomfortable*, explain whether the underlined word in the following sentence is a counterexample to the rule that affixes can attach only to stems:

Small children are quite unable to keep still for long periods of time.

There is another technical term used to refer to the fundamental stem, as it were, of a word. In the word *commitments*, this stem is *commit*, the basic word from which the complex word *commitments* is built. We then say that the root of the word *commitments* is *commit*. The **root** of a complex word is itself a word from which all affixes have been removed. We can visualise this word formation process as follows, where the arrow indicates the result of word building:

(4.2) *commitments*
 root *commit* + affix *-ment* → *commitment*
 stem *commitment* + affix *-s* → *commitments*

This example shows that a root can be a stem, but that not all stems are roots.

Activity 4.4

How many stems does the word *disgraceful* contain?

Write them down and explain how you reasoned to find them.

The constraints

- **Hierarchy:** the internal structure of complex words is hierarchical.
- **Well-formedness:** each step in word formation must produce a well-formed word of the language.

These two constraints help us make sense of word formation. Going back to our analogy of building a wall, they reflect the commonsense observation that walls are built layer by layer, and that each brick added to a wall in fact builds a small wall of its own by fitting neatly among its neighbours. We follow a similar reasoning with word building: complex words are built up step by step from stems and/or affixes, and each intermediate word must itself be a well-formed word. As shown in example (4.2), a word like *commitments* is formed by attaching the affix *-ment* to the root/stem *commit*, forming the word *commitment*, a new well-formed stem to which *-s* in turn attaches. In addition, knowing that *dark* is an Adj and *room* is a noun in the complex word *darkroom*, and that Adj precedes N in English, we can explain why *darkroom* is well-formed whereas **roomdark* is not.

4.3 Major word formation processes

The most productive word formation processes in English are **affixation**, **compounding** and **conversion**, the ones that we deal with in greater detail in this chapter.

In morphology, **productivity** means the degree to which a word-formation process is used in a language. We might use an analogy of productive worker bees – the most productive worker bee is the one that makes the most honey. So also the most productive word formation rules are the ones that are used most frequently to create new words in a language or language variety. Generally, productivity is directly proportional to **compositionality**, the degree to which the meaning of a new word is predictable from the meanings of its constitutive morphemes. That is, “more productive” entails “more compositional”, and vice versa. For example, an affix like {plural} *-s* is extremely productive, in that new nouns in English can be made plural by using it. It is also compositional, in that it consistently contributes the meaning ‘more than one’ to the new word. If *emailer* is a noun, then *emailers* is its plural.

However, we should note that compositionality is not an absolute matter. It is not the case that processes, or words meanings, are either compositional or non-compositional. Rather, compositionality is understood as a cline: at one end of this cline, we find **transparent** word meanings which are easily

deduced from the meanings of the morphemes that make up the word; at the other end of this cline, there are **opaque** meanings which are not easily inferred from the morphemes making up the word. We will see below several examples of degree in compositionality.

4.3.1 Affixation

Affixation is one of the most productive word formation processes in English. In **affixation**, an affix attaches to a stem. All the words in the sentence *Teachers dislike yawning students* are affixed words. We can analyse affixes based on two criteria: according to their distribution, and according to their meaning.

Distribution of affixes

We said above that affixes must attach to a stem, but we did not clarify the order of attachment of stem and affix. We now add that there are different types of affix, according to their distribution. For example:

- **Prefixes** precede the stem.
- **Suffixes** follow the stem.

We need this clarification in order to explain why the two words *unhappy* and *happily* in (4.1) are well-formed, whereas **happyun* and **lyhappy* are not: *un-* is a prefix, and *-ly* is a suffix. That is, *un-* must precede the stem to which it attaches, while *-ly* must follow its stem. Note the use of a dash following or preceding these affixes. This is essential to make clear whether we're referring to a prefix or a suffix.

These two types of affix account for affixation processes in English. Other languages have additional types of affix. For example, both Bontoc, a language spoken in the Philippines, and Tukang Besi, an Austronesian language spoken in Indonesia, have *infixes*, affixes that appear in the middle of a stem. Malay, meanwhile, has *circumfixes*, affixes that surround a stem, in addition to prefixes and suffixes, as illustrated in Figure 4.1.

Bontoc

<u>Adj/N</u>		<u>Infix</u>
<i>fikas</i> 'strong'	<i>fumikas</i> 'to be strong'	<i>-um-</i>
<i>fusul</i> 'enemy'	<i>fumusul</i> 'to be an enemy'	<i>-um-</i>

Tukang Besi

Adj/V	Infix
<i>to'oge</i> 'big'	<i>tumo'oge</i> 'biggest'
<i>tinti</i> 'run'	<i>tuminti</i> 'running'

Malay

Adj	N	Circumfix
<i>selamat</i> 'safe'	<i>keselamatan</i> 'safety'	<i>ke-_____an</i>

Figure 4.1. Examples of affixes in Bontoc, Tukang Besi and Malay

Activity 4.5

Do any of your other languages have infixes or circumfixes?

Meaning of affixes

According to meaning, affixes can be of two types.

- **Derivational** affixes form a new word with a new lexical meaning.
- **Inflectional** affixes form a variant of the word they attach to, adding a grammatical meaning.

You will notice that this difference in the kinds of meanings conveyed by affixes parallels the difference that we discussed in the previous chapter, concerning lexical and grammatical words. Like lexical words which express ideas/concepts, derivational affixes have semantic content. Derivational affixes are so named because when they attach to a root/stem, they derive a new word, i.e. a word with a new lexical meaning. In contrast, inflectional affixes, like grammatical words, carry grammatical meaning. They mark grammatical properties such as tense, number, person and case, and do not change the lexical meaning of the words they attach to.

This difference between lexical and grammatical meaning explains why certain words are regularly given an entry of their own in dictionaries, whereas other words share the same entry. For example, the words *commit* and *commitment*, though related, are in fact two words, with two different lexical

meanings that entitle each to a separate dictionary entry. In contrast, inflected words (e.g. *rooms*) are listed under the same entry as their root, given that they represent grammatical variants of the same word.

In derivational affixation (or **derivation**, for short), the word class of the stem and the word class of the derived word may or may not be the same. This means that derivational affixes may be **class-maintaining** or **class-changing**. Consider these two words:

(4.3) *unhappy* *commitment*

Affixing *un-* to the Adj *happy* derives a new Adj (*unhappy*); *un-* is a class-maintaining derivational affix. Affixing *-ment* to the verb *commit* also derives a new word (*commitment*), but this time the lexical class of the derived word changes to a noun; *-ment* is a class-changing derivational affix.

Inflectional affixes, as we saw in (4.1), change the grammatical meaning of the words they attach to. Consequently, inflectional affixation (or **inflection**) is always class-maintaining. For example, inflectional affixation with plural *-s* changes the grammatical meaning of the singular noun *room* to plural *rooms*, but the lexical category remains unchanged. Both *room* and *rooms* are nouns. Similarly, affixation with *-ed* changes the grammatical meaning of *walk* from present tense to past tense *walked*, but the lexical category remains unchanged. Both *walk* and *walked* are verbs. If we assume that lexical meaning is more central than grammatical meaning, we can see why inflectional affixes regularly follow derivational affixes in the formation of words. One example is the word *commitments*, discussed in section 4.2 above.

Using the two criteria of distribution and meaning, we can distinguish English affixes in the following way:

	derivational	inflectional
prefix	✓	✗
suffix	✓	✓

Figure 4.2. Types of affix in English

Figure 4.2 shows that the derivational affixes of English can be either prefixes or suffixes. For example, *un-* in *unhappily* is a derivational prefix, while *-ly* in the same word is a derivational suffix. In contrast, the inflectional affixes of English are all suffixes. In fact, contemporary English has only eight

inflectional affixes: four bound to verbs, two bound to nouns, and two bound to adjectives.

Activity 4.6

Can you identify the eight inflectional affixes of contemporary English?

Other languages, however, have inflectional prefixes as well as suffixes. One example is Swahili (the major African lingua franca). In many languages, nouns must belong to different grammatical classes, called *genders*. You may be familiar with gender from languages like French, which has two (masculine and feminine) or German, which has three (masculine, feminine and neuter). In these languages, gender is marked by suffixes. Swahili has several different genders (e.g. for ‘human’, ‘other living things’, ‘liquids’, etc.) and all are marked with inflectional prefixes. As in other gendered languages, adjectives qualifying a noun must show the same gender inflection as the noun. Here is one example from Swahili with a noun and an adjective for the gender sometimes called “Class 6” (in Swahili, the adjective follows the noun):

Swahili

N	Adj	Inflectional prefix
<i>tunda</i> ‘fruit’	<i>zuri</i> ‘good’	<i>ma-</i>
<i>matunda mazuri</i> ‘good fruit’		

Figure 4.3. Example of gender inflection in Swahili

Affix identification

In section 3.4.3, we listed three criteria to identify morphemes, namely sound, grammar and meaning. The same criteria can of course be used to identify different affixes. Let’s see how the three criteria apply to the affix *-ly* in the words *sharply*, *kindly* and *happily*. If all three criteria are obeyed, then we are dealing with the same affix. If any one criterion is not met, then we are dealing with different affixes.

- **Sound.** In all three words, the affix is pronounced the same way, [li] (conventions to represent pronunciation are dealt with in the next chapter). In other cases, the pronunciation of an affix may be

predictable by rule. Predictable variation of this kind also satisfies the sound criterion (for more on phonological variation, see section 6.3.1).

- **Grammar.** The affix attaches to the same stem class, in the same position (as a prefix or as a suffix), and the lexical category of the resulting word must be the same for all the words under consideration. In this case, *-ly* is suffixed to an Adj to form an Adv in all three words.
- **Meaning.** The affix establishes a regular meaning relationship between the stem and the word resulting from the affixation. In this case, the meaning of the newly derived word can be paraphrased as ‘in a ____ manner’, where the Adj replaces the blank. For example, *sharply* means ‘in a *sharp* manner’.

Note that the meaning **paraphrase** must contain the stem of the word, in this case the adjectives *sharp*, *kind* and *happy*, in order to make the meaning relationship between the stem and the derived word absolutely clear. We can now generalise our observations about the formation of the words *sharply*, *kindly* and *happily* to all other words containing the same affix by means of a shorthand rule, like this:

(4.4) Adj + *-ly* → Adv, ‘in a ____ manner’

In **rule notation** of this kind, the plus sign represents sequential ordering of morphemes, and the arrow indicates the result of that ordering. This rule summarises all the information that we need, in order to identify the affix *-ly*. You can use this rule to check for yourself that *sharply* contains the same affix as words like *brightly*, *lightly* or *beautifully*.

The observations and analysis that we developed in this section of course apply to any complex word formed through affixation, not just the three adverbs under discussion here. Otherwise, our conclusions would be useless in a scientific account of language.

Activity 4.7

Use rule notation to account for the formation of the words *unhappy* and *commitment*.

Then find three other words that follow the same rules.

4.3.2 Compounding

Affixation involves attaching one or more affixes to a stem. In contrast, **compounding** involves attaching a stem to another stem. In the following sentence, the words in italics are compounded words:

- (4.5) Janice spilled the *salad dressing* on her *brand-new laptop*.

Notice that spelling is irrelevant for the identification of compounds. Compounds may be spelt with hyphens as in *brand-new*, without hyphens as in *salad dressing*, or as single words as in *laptop*. What is crucial is the meaning relationship between the stems making up the compound word.

Form of compounds

Each of the stems in a compound is itself a word of the language, and therefore belongs to a particular word class. However, the word class of each stem does not necessarily correspond to the word class of the compound word itself, as shown in the table below:

Stems	Compound	Word class of stems	Word class of compound
<i>hand + bag</i>	<i>handbag</i>	N + N	N
<i>pick + pocket</i>	<i>pickpocket</i>	V + N	N
<i>pull + over</i>	<i>pullover</i>	V + P	N
<i>sea + sick</i>	<i>seasick</i>	N + Adj	Adj
<i>bare + foot</i>	<i>barefoot</i>	Adj + N	Adj
<i>run + down</i>	<i>rundown</i>	V + Adv	Adj
<i>spoon + feed</i>	<i>spoonfeed</i>	N + V	V
<i>over + shadow</i>	<i>overshadow</i>	P + V	V
<i>in + to</i>	<i>into</i>	P + P	P

Figure 4.4. Word classes of compounds and their stems

Figure 4.4 shows that the word class of the compound word may be the same as the word class of one of its stems, often the right-hand stem (as in *pickpocket*, *seasick*, *spoonfeed*, and *overshadow*), but that this need not always be the case (as in *barefoot*, *rundown* and *pullover*). There is wide variability in the

correspondence of word class between stems and compound, and it is this flexibility that contributes to the lively productivity of compounding as a word-formation process.

Languages like English allow simple juxtaposition of stems to form a compound, as in the examples above. This is the commonest compounding process in these languages. But other compounding processes exist, such as linking stems by means of grammatical words as in *mother of pearl*, *chief of staff* or *black and white*. Examples are expressions like *a mother of pearl necklace* or *a black and white photograph*. Other languages prefer linking stems in this way, for example Romance languages like French or Portuguese. What's important is that the words so linked, whether by simple juxtaposition or through the use of linking words, acquire a specific meaning of their own, that is different from the meaning of each of the stems that make up the compound. Compound words, like derived words, have dedicated entries in dictionaries.

Activity 4.8

We saw in Activity 4.4 that the word *disgraceful* contains more than one stem. This being so, explain why this word is not a compound.

Meaning of compounds

A compound word encapsulates a specific concept. The meaning of many compounds is non-compositional and may lie anywhere from transparent to opaque on a compositionality cline. What this means is that we cannot predict the exact meaning of a compound by assuming a particular relationship between the stems that build it. Take, for example, the compounds *meatball* and *handball*. They both have the structure N + N → N, and they both mean something that is related to *meat* and *ball* in the first case, and to *hand* and *ball* in the second. But whereas *meatball* means ‘a ball made of meat’, *handball* doesn’t mean ‘a ball made of hand(s)’. Similarly, *handbag* means ‘a bag to be carried in your hand’, whereas *handball* does not mean ‘a ball to be carried in your hand’.

Activity 4.9

Explain why this is an example of language play:

If olive oil is made by pressing olives, how is baby oil made?

As illustrated above, the meaning of some compounds is opaque because of the idiosyncratic relationships between the stems forming the compound. But compound opacity can also result from meaning shifts in the stems of a compound. The compound *blackboard*, for example, was created at a time when all school boards were black, i.e. the stem *black* was used in its literal sense. Nowadays, however, we can talk about *green blackboards* and even about *white blackboards* (although the word *whiteboard* has been coined for the latter), without feeling that we are being paradoxical about the colour of the board. The reason is that the stem *black* no longer designates the colour ‘black’ in this compound. Together with the stem *board*, it identifies a particular kind of object instead.

Despite the opaque meaning that the first stem contributes to these compounds, there is a sense in which compounds like *blackboard* or *darkroom* do have a transparent meaning, in that a blackboard is a board, and a darkroom is a room. The same cannot be said of the meaning of compounds like *pickpocket* or *pullover*. In compounds of the former type, the second stem is central to the meaning of the whole compound. We can paraphrase the meaning of compounds like *handbag* or *shoulder-bag* by saying that they are bags of a particular kind. Similarly, we can paraphrase the meanings of compounds like *seasick* and *car-sick* by saying that they both involve being sick in some way. Compounds of this type are called **headed compounds**: the second stem is the **head** of the compound, and the first is its **modifier** (we return to the concepts of *head* and *modifier* in section 7.4.1, in our discussion of syntax). Two properties can be observed among these compounds, relating to:

- **Meaning:** the modifier narrows down the meaning of the head.
- **Word class:** the compound word belongs to the same word class as its head.

By these two properties, the meaning of a headed compound can be said to refer to a *kind-of* the meaning of its head. For example, a handbag is a kind of bag (for more on *kind-of* relations between word meanings, see section 9.5.2). The meaning of these compounds tends to lie on the transparent segment of the compositionality cline, compared to the meaning of **non-headed compounds** like *pickpocket* or *pullover*.

The productivity of compounding is borne out by the frequency with which so-called **long compounds** are formed. Long compounds are expressions formed by successive compounding of other compounds (this kind of compounding is an example of **recursion**, that we deal with in section 7.5). In English, 3-word and 4-word compounds are very common. Two examples are, with their stems numbered for ease of reference:

- (4.6) a. *vehicle breakdown service*

1 2 3

- b. *professional children's entertainment troupe*

1 2 3 4

Because long compounds are formed by compounding other compounds, we need to take account of **hierarchy** in their formation. Often, decisions about the order in which the stems attach to one another result in quite different interpretations of the meaning of the final compound. We would all agree that example (4.6a) can only mean ‘a service dealing with vehicle breakdown’, not ‘a breakdown service for vehicles’. That is, (4.6a) is formed by attaching stems 1 and 2 to each other, and then stem 3. Similarly, (4.6b) can only mean ‘a professional troupe for children’s entertainment’, not ‘an entertainment troupe made up of professional children’. That is, (4.6b) is formed by attaching stems 3 and 4 to each other, followed by stems 2 and 1, in that order.

But how would we parse a long compound like *Singapore noodles soup*? Do we mean ‘a kind of soup with noodles that is served in Singapore’, or ‘a soup containing Singapore noodles’? The two interpretations can be made clear using square brackets for the stems that are parsed together, like this:

- (4.7) a. *[Singapore] [noodles soup]*

- b. *[Singapore noodles] [soup]*

The choice of interpretation may well depend on what we understand a “concept” to be, in the sense discussed above for the meaning of compounds. *Singapore noodles* may be a concept for certain speakers, in which case the parsing in (4.7a) is the one that immediately comes to mind. For other speakers, the compound may be **ambiguous**, i.e. mean two different things according to the alternative analyses in (4.7).

An illuminating episode concerning compound parsing involved one of the authors of this book as main character. As a newcomer to Asia, I saw a poster describing a *red dragon boat team*. My first reaction was to wonder “What colour is the dragon??” Would you have any trouble assigning a colour to the dragon too, or would you find the issue irrelevant? The explanation for my confusion is that, for me, *dragon boat* was not a compound concept, so I didn’t know whether to parse *red dragon* first, or *dragon boat* first. Think for yourself how you would parse a long compound like *kitchen towel rack*, which is always ambiguous because there is no single “basic” compound concept involved in its formation.

Activity 4.10

Do you find these long compounds ambiguous? Explain why you think so.

busy family schedule

toy car factory

wooden door latch

Here is a schematic summary of the word types discussed so far:

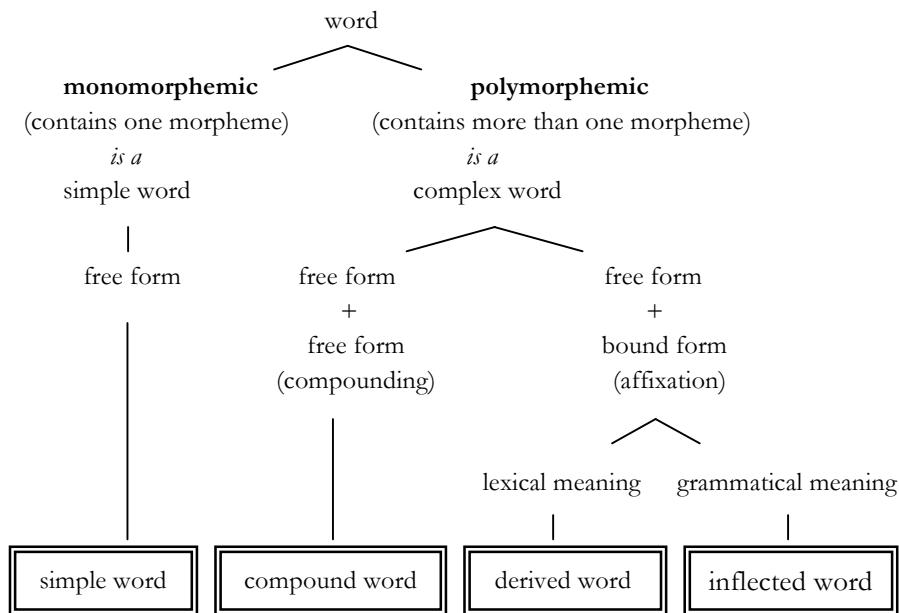


Figure 4.5. Summary of simple and complex words

4.3.3 Conversion

The last of the three highly productive word formation process that we wish to discuss here is conversion. **Conversion** involves a change in the word class of a word without any change in the form of the word. Examples of converted words appear in italics below:

- (4.8) If you *bookmark* your favourite websites, they'll *cookie* every *download*.

Used originally as nouns, the words *bookmark* and *cookie* are currently used also as verbs. The converse is true of the word *download*, which started life as a verb and is now used also as a noun. The productivity of conversion is seen in the vast number of identical word forms that serve as different word classes. A few examples include *judge*, *fast*, *party*, *impact*, and *email*. Out of context, the word class of converted words cannot be determined. In English, virtually any word can be converted to a noun. This is why we can talk about *the rich*, *a have-not*, or *the whys, ifs and buts* of an argument.

Conversion differs from both affixation and compounding in that new words are formed not through the addition of morphemes (whether affixes or stems) but simply by changing their word class. Because of this, conversion adds new simple words to the language, from other simple words, whereas affixation and compounding add complex words.

When dealing with word formation processes, it may sometimes be useful to find out the original word class of a word. **Etymology** (from the Greek *etymon*, ‘true meaning’ and *logos*, ‘science’) deals with the historical evolution of word meanings. Any good dictionary, such as the Oxford English Dictionary (OED) or the Merriam-Webster, for British and American uses of English, respectively, will provide this information. Incidentally, a lot of people think that the original meaning of words is their ‘true meaning’, as the Greek word above suggests. If so, we would all be very wrong in our current use of many words. Take *nice*, for example. At the time English imported this word from Latin through French in the Middle Ages, it meant ‘ignorant, foolish’ – certainly not how we use this word today.

4.4 Other word formation processes

We now discuss briefly four other word formation processes that are common in various languages. All of them share one characteristic that sets them apart from the three major processes discussed so far: they all shorten words.

4.4.1 Backformation

Backformation is so named because it is the opposite of affixation: it involves removing from a word a part of it that is perceived as an affix. The word is taken “back”, as it were, to its stem “form”.

The interesting feature of backformed words is that the supposed affix is in fact not an affix at all, and there is therefore no stem to go back to. By analogy with other legitimately affixed words of the language, backformation in fact creates a new word. One classic example of backformation will help

explain how it works. The word *television* was created as-is to designate what we all know it to mean. By analogy with pairs of words like *supervision-supervise*, *revision-revise*, the word *television* was (wrongly) assumed to be a derived word too, and the new verb *televise* was backformed from it. Many backformed words create verbs from nouns in similar ways. Examples include *hawk* from *hawker*, *edit* from *editor*, and *electrocute* from *electrocution*.

Backformation isn't always clear-cut, and at times may cause hesitation in the use of certain word forms. For example, when you find your bearings do you *orientate* or *orient* yourself? And are you then *orientated* or *oriented*?

4.4.2 Clipping

In contrast to backformation, **clipping** simply cuts a word short, without reference to morphological structure. Examples of clipped words include *exam* from *examination*, *maths* from *mathematics*, and *pub* from *public house*. Many students taking *English Language* refer to their course as *Elang*. Many of us surf the *net* rather than the *internet*, and ride in *cars* rather than *motorcars*. These examples show that clipping can affect any part of the original word, its beginning, end or middle. The words *fridge* and *flu*, from *refrigerator* and *influenza*, for example, retain the middle, while clipping off the beginning and end of the words.

Activity 4.11

Can you explain the language play in the sign below, painted on the side of an electrician's van?

Let us remove your shorts

4.4.3 Acronymy

Acronymy involves using the initial letters of a sequence of words or morphemes to form a new word. We mentioned the word *television* above, as the name of a familiar object, but the likelihood is that you don't watch *television*, you watch its acronym *TV* instead. Other examples of acronyms are *KL* for *Kuala Lumpur*, *MMR* for (vaccination against) *measles*, *mumps*, *rubella*, *DOS* for *disk operating system*, or *UNESCO* for *United Nations Educational, Scientific and Cultural Organisation*.

These examples in fact conflate two types of acronyms. Some, like *KL*, are pronounced by the names of the letters that compose them, whereas others, like *UNESCO*, can be pronounced as a word. The former are sometimes

called **initialisms**, whereas the latter are acronyms proper. The word *CD-ROM* is a mixture of both, its first part an initialism and its second part an acronym. Words like *PhD* (*Philosophy Doctor*) or *radar* (*radio detecting and ranging*) are also taken as acronyms, although they both take two initial letters from one of their words, rather than just one (“*Ph*” from *Philosophy* and “*ra*” from *radio*).

Activity 4.12

In Singapore, the names of most expressways are shortened in the following way (all shortenings are read as initialisms).

Bukit Timah Expressway	BKE
Kranji Expressway	KJE
Pan-Island Expressway	PIE
Seletar Expressway	SLE

1. Can you find the rule for these shortenings?
2. Now try to predict the shortenings for the following expressways:
Central Expressway
Tampines Expressway
3. Think about naming practices of this kind in your own country, for roads, institutions, services, etc. Any interesting examples?

Once acronyms become words in their own right, they behave like ordinary words, exhibiting the features of the word class to which they are assigned. We can thus pluralise nouns like *radar* and *CD-ROM*, to talk about *radars* and *CD-ROMs*, respectively. Spelling, particularly of proper acronyms, also normalises to lowercase letters. This is the case for *radar*, as it is for *scuba* and *laser*, from *self-contained underwater breathing apparatus* and *light amplification by stimulated emission of radiation*, respectively.

These examples make it easy to understand why acronym is an economical way of using words, and why, therefore, acronyms are extremely common in any media where speed of communication is seen as desirable, e.g. chatrooms, email, instant messaging systems. Other recent examples of acronyms include *SARS* for *severe acute respiratory syndrome*, *DVD* for *digital video disc*, *URL* for *uniform resource locators* and *SMS* for *short message service*.

Activity 4.13

1. Collect a file of commonly used acronyms that you use on email or when messaging your friends.
2. Make a list of acronyms used in the news (either on TV/radio or in print).

4.4.4 Blending

A **blend** can be seen as the compounding of clipped words, in that it takes segments from words and joins them together in a new word that retains meaning characteristics from the original words. The word *smog*, for example, is a blend of *smoke* and *fog*, and means a ‘blend’ of smoke and fog. Similarly, *brunch* is a blend of breakfast and lunch, a *modem* is a blend of a modulator and demodulator, while a *dramedy* blends drama and comedy.

Other examples of blends are the names by which local varieties of languages are known. Examples of labels involving English include *Hinglish* (Hindi English), *Japlish* (Japanese English), *Swenglish* (Swedish English), and *Spanglish* (Spanish English). These blends reflect the dual contribution of their two referents to form the language variety in question. Within this set of labels, the word *Singlish* is also a blend, although its first clipping refers to a country (Singapore) rather than a language. The same applies to *Manglish* (Malaysian English), the variety of English spoken in Malaysia.

4.5 Morphological analysis of complex words

Several of the word formation processes discussed in this chapter can, and in fact do, operate on the same word. This flexibility is part of the productivity of these word formation processes. We can, for example, find words like *ATMs*, formed through acronymy and affixation, or like *piano-players*, where compounding and affixation apply. Let’s now see how complex words like these are analysed.

4.5.1 Interpretation of meanings

Insight into the meaning of a complex word is best gained by means of a **paraphrase** that explicitly describes its meaning. Paraphrase makes clear not only the grammatical identity of each of the component morphemes in a

complex word, but also the grammatical relations among them. As highlighted above, paraphrases must mention the morphemes that constitute a word, so that the meaning of the word becomes clear. For example:

Word	Paraphrase
<i>handbag</i>	a bag to carry in your hand
<i>barefoot</i>	with feet that are bare
<i>deep-fry</i>	to fry (something) deeply
<i>insane</i>	not sane
<i>piano-player</i>	someone who plays the piano
<i>piano-players</i>	more than one piano-player

Figure 4.6. Examples of paraphrases of complex words

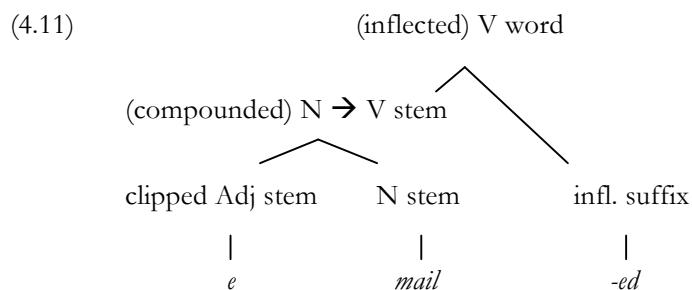
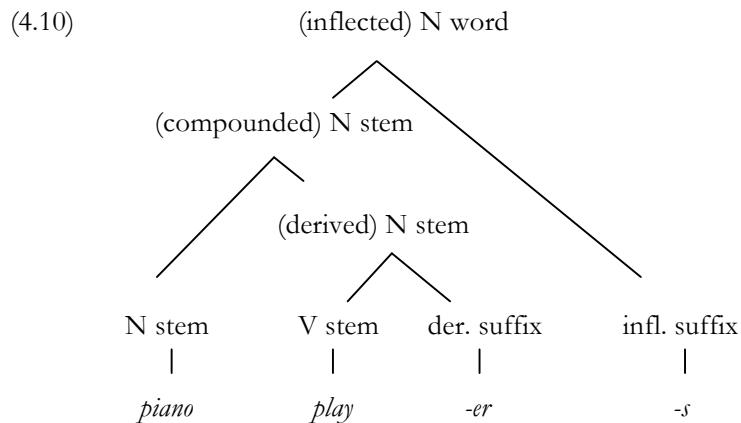
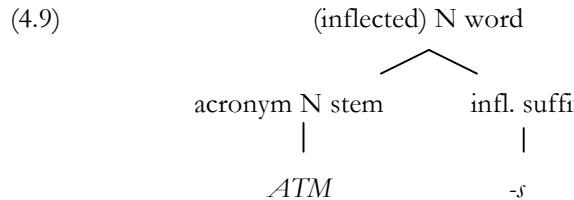
4.5.2 Representation of structure

The internal structure of words may be represented schematically by means of a diagram. In linguistics, diagrams that represent grammatical structure have become known as **tree diagrams**, although they in fact suggest an upside down, or inverted “tree”, with branches that grow downwards rather than upwards. By analogy with actual trees, tree diagrams have **branches**, straight lines that link units at successive levels of analysis, and **nodes**, the points at which the branching take place. Each node of the diagram bears a label, which clearly identifies the relevant unit for the intended analysis. Labelled tree diagrams are commonly used in morphology and in syntax, and their purpose is to enable us to visually grasp the linguistic structure of words, phrases and sentences in terms of their linear and hierarchical organisation.

When drawing a morphological tree diagram, we can work **bottom-up**, starting at the bottom of the tree, labelling each morpheme in each word, and work our way upwards. Or, we can work **top-down**, starting with the word as a whole and breaking it down into its constitutive morphemes. In either case, we must bear in mind that word analysis obeys the two constraints stated in section 4.2 above: the analysis reflects the hierarchical step-by-step process of word formation, and must build well-formed words at each stage of word formation.

Here are the complete diagrams for three words, the nouns *ATMs* and *piano-players*, and the verb *emailed*. For these diagrams, we chose, arbitrarily, to use the abbreviations *der.* and *infl.* for *derivational* and *inflectional*, and an arrow

to indicate conversion. Other conventions can be used in diagrams, so long as their meaning is made perfectly clear.



The diagrams (4.9)-(4.11) give us all the information that we need in order to understand the internal structure of the words, in what could be called the words' formation "history". The information in brackets is in fact redundant,

and is shown here just for clarity. There is no need to repeat, for example as in (4.10), that *player* is a derived stem: its suffix is already specified as derivational. The diagrams also show that inflection applies last, in all three word formations. All words in the examples are therefore inflected words, regardless of other processes in their formation.

Activity 4.14

Draw labelled tree diagrams for the underlined words in this sentence:

Janice SMSed that her laptop refuses to restart properly.

4.5.3 A note on spelling and morphological analysis

We said in section 2.6 that written representations of language add an additional level of arbitrariness to it. We have also insisted that linguistics is concerned primarily with **spoken language**, rather than written/printed forms of it. “Creative spellers” do manage to get their written messages through, if their original spoken form can be recovered from the written/printed material. One example is the following letter written by a child to Santa Claus, where the intended meaning is clear despite the unexpected spelling:

(4.12) *I want a bored game.*

While the observation that spelling is a secondary representation of language remains true, it is also true that **spelling** is not entirely irrelevant to linguistic analysis. Being conservative by nature, not least because it reinforces the dominance of the sense of sight over hearing, spelling preserves the visual coherence of morphologically-related words that may have lost their family resemblance in speech. Speech-faithful spellings like the following can be easily read, and might be advocated by spelling reformists:

(4.13) *ilektrik ilektrishan ilektrisiti ilektrikal*

The counterargument to such reformation is that the alternative spellings *ilektrik*, *ilektrish* and *ilektris* would fail to represent the unity of the morpheme *electric*, found in the conventional spelling of all four words.

Food for thought

Let's face it,
English is a crazy language.
There is no egg in the eggplant
No ham in the hamburger
And neither pine nor apple in the pineapple.
English muffins were not invented in England
French fries were not invented in France.

We sometimes take English for granted
But if we examine its paradoxes we find that
Quicksand takes you down slowly
Boxing rings are square
And a guinea pig is neither from Guinea nor is it a pig.

If writers write, how come fingers don't fing?
If the plural of tooth is teeth
Shouldn't the plural of phone booth be phone beeth?
If the teacher taught,
Why didn't the preacher praught?

If a vegetarian eats vegetables
What the heck does a humanitarian eat!?
Why do people recite at a play
Yet play at a recital?
Park on driveways and
Drive on parkways?

How can the weather be as hot as hell on one day
And as cold as hell on another?
You have to marvel at the unique lunacy
Of a language where a house can burn up as
It burns down,
In which you fill in a form
By filling it out
And a bell is only heard once it goes!

English was invented by people, not computers
And it reflects the creativity of the human race
(Which of course isn't a race at all).

That is why
When the stars are out they are visible
But when the lights are out they are invisible.
And why it is that when I wind up my watch
It starts
But when I wind up this poem
It ends.

Richard Lederer

Further reading

- Deterding, David H. and Poedjosoedarmo, Gloria R. (2001). Chapter 2. Morphology. In *The grammar of English. Morphology and syntax for English teachers in Southeast Asia*. Singapore: Prentice Hall, pp. 6-17.
- Hudson, Grover (2000). Chapter 15. Six ways to get new words. In *Essential introductory linguistics*. Oxford: Blackwell, pp. 239-251.

5

Speech sounds

Chapter Preview

How are speech sounds different from other sounds?

How do we articulate speech sounds?

What kind of sounds are used in languages?

5.1 Introduction

Any sound, whether used in speech or otherwise, can be characterised in terms of its quality. **Sound quality** refers to a specific set of acoustic properties that distinguishes one sound from another.

Being about language, this book is concerned with **speech sounds**, sounds produced by human beings for the purposes of linguistic communication. This definition encompasses the two branches into which the study of speech sounds divides:

- **Phonetics** deals with the articulatory capabilities of the vocal tract, and therefore with an ability shared by all human beings. These capabilities are the object of *articulatory phonetics*, the branch of phonetics that we deal with in this chapter. Articulatory phonetics studies how speech sounds are produced (articulated) in the human vocal tract. *Auditory phonetics* and *acoustic phonetics* constitute further sub-branches of phonetics, not dealt with this in this book. Auditory phonetics studies the mechanisms involved in speech audition, i.e. how listeners perceive speech sounds, while acoustic phonetics studies the physical characteristics of speech sounds.

- **Phonology** deals with sounds that serve linguistic purposes. These are sounds whose patterning conveys meaning. These sounds are recognised by speakers and listeners as linguistic signals in the language(s) that are available to them, and are therefore shared by speakers who share a language. We will look more closely at phonology in the next chapter.

In talking about sounds, we need to keep in mind that there is often no one-to-one correspondence between speech sounds and their spellings. So, we need to (re)train ourselves to *listen* to speech instead of *reading* printed forms of it. Here are a few examples of sound-spelling discrepancies in English. The words *threw* and *through* are pronounced in exactly the same way, as are *knows* and *nose*: when spoken out of context, we can't tell which is "witch". Conversely, the English letter sequence *-ough* has several different pronunciations, as in words like *cough*, *dough* or *through*, and the sound [k] can be spelt in at least eight different ways, as shown by the bolded letters of the following words:

(5.1) *tack, cat, mechanic, squid, beak, acquire, accordion, grotesque*

A few more examples from English appear in the Food for thought section at the end of this chapter.

Activity 5.1

Can you find examples of discrepancies between speech sounds and their spellings in other languages that you are familiar with?

5.2 The production of speech sounds

In order to communicate through speech, human beings move the lower part of their faces, in a frenzy of rapidly shifting and very precise configurations. If you think of yourself as a lazy or slurred speaker, and would dismiss the word *precise* as inapplicable to you, just take some time to observe the tremendous effort that small children put into the task of training the muscles that command the production of speech: you also had to go through this painstaking workout of speech musculature, in order to be able to "slur" fluently.

The lower jaw, being mobile, stands for the visible part of speech configurations. The role of the lips in speech is clearly visible too, as is, at

times, the configuration of the tip of the tongue and the teeth in the articulation of certain speech sounds. However, most speech configurations take place inside the oral cavity, anywhere along the vocal tract. They are therefore difficult to see, but fairly easy to feel. The bulk of this chapter is dedicated to showing you what it takes, and how it feels, to pronounce a range of common speech sounds.

5.2.1 The vocal tract

The **vocal tract** forms an inverted L-shaped tube that stretches from the larynx upwards to the lips. The angle of the L is at the back of your throat. The **larynx**, or the *voice box*, is located mid-way down the front of your neck. If you're male, you may find that the so-called "Adam's apple" of your larynx can be quite protruding. The vocal tract includes the nasal cavities, which are located inside and behind your nose, as optional resonator.

We normally speak while breathing out (you can try uttering a few words, or maintaining a conversation while breathing in, to get a feeling of how unnatural this is). This explains why speaking for long periods of time can be quite tiring. The repeated interruptions of the airflow that make speech possible disrupt the normal rhythm of breathing. Speech sounds are produced by means of modifications imposed on exhaled air, as it flows through the vocal tract. These modifications are brought about by movement of the **articulators**, each of the component organs and locations in the vocal tract that play a role in the production of speech sounds. Generally, the **active articulators** along the lower jaw move towards the **passive articulators** in the upper jaw. Both lips, lower and upper, can be active articulators.

Instead of providing you with the usual labelled diagram of the vocal tract found in most introductory material on phonetics, we offer in this chapter "hands-on" acquaintance with the basic anatomy and physiology of your oral cavity. We will show you around your own vocal tract, making it clear to you what goes on inside it when you speak. In the process, the reason why so many apparently obscure labels are needed for the description of speech sounds will, we hope, become clear to you. As a preliminary observation, keep in mind that just as we need different labels for words that behave differently, so we also need different labels for each of the vocal movements that produce a different speech sound.

In what follows, we provide you with a guided tour of your vocal tract, together with core speech configurations used in many languages, including English. In order to fully understand this chapter, you will need a mirror, a pencil or pen, and some privacy. Warn anyone near you not to panic at the noises you'll be producing; phonetics must be practised, it cannot be learned

otherwise. Better still, work through this chapter with a friend or two, willing to observe and be observed, and practise together! Just follow the Try the following trail.

5.2.2 Core speech configurations

Modifications along the length of the vocal tract affect its shape, and therefore its volume and resonance. Each modification thus produces a different sound. In this book, we deal with only a few of these modifications, most of which apply to most languages, including English. According to these modifications, speech sounds may be classified as *voiced* or *voiceless*, *oral* or *nasal*, and as *vowels* or *consonants*. We deal with each of these alternative articulations in turn.

Voiced vs. voiceless sounds

Try the following

Gently touch the section of your larynx that slightly protrudes at the front of your neck. Now say something like *Good morning!*, loud and clear. Can you feel the vibration under your fingers? This is the effect of your **vocal cords** at work, two folds of mucous tissue inside your larynx, that vibrate in order to produce **voice**. Now, still keeping your fingers in place, whisper *Good morning!* You'll notice that the vibration is gone, because whisper has no voice. Your vocal cords do not vibrate when you whisper.

When we produce speech sounds, the vocal cords can be in one of these two states:

- *Closed*, i.e. loosely brought together so that they vibrate when air flows through them. It is this vibration that creates what we call voice, resulting in **voiced** sounds.
- *Open*, i.e. pulled apart during the production of certain sounds, as they are during normal breathing or in whisper, resulting in **voiceless** sounds.

Try the following

With your fingers again in place on your larynx, say a long *zzzz* as in the beginning of the word *zap* and a long *www* as in the beginning of the word *rat*, loud and clear. Next, say a long *sss* (*sap*) and *fff* (*fat*) sound. Did you notice that the first two sounds are voiced and the last two are voiceless? For a more dramatic contrast, say the same sounds with your hands over your ears,

blocking them off. The two voiced sounds *zzzz* and *vvv* produce a buzzing vibration, caused by voicing, inside your head, whereas the two voiceless sounds *sss* and *fff* produce a turbulent hiss of air.

Oral vs. nasal sounds

Try the following

With the tip of your tongue, touch the roof of your mouth. You'll feel a bony surface, called the **hard palate**. Now drag the tip of your tongue back along the hard palate, as far back as it will go. You will notice that at the very back there is no bone: this is the **soft palate, or velum**.

Now close your lips tightly, and hum. Notice that you don't need to use your jaw at all to make your voice heard. Sounds that are produced as you hum involve using your nasal cavity: you produce them as air flows out through your nose.

When we produce speech sounds, the soft palate can be in one of these two states:

- *Raised* against the top part of your pharynx, which is the back wall of your throat. When raised, the soft palate blocks the airflow to the nasal cavities, resulting in **oral** sounds.
- *Lowered*, causing the air to flow through the nasal cavities, as when you hum, resulting in **nasal** sounds.

Try the following

Say a long *ah* sound, as if calling for help by using the word *Guard!* Now, say the sound given in English spelling by *-ng*, as in the word *bang*. Repeat the sequence *ah-ng-ah-ng-ah-ng-ah* several times with no pauses in between, paying attention to what's going on at the back of your mouth. You will feel the soft palate moving up and down, up for *ah*, which is an oral sound, and down for the nasal sound *-ng*. While doing this, pinch your nostrils together. You'll have no problem producing the oral sound *ah*. But you're no longer able to produce the nasal sound *-ng*, right? This is because when you pinch your nostrils together, air cannot flow out through your nose. To double-check that it is your soft palate moving, try saying *ah-gah-gah-gah*, where both sounds are oral. Pinch your nostrils together again, to confirm the difference between oral sounds like *gah* and nasal ones like *ng*.

Assuming that you've had a bad cold at least once in your life, you'll remember the strange resonance of your speech at the peak of it, when you have a blocked nose. Your listeners notice it, too. What happens is that air

cannot flow out through your nasal cavities to produce the nasal sounds of speech. You may now realise that the popular expression “speaking through your nose” couldn’t be further from the facts: with a bad cold, you speak exclusively through your mouth.

Activity 5.2

Pinch your nostrils together again to replicate a really bad cold, and complain about your symptoms:

My, my! I feel all numb and funny!

Can you see that what you’re really saying is something like *Bye, bye! I feel all dub add “fuddy”?* What can you conclude about the articulation of the sounds represented by the bolded letters in the words ***my, numb, and, funny***, in the original utterance?

Vowels vs. consonants

Try the following

Say the long *ah* sound again. You’ll notice that not much is happening inside your mouth when you say it. You simply open your mouth and produce voice.

Now place the tip of your tongue against the slight protrusion behind your upper front teeth, where your gums start. This is called the **alveolar ridge**. Say the sound *t*. Did you notice that in order to produce this sound, the tip of your tongue is forced away from the alveolar ridge? This type of sound requires serious involvement of the articulators.

Generally, we can say that:

- **Consonants** like *t* are produced by means of an obstruction to the airflow in the oral cavity. The lips, teeth and tongue form major consonantal obstructions.
- **Vowels** like *ah* are produced with no obstruction in the mouth: the shape of the vocal tract is modulated by different configurations of the tongue and lips.

Note that vowels and consonants refer to sounds, not letters/spellings. If you think there are five vowels in English, *a, e, i, o, u*, you will have reason to change your mind after you read the next chapter.

Activity 5.3

Say a long *oh*, and then a long *sh!* (as if shushing someone).

Which one is the vowel and which is the consonant?

5.2.3 Consonants

We can produce different types of consonants, depending on two major factors. One is the degree of obstruction to the airflow, which gives us the **manner of articulation** of the consonant. The other is the location of the obstruction along the vocal tract, which tells us about the **place of articulation** of the consonant. These two factors operate independently of each other: in the same way that you can place obstacles of the same or different kinds just about anywhere along a cross-country obstacle course, you can have the same or different types of obstructions to the airflow in different places along your vocal tract.

Manner of articulation

- **Plosives** are pronounced with the velum raised, and involve contact of articulators. This means that the articulators first touch each other, and then separate.
- Non-plosive consonants, in contrast, involve close approximation of the articulators. This means that the articulators come very close to each other, without ever touching. One example is the class of **fricative** sounds, where the air is hissed (i.e. expelled with *friction*, hence their name) through a very narrow gap between the articulators.

Try the following

Check that the *t*-like sound that you produced before is a plosive: the tongue tip touches the alveolar ridge, thereby closing off oral airflow. The sudden release of this closure produces an *explosive* effect.

Try now the long sounds *sss* and *vvv* again. The friction that you hear means that there can be no contact between articulators: there must be a

narrow channel somewhere that allows the air to hiss through it. Note that you can prolong fricative sounds for as long as you have air in your lungs. This is not possible with plosives, whose articulation is instantaneous. To check, try prolonging a *t* sound – chances are that you will go red in the face for lack of air, because of the plosive closure that is needed to produce this sound.

Place of articulation

- **(Bi)labials** involve one or both lips in their articulation.
- **Alveolars** involve the alveolar ridge as articulator.
- **Velars** involve the soft palate/velum as articulator.

Try the following

Now you know that *t* is not only plosive, it is also alveolar. You may also have guessed by now that the sounds spelt *p* and *b* are bilabials, involving both lips. Use your mirror (or your friends) to check these clearly visible articulations.

Say the sequence *ab-ŋ-ab-ŋ-ab-ŋ-ab* again, this time to check that the *-ŋ* sound involves contact between the back part of your tongue and the velum. So do the initial sounds in the words *gap* and *cat*. You can check this by saying *ah-gah-gah-gah* and *ah-kah-kah-kah*. All three sounds are therefore velar.

Now say *vvvv* and *ffff*, and concentrate on which articulators are involved in saying them. Use your mirror-friend to check. The upper lip plays no role in their articulation, but the lower lip does. These sounds are pronounced with the upper teeth very close to the lower lip. These sounds are therefore labial (and *dental* too: they involve the teeth, that your *dentist* checks out for you).

The place of articulation of sounds like *sss* and *zzzz* is more difficult to check, because the whole of their articulation goes on inside the mouth. In terms of manner of articulation, both sounds are fricative. There is therefore no contact of articulators that may help us feel the place of articulation, in the absence of visual clues. But try this: say *sss* and *zzzz* then stop saying them but keep the articulators in exactly the same position, and breathe in quickly. You will feel a rush of cold air between the tip of your tongue and the alveolar ridge. This is the space inside your mouth that allows the articulation of the sounds *sss* and *zzzz*, which shows that the constriction to the flow of air is located there. Both sounds are therefore alveolar.

5.2.4 Vowels

The articulation of different types of vowels depends on the movements of the tongue and lips. The body of the tongue can move *vertically* (up or down) and *horizontally* (front or back). The lips may be involved in the articulation of vowels, too.

The movements of the **tongue body** (the bulk of the tongue inside your mouth) are independent of one another. You can, for example, move your tongue up and down whilst bunching it up at the back of your mouth or, conversely, you can push it to the front or the back of your mouth while holding it high towards the hard palate. Try it.

Tongue-body movements are also independent of any movements of the **tongue tip**: the tongue tip is used in the production of consonants, not vowels. It may in fact come as surprise to you, especially if you are a body-builder, that the tongue is the best trained and most versatile muscle in your body. Its core role in speech is clear from the use of its name, “tongues”, to mean ‘languages’, in many languages around the world. We don’t notice the spectacular gymnastics show that goes on inside our mouths every time we speak because we have been practising this sophisticated skill since infancy. To get an idea of the range and power of tongue actions, remember it is used in chewing and swallowing, too. If you don’t believe us, try chewing on something while keeping your tongue motionless!

Vowel height

- **High** (or **close**) vowels are produced with the body of the tongue raised.
- **Low** (or **open**) vowels are produced with the body of the tongue lowered.

Try the following

Open your mouth wide and say a long aaaah again. While still saying ah, slowly raise your jaw. Use your mirror to check that you are indeed raising your jaw. You’ll find that, whatever you’re saying now, it’s not ah anymore. The vowel ah, in a word like cart, must be pronounced with a lowered jaw, and therefore a lowered tongue: it is an open vowel.

Now say a long iiiih vowel, as in the word see, and drop your jaw while saying it. You won’t be able to say ih anymore. The vowel ih needs a raised tongue to be produced: it is a close vowel. The difference between open and close vowels explains why your doctor asks you to say aaaah, and not iiiih, in order to be able to examine your throat.

Vowel backness

- **Front** vowels are produced with the body of the tongue pushed forward in the oral cavity.
- **Back** vowels are produced with the body of the tongue pulled back/retracted.

Try the following

Say the vowel in the word *cat*, and then the vowel in the word *cart*, several times in a row. You'll feel your tongue moving back and forth while doing this, back for the vowel in *cart*, and forwards for the vowel in *cat*. Use a mirror, to get visual feedback on this: it is easy to see because both these vowels are open.

Now try the same thing with the vowels in the words *bean* and *boon*. This is more difficult to feel because the *boon* vowel involves a distracting factor, which is the pouting, or rounding, of the lips. The difference in tongue movement is also impossible to see, because both vowels are close. So try this, instead. Take a pen, or a chopstick, and place it lengthways across your mouth, so that both ends of the pen/chopstick stick out from the sides of your mouth. Then bite it firmly as far back in your mouth as possible. Biting the pen/chopstick prevents the lips from moving in the articulation of the vowel in *boon*. Now say the vowels in *bean* and *boon* again. You'll feel your tongue touching the pen in the articulation of the vowel in *bean*, but not of the vowel in *boon*. We thus conclude that the vowels in *cat* and *bean* are front vowels, whereas those in *cart* and *boon* are back vowels.

Lip rounding

- **Rounded** vowels are produced with rounded (pouting) lips.
- **Unrounded** vowels are produced with unrounded (spread) lips.

Try the following

Easiest comes last. Of the four vowels that we've discussed, the vowel in *boon* is the only one that involves the lips: the lips must be rounded in its articulation. This is also why your photographer asks you to say *cheeeese* and not *choooose* when prompting a smile from you: spread-lip vowels are “smiley” sounds.

5.3 The transcription of speech sounds

A **phonetic transcription** is a way of representing sounds in print. The **IPA** (International Phonetic Alphabet) is a standard among **phonetic alphabets**, with symbols that correspond bi-uniquely to the sounds of the world's languages. This means that, unlike spelling symbols, the same phonetic symbol *always* represents the same sound, and vice versa. In other words, unlike the relationship between speech sounds and spelling, there is a one-to-one correspondence between phonetic symbols and the sounds they represent. This is why trained phoneticians can read a phonetic transcription of any language and sound fluent in it, even if they have no idea how to speak (or spell!) the language.

Figure 5.1 below gives the set of **phonetic symbols** used in this book. In the token words included in the table, the letters that correspond to the sounds on the left are in bold italic font. When consulting phonetics literature, or dictionaries that include IPA transcriptions, you may notice that certain vowels are transcribed using an additional symbol [:] following the vowel symbol. This indicates vowel length, and a corresponding distinction between long and short vowels present in some languages and some varieties of English, e.g. *bean* vs. *bin*, respectively. Many dictionaries also mark the stressed syllable of words. Intonation in turn has its own set of transcription symbols. For the purposes of this book, you do not need to be familiar with these conventions.

Phonetic symbol	Token word	Phonetic symbol	Token word
p	<i>p</i> at	f	<i>feel</i>
b	<i>b</i> at	v	<i>veal</i>
t	<i>t</i> eam	s	<i>seal</i>
d	<i>d</i> eedm	z	<i>zeal</i>
k	<i>k</i> ard	i	<i>bea</i> n
g	<i>g</i> uard	æ	<i>ba</i> n
m	<i>m</i> ean	ɑ	<i>ba</i> rн
n	seen	u	<i>bo</i> on
ŋ	pang		

Figure 5.1. Phonetic symbols used in this book

Phonetic transcriptions are usually given in square brackets. For example, the transcription of the word *cat* is represented [kæt].

Activity 5.4

Practise transcribing these words, using the phonetic symbols introduced above. Remember to focus on how the words are pronounced, not on how they are spelt.

<i>fang</i>	<i>goof</i>	<i>moose</i>	<i>piece</i>
<i>scarf</i>	<i>snack</i>	<i>speak</i>	<i>tax</i>

5.4 The analysis of speech sounds

According to the phonetics literature, there are two major ways of describing and labelling speech sounds:

- The **IPA** (International Phonetic Association) approach. Note that the abbreviation *IPA* stands for two different things – an alphabet and an association.
- The **DF** (Distinctive Feature) approach.

Both approaches draw on articulatory features of speech such as the ones that we have discussed in this chapter, and both therefore propose a universal framework for the description of human speech sounds. However, each approach takes a different perspective to look at speech sounds. This naturally results in alternative classifications of speech sounds, that do not always overlap across the two frameworks. As we've noted before, alternative analyses of this kind are as common in linguistics as in other sciences. They are part and parcel of our quest to understand, and they should be viewed as the probing tools that they are. It's up to us, as users of these tools, to choose the one that we deem most useful to approach the object of our inquiry, or to come up with a more illuminating alternative.

There are two major differences between the IPA and DF frameworks.

- The IPA approach views vowels and consonants as fundamentally distinct types of sounds. The DF approach views all speech sounds as fundamentally similar.

- The IPA assumes a set of articulatory configurations whose combined presence in the articulation of a sound defines that sound. The DF approach assumes a set of articulatory configurations, each of which can be present [+] or absent [-] in the articulation of a sound, on a binary basis.

We now comment on each of these differences in turn. Because IPA analyses of speech sounds view vowels and consonants as radically different in terms of their articulation, they make a principled distinction between the classification of vowels and consonants. DF analyses don't.

The IPA uses two distinct sets of articulatory configurations, one to characterise vowels and another to characterise consonants, each with their own set of terms. Consonants are described in terms of three articulatory configurations, namely, vocal cord vibration, place of articulation, and manner of articulation. Any consonant can be uniquely described using these three criteria. For example, [d] is a voiced alveolar plosive; [s] is a voiceless alveolar fricative. Vowels are described in terms of three other articulatory configurations, namely, lip rounding, tongue height, and tongue backness. So the vowel in *bean*, for example, can be uniquely described as unrounded close front, while that in *boon* is rounded close back.

In contrast, the DF framework uses the same set of criteria for all speech sounds. Each configuration of the vocal tract corresponds to an articulatory feature that allows us to distinguish one speech sound from another. These features are therefore *distinctive*. For example, raising the body of the tongue characterises the articulation of sounds like [i] and [k], as opposed to [a] and [z]. A feature that allows us to distinguish between the first and the second set of sounds is therefore relevant for our characterisation of speech, and is called [high] (distinctive feature labels are usually represented in square brackets). Or, vocal cord vibration, labelled [voice], allows us to distinguish [i, a, z] from [k]. Or, the smoothness of the airflow through the vocal tract distinguishes [i, a] from [z, k], and is represented in a feature called [sonorant].

The second difference between IPA and DF analyses concerns the way each of them views the articulatory make-up of a speech sound. For the IPA, a sound consists of a pool of articulations that, together, produce that sound. For example, [d] is voiced, *and* alveolar, *and* plosive, and [i] is unrounded, *and* close, *and* front. To use an analogy, a girl would likewise be characterised by the pool of properties human, *and* female, *and* child. The *presence* of these features makes a sound (or a girl) unique. In DF approaches, a *distinct* sound depends on whether specific *features* of articulation are activated or not in its production. For example, [i] is [+sonorant] and [z] is [-sonorant], [d] is

[+voice] and [t] is [-voice]. A girl could be described as [+human -male -adult]. The *interplay* of features, activated as well as inactivated, is unique to the sound.

Given the introductory nature of this book, we will not go into theoretical detail relating to the two frameworks. However, you will come across published material on phonetic analysis that often makes free use of terminology from either approach, and often in the same research piece. The set of tables that we propose below will, we hope, facilitate your learning about phonetics.

We start with the IPA, because this was the first analytical framework available to phoneticians. The IPA was founded in 1886, and the first DF proposals appeared in the early 1950s. Throughout the discussion in the remainder of this chapter, you should keep in mind that the use of the International Phonetic Alphabet in transcriptions does *not* imply subscription to the classificatory approach of the International Phonetic Association. DF analyses may use IPA phonetic symbols. A set of printable symbols and a theoretical stance about the classification of the sounds that these symbols represent are two different things.

IPA representations of speech sounds

Below are two samples of IPA charts, one for consonants and one for vowels.

		Place of articulation		
		(bi)labial	alveolar	velar
Manner of articulation	plosive	p b	t d	k g
	nasal	m	n	ŋ
	fricative	f v	s z	

Figure 5.2. Partial IPA consonant chart

By IPA convention, in paired voiced vs. voiceless sounds, the voiceless sound appears to the left of its voiced counterpart. Note that the blank box in the chart simply indicates that we do not deal with velar fricative articulations in this book. Many languages and language varieties have velar fricatives, like

German, e.g. at the end of the word *Bach*, or Scottish English, e.g. at the end of the word *loch* (a word for ‘lake’, as in *Loch Ness*).

Different IPA labels referring to place of articulation can be combined to provide more detailed articulatory descriptions. For example, the sounds [f, v] are usually described as *labio-dental* fricatives, accounting for the fact that their pronunciation involves both the lips and the teeth.

Vowel space is usually plotted inside a diagram like the one in Figure 5.3, called a **vowel quadrilateral**.

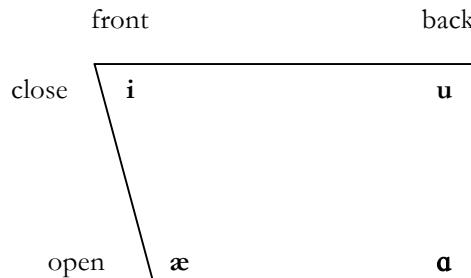


Figure 5.3. Partial IPA vowel chart

The diagram represents the left profile of the inside of the mouth, the side that is also represented in standard diagrams of the vocal tract. Each of the four sides in the diagram represents the top, bottom, front and back of the oral cavity. The four vowels discussed in this chapter can be plotted at the four angles of the quadrilateral. The vowel quadrilateral accounts for tongue movement only. It does not represent lip movement.

DF representations of speech sounds

Here is a summary of a sample of distinctive features.

		Yes	No
Manner of articulation	the airflow is smooth	[+sonorant]	[‐sonorant]
	there is contact of articulators	[+stop]	[‐stop]
	the air flows through the nasal cavities	[+nasal]	[‐nasal]

		Yes	No
Place of articulation	the body of the tongue is raised	[+high]	[-high]
	the body of the tongue is lowered	[+low]	[-low]
	the body of the tongue is fronted	[+front]	[-front]
	the body of the tongue is retracted	[+back]	[-back]
	one or both lips are involved	[+labial]	[-labial]
	the teeth are involved	[+dental]	[-dental]
	the tongue blade/tip is involved	[+coronal]	[-coronal]
Voicing	the vocal cords vibrate	[+voice]	[-voice]

Figure 5.4. Sample DF labels

DF approaches typically use a matrix-like table to classify speech sounds, where vowels and consonants are plotted together.

The matrix in Figure 5.5 gives a classification of the speech sounds that are represented by the phonetic symbols in its first column. For example, the four vowel symbols [i, æ, ʌ, u] represent oral vowels, and the feature [nasal] is accordingly marked for these vowels with a minus symbol. Many languages have nasalised vowels (e.g. French, Portuguese, Hokkien), for which there are different phonetic symbols from the ones given here, and whose [nasal] feature is therefore marked with a plus sign in a DF matrix. We marked the consonants [t, d, n] as [-dental] in the matrix, although they can be [+dental] in several languages and in several varieties of English. When you articulate [t, d, n] as [+dental], the tip of your tongue touches your upper teeth instead of the alveolar ridge. In all cases, [t, d, n] are [+coronal].

In the matrix below, we use the following conventions:

son: sonorant **lab:** labial **dent:** dental **cor:** coronal

	Manner of articulation			Place of articulation						Voicing	
	son	stop	nasal	high	low	front	back	lab	dent	cor	voice
p	-	+	-	-	-	-	-	+	-	-	-
b	-	+	-	-	-	-	-	+	-	-	+
t	-	+	-	-	-	-	-	-	-	+	-
d	-	+	-	-	-	-	-	-	-	+	+
k	-	+	-	+	-	-	+	-	-	-	-
g	-	+	-	+	-	-	+	-	-	-	+
m	+	+	+	-	-	-	-	+	-	-	+
n	+	+	+	-	-	-	-	-	-	+	+
ŋ	+	+	+	+	-	-	+	-	-	-	+
f	-	-	-	-	-	-	-	+	+	-	-
v	-	-	-	-	-	-	-	+	+	-	+
s	-	-	-	-	-	-	-	-	-	+	-
z	-	-	-	-	-	-	-	-	-	+	+
i	+	-	-	+	-	+	-	-	-	-	+
æ	+	-	-	-	+	+	-	-	-	-	+
a	+	-	-	-	+	-	+	-	-	-	+
u	+	-	-	+	-	-	+	+	-	-	+

Figure 5.5. Sample DF matrix

It's worth highlighting that in both frameworks, IPA and DF, the different configurations of the articulators are independent of one another. For example, within the IPA framework, a plosive can be voiced or voiceless, labial, alveolar or velar. Similarly, within the DF framework, a [+high] sound can be [+front] or [+back], [+labial] or [-labial]. The important thing to keep in mind is that each movement of each articulator produces one particular effect on the flow of air. It is the combination of *concerted* effects that produces a speech sound.

Activity 5.5

Using only the two DF [sonorant] and [stop], how would you characterise the set of sounds described by the following IPA labels:

plosives nasals fricatives vowels

Redundancy in phonetic descriptions

Our realisation that a sound is the result of a complex interplay of factors does not mean that its *description* must reflect this complexity. If description consistently matched real-world complexity, nobody would be able to learn about Newton's Laws of Motion in secondary school. Science of course strives to make sense of complex phenomena by means of **simple** descriptive statements. Let's illustrate this point with an example. From the DF matrix in Figure 5.5, we may conclude that the English sound represented by the symbol [n] can be described as:

(5.2) [+son +stop +nasal -high -low -front -back -lab -dent +cor +voice]

This description is accurate because it accounts for the uniqueness of [n] among all other sounds. But it is also, to say the least, cumbersome. It is like describing a cat, as opposed to a human being, as having fur, two eyes, four limbs, mammal features, claws, a stomach, whiskers, feline features and small size. Some of these properties can be inferred from other properties. For example, "four limbs" can be predicted from "mammal features". Other properties apply equally well to other members of a larger class. For example, both cats and humans have two eyes and a stomach. Likewise, in terms of distinctive features, [+nasal] implies [+sonorant], because nasal airflow is smooth (unless you're blowing your nose!). Also, most sounds in Figure 5.5 share features like [-low -front]. An equally adequate description of the sound [n], in terms of distinctive features that apply to English is:

(5.3) [+nasal +cor]

This is so because, in English, there are only three nasal sounds, [m, n, ɳ]. Specifying their place of articulation is thus enough to describe the uniqueness of each nasal in this language. The description in (5.3) is as informative as the one in (5.2), and it is clearly simpler. We should stress, however, that (5.3) provides a description of [n] that applies to a single language, in this case English. In other languages, the set of nasal sounds may include vowels, as we noted above, or other consonants besides [+stop], or [+stop] nasals that are [+coronal] and [+dental]. The analysis of sounds in different languages must of course take into account the specific articulatory patterns that are found in each language.

Our discussion of the description in (5.2) highlights two important points. The first is that a DF analysis provides us with more labels than are necessary for the description of single sounds in particular languages. This is also true of the IPA approach. We saw that the combination of velar and fricative articulations does not exist in English, although *velar* and *fricative* are useful

labels to describe other articulatory combinations in this language. In other words, both IPA and DF frameworks contain some degree of **redundancy**, in that they specify more structure than is required for the actual description of any given speech sound. A complete IPA and DF chart of the full set of articulations involved in English, for example, would show greater redundancy still. We saw another example of redundant analysis in section 4.3.1, where a theoretical “slot” was posited for inflectional prefixes, a unit that is not needed for the analysis of English morphemes, but which occurs in other languages. Redundancy is a feature of any scientific analysis, and of taxonomies in particular. For example in zoology, *mammal* and *eight legs* are constructs that usefully describe different types of living organisms, although there are no eight-legged mammals. Redundancy is also a feature of language itself, in fact an invaluable one in everyday communication, as we will see in chapter 10.

The second point that we wish to note is that redundancy operates at two different levels, the level of individual languages and the level of language in general. We saw above that (5.3) removes the redundancies found in (5.2) for the description of one sound in one language. We said that one of the reasons why we were able to simplify (5.2) is that some features are predictable from other features. In English, [+nasal] predicts [+stop], because all English nasals involve a complete closure in the mouth, blocking the airflow. But we also said that [+nasal] implies [+sonorant], because nasal airflow is smooth, and this is a universal entailment. It applies to nasal sounds in any language. An articulation like *[+nasal -sonorant] is therefore not generally found: we already know that not all theoretically possible articulations occur in practice. This is often due to simple physical reasons, that apply to any human being and therefore to any language. For example, try producing a speech sound which involves contact between your soft palate and your lower lip!

Activity 5.6

1. Which of the following (sets of) features necessarily implies the other? Circle your answers. The symbol \Rightarrow stands for ‘implies’.

- (a) [+high] \Rightarrow [-low] (b) [-low] \Rightarrow [+high] (c) [+stop] \Rightarrow [-son]
 (d) [+voice] \Rightarrow [+son] (e) [+son +stop] \Rightarrow [+nasal] (f) [+cor] \Rightarrow [-dent]

2. Which of the following combinations are impossible to articulate?
 Circle your answers.

- (a) [+dental +coronal] (b) [+front +back] (c) [-front -back]
 (d) [+sonorant +stop] (e) [+nasal -stop] (f) [+cor +lab]

Activity 5.7

In other languages that you speak, try to find features that

- entail one another
- are redundant for the description of particular sounds

The clear differences, that we have highlighted, between IPA and DF analyses should not obscure the fact that their object is the same: the articulation of human speech sounds. For example, the same sound [p] can be identified as a voiceless bilabial plosive or as [-son +stop -voice +lab]. These descriptions do not reflect a difference in the articulation of the sound [p]. They reflect a preference for a set of labels and representations that each framework, or theory, finds more useful for the purposes of their investigation.

Despite the different assumptions and insights into articulation that each of the two framework offers, the phonetics literature does not always show a clear-cut choice between one or the other. As we noted at the beginning of this section, phoneticians may draw on terminology from either account, when describing their research. This is often so for the sake of simplicity. For example, it is quicker (and neater) to say *plosive* than to say *[-son +stop]*. But it is also simpler to say *[+sonorant]* than to say *vowels and nasals*. This terminological hesitation reflects the fact that in phonetics, as in any science, the search continues, for the most economical way of making sense of our observations.

Activity 5.8

Take some time to study the IPA and DF charts given in this chapter, and to provide minimal descriptions of each sound, in order to make clear to yourself what makes each sound unique. Make sure that you understand the reasons for each of the labels applied to each sound.

Re-reading the Try the following sections in this chapter may help you with tips to carry out these tasks.

5.5 Intonation and tone

Vowels are voiced sounds, produced with a smooth airflow. These two features make vowels the sounds upon which intonation is chiefly modulated.

Intonational modulation, or speech melody, is one crucial carrier of linguistic meaning in any language.

Try the following

Imagine yourself in two different situations where you might use the following utterance, one jokingly, one deeply annoyed:

Oh, shut up!

If you try to pronounce this utterance to match the suggested feelings, you'll find that you pronounce the "same" utterance in two very different ways. In fact, you'll be pronouncing two different utterances, with two distinct meanings.

Intonation can be said to result from rapid changes in the tension and rate of vibration of the vocal cords. The vocal cords are folds of elastic tissue that can stretch or contract, and vibrate at a higher or lower rate, much like violin strings. Associated with these changes, the length of the vocal tract may be modified during speech, due to the vertical mobility of the larynx.

Try the following

Touch your larynx gently with your fingers, or look in a mirror with your chin lifted up, so you can see your larynx clearly. Now sing the highest note you can sing, and then the lowest, and then go from one to the other, a few times in a row. You'll feel/see your larynx moving up for the high note, and down for the low one, assisting the higher and lower rate of vibration of the vocal folds, respectively. The effect that these combined actions have on the column of air inside your vocal tract gives a similar impression to the one achieved by a "bottle concert", where you fill similar bottles with different amounts of liquid and then either blow into them or strike them with some hard instrument. You'll get a higher note when there's a higher rate of vibration inside the bottle and inside your vocal tract, and lower notes for lower rates.

Like any other linguistic system, intonation systems vary both across and within languages. However, two basic distinctions in the form of intonation patterns appear to be consistently associated with two sets of meanings, according to whether our tone of voice falls or rises.

Falling tones

Falling tones, or *falls*, result from a decrease in the rate of vibration of the vocal cords. Falls are typically associated with statements and commands. These types of utterances require minimal or no verbal response from the listener, and falling tones are therefore said to convey a **closed** set of meanings, in that they close off communication.

Rising tones

Rising tones, or *rises*, result from an increase in the rate of vibration of the vocal cords. Rises typically signal questions, which call for some response from the listener, and continuation, when the speaker goes on speaking. That is, the use of rising tones in an utterance indicates that the utterance is not complete, and rises are therefore associated with an **open** set of meanings.

Activity 5.9

Try pronouncing a single word, e.g. *Yes*, with as many different intonation patterns as you can.

Check for yourself or with a friend the range of different meanings that the “same” word can convey. Here are a few suggestions:

- say the word with a falling tone, then a rising tone;
- say the word with a very long fall, followed by a very long rise;
- say the word with a fall-rise pattern;
- say the word with a rise-fall pattern.

Or try “reading” out the following versions of *Yes*:

Yes! Yes? Yes!!! Yes?? Yes?! Yes!!!? Yeeeess!

If you have difficulty producing (and hearing) falling vs. rising tones, or level tones, try Collins and Mees’ (2003: 118) analogy: “The engine of a motor car when ‘revving up’ to start produces a series of *rising* pitches. When the car is cruising on the open road, the engine pitch is more or less *level*. On coming to a halt, the engine stops with a rapid *fall* in pitch.”

Intonational modulation operates across whole utterances, including those that may comprise a single word. In many languages, the difference between a statement and a question is signalled by intonation alone, a fall vs. a rise at the end of the utterance, respectively, without the associated change in word order that is common in standard uses of English.

All languages make intonational distinctions of this kind, but there are other uses of pitch in language. Pitch modulation may operate on single words, distinguishing between different lexical meanings of the same string of vowels and consonants. This is the domain of **tone**. Here is one example from Ngbaka, spoken in the Central African Republic. This language has level tones, meaning that the tone is kept even, neither rising nor falling, throughout the pronunciation of the words:

Ngbaka		
Word	Tone	Meaning
[ma]	low, level	'magic'
[ma]	mid, level	'I'
[ma]	high, level	'to me'

Figure 5.6. Examples of tones in Ngbaka

Asian languages like Mandarin, African languages like Hausa, and several American Indian languages are **tone languages**, distinct from **intonation languages** like English or Malay. Other languages, like Swedish and Japanese, combine features of intonation and tone languages.

As a concluding thought, it is interesting to note that despite the crucial role played by pitch modulation across all languages, the meanings conveyed by such modulation are hardly represented in spelling. Question marks vs. exclamation marks, for example, give an even rougher approximation to the various rises and falls of real-life language than the English spellings *bus*, *cress*, *science*, *city*, *mouse*, *flaccid*, give to the sound [s]. The deficient representation of intonation in print highlights the very limited resources of written forms of language to convey the full range of linguistic meanings. It is often the case that the meaning that you intend for an utterance is in fact given by intonation, rather than by the words that you use. We've all heard the saying: it's not *what* you say but *how* you say it that counts. Or, as the American linguist Kenneth Pike (1945: 22) strikingly put it, "[...] if a man's tone of voice belies his words, we immediately assume that the intonation more faithfully reflects his true linguistic intentions."

Activity 5.10

Can you say this utterance with two different intonations, so that it conveys sincerity in one case, and irony in the other?

Now, that was clever!

Activity 5.11

Can you say this utterance so that two different meanings are possible, one where the speaker did in fact go out, and the other where the speaker in fact stayed in?

I didn't go out because I wanted to see you.

In this chapter, we have provided a very brief overview of the range and variety of speech sounds that can be produced by the human vocal tract. Obviously, no language makes use of all possible speech sounds. In the next chapter, we look at how speech sounds are organised and used in languages.

Food for thought

When it's English that we SPEAK
Why is STEAK not rhymed with WEAK?
And couldn't you please tell me HOW
COW and NOW can rhyme with BOUGH?

I simply can't imagine WHY
HIGH and EYE sound like BUY.
We have FOOD and BLOOD and WOOD,
And yet we rhyme SHOULD and GOOD.

BEAD is different from HEAD,
But we say RED, BREAD, and SAID.
GONE will never rhyme with ONE
Nor HOME and DOME with SOME and COME.

NOSE and LOSE look much alike,
So why not FIGHT, and HEIGHT, and BITE?

DOVE and DOVE look quite the same,
But not at all like RAIN, REIN, and REIGN.

SHOE just doesn't sound like TOE,
And all for reasons I don't KNOW.
For all these words just prove to ME
That sounds and letters DISAGREE.

Further reading

- Collins, Beverley and Mees, Inger M. (2003). How we produce speech. In *practical phonetics and phonology: A resource book for students*. London/New York: Routledge, pp. 25-39.
(This book includes a CD with sound files to listen to and practise with.)
- Deterding, David H. and Poedjosoedarmo, Gloria R. (1998). Chapter 2. Speech production. In *The sounds of English. Phonetics and phonology for English teachers in Southeast Asia*. Singapore: Prentice Hall, pp. 9-13.
- Roach, Peter (1993). Chapter 2. The production of speech sounds. In *English phonetics and phonology. A practical course*. Cambridge: Cambridge University Press, pp. 8-17.

References

- Collins, Beverley and Mees, Inger M. (2003). How we produce speech. In *practical phonetics and phonology: A resource book for students*. London/New York: Routledge.
- Pike, Kenneth L. (1945). *The intonation of American English*. Ann Arbor: University of Michigan Press.

6

The grammar of sounds

Chapter Preview

What kind of sounds make up different languages?

How do languages organise sounds to form words?

What is a syllable?

Why are syllables important to understand language?

6.1 Introduction

In chapters 3 and 4, we discussed the morphological conditions that *well-formed* words must obey. We found that words contain morphemes, which follow one another in a particular order, and that words have different meanings depending on the morphemes that they contain and the order in which the morphemes appear. Morpheme structure and word meanings can thus be accounted for by means of morphological rules that give us the **morphology**, or the grammar of words, of a language.

In this chapter, we will see that well-formedness also applies to the sounds that build up words. This is what tells us that an invented word like *clat* /klæt/, although not an actual word of English, is a *possible* word of English (the symbol “l”, representing the letter ‘l’, is also used to represent the sound /l/). All of its individual sounds /k, l, æ, t/ are sounds of English, and the order in which they appear is also found in English. For example, /l/ can follow /k/ at the beginning of a word (as in *clue*), and /t/ can appear at the end of a word (as in *pit*). In contrast, an invented word like **lcat* is not a possible word of English because although its sounds are sounds of English, their order isn’t: no English word starts with /l/ followed by /k/. By the

same reasoning, a word containing un-English sounds, in whatever order, cannot be a word of the language. The rules that allow us to describe well-formed types and sequences of sounds in a language constitute the **phonology**, or the grammar of sounds, of that language.

6.2 Phonemes

Try listening to different languages that are unfamiliar to you, and you will notice a number of sounds that will strike you as odd, or even unpronounceable. Next, try listening to different varieties of a language that you are familiar with (e.g. English). The chances are that you will experience the same feeling of strangeness, this time compounded by the fact that you understand what the speaker is saying. Incidentally, it is this “odd twist” to something familiar that lies behind many judgements of value about language varieties.

If you listen more carefully, you will probably notice that many of the strange sounds that you hear are recurrent, and that you can identify a number of **sound types** from among the variety of **sound tokens** produced by the speakers of the language. For example, the language may use a sound that sounds like the /t/ or the /æ/ sound of English in many different ways. There can be “funny” versions of each of these sounds, but there is something about each of these versions that sounds /t/-like or /æ/-like. If you then compute the *x*-like sounds of the language in question, regardless of token variation, you will find that the sound types that make up the language actually number a few dozen, at most.

Activity 6.1

Read the following words, paying special attention to the way in which you pronounce the sound /k/ in each of them:

cool keel cap pack

Do you notice any differences in your pronunciation of this sound?

You will notice that you pronounce a “rounded” /k/ in *cool*, in anticipation of the lip-rounding that is needed to pronounce the rounded vowel /u/ that follows, but an “unrounded” /k/ in *keel* and *cap*, because the following vowels are unrounded.

You will also notice that you pronounce the initial /k/ in *cap* with a clear velar closure which you then release to pronounce the vowel following it, but

that you may pronounce the final /k/ in *pack* with a closure elsewhere in the vocal tract (often in the same place where the vocal tract closes to produce a coughing sound, as when you clear your throat), or that you may not pronounce the final /k/ at all.

We see from Activity 6.1 that the English sound /k/ can be pronounced in several ways, but also that there is a single sound /k/ in the language. How do we work out this apparent paradox? The answer is that every language makes use of only a small subset of the wide range of speech sounds that the human vocal tract can produce. This is the subset of the sounds that *play role* in each language. So what does it mean to say that a sound “plays role” in a language? The purpose of a language, any language, is to communicate. What people communicate through language(s) are **meanings**. We can in fact define a language informally as a specific combination of sounds and meanings.

The question then is how to identify the sounds that play role in language meanings. In order to answer this question, we need to ask ourselves another question: why do languages have sounds, what is their purpose? The answer is that sounds are there in order to make up **words**, or **morphemes**, the linguistic units that carry meaning. Recall that this constitutes one level of the **duality** of language, introduced in section 1.2.3. Since the purpose of language is to communicate meanings, sounds that play role in a language must have a function in distinguishing meanings. Such sounds are called the **phonemes** of a language. Let’s see how we can identify some of the phonemes of English, using these data:

(6.1)	<i>beat</i> /bit/	<i>beat</i> /bit/	<i>meat</i> /mit/
	<i>meat</i> /mit/	<i>feet</i> /fit/	<i>feet</i> /fit/

The data in (6.1) show three sets of paired words: *beat-meat*, *beat-feet*, *meat-feet*. We can make three observations about these paired words:

- First, we substitute one sound at a time with another in the same word. For example, in the first pair *beat-meat*, /m/ replaces /b/ (or /b/ replaces /m/).
- Second, the sounds replace each other in the same context /__ it/, in this case at the beginning of the word.
- Third, the replacement of one sound with another in this context results in a different meaning, i.e. in a different word. For example, replacing /b/ with /m/ at the beginning of the first word results in a new word: *beat* /bit/ becomes *meat* /mit/.

If these three conditions are met, each of the sounds in question is said to be a **phoneme** of the language. Can you see that the data in (6.1) allow us to identify not only /b/ and /m/, but also /f/, as phonemes of English? We can identify phonemes through substitutions of this kind in other positions within a word.

By convention, phonemes are indicated in print between slashes, as shown above. In contrast, we use square brackets when we are discussing actual pronunciations of words, and when we don't know whether or not a particular sound is a phoneme of a language.

Activity 6.2

1. Replace the vowel in the word *beat* by [æ] and then by [u]. Now replace the final consonant in the word *bat* by [d] and then by [ŋ].
 - (a) Write the new words that you find first in phonetic transcription and then in spelling.
 - (b) Which phonemes of English have these substitutions allowed you to identify? How did you arrive at your answer?
2. Replace the middle sound in the word *van* by [i] and then by [ŋ]. Which phonemes of English have these substitutions allowed you to identify? Why?

From these observations, we can conclude that phonemes have the following properties:

- They occur in **contrastive distribution**, i.e. they are **contrastive**. This means that phonemes can replace one another in the same context within a word.
- They are **distinctive** sounds. This means that their substitution within a word distinguishes word meanings.

The articulatory relationships that phonemes establish with one another are called the **phonemic system** (or **phonological system**) of each language. **Phonology** studies the phonemic systems of languages, or language varieties.

6.2.1 Minimal pairs

The two different words that result from sound substitutions in the same context are called a **minimal pair**. The pairs *beat-meat*, *beat-feet* and *meat-feet* in

(6.1) all form minimal pairs because the words in each pair differ by one sound only, that occurs in the same context. Minimal pairs are a tool used in phonology to identify the phonemes of a language, or a language variety. Because different language varieties often involve different pronunciations, or **accents**, pairs of words may form minimal pairs in one variety but not in another.

Activity 6.3

The words *lard* and *laugh* can have different pronunciations in English. How do you pronounce them? Tick the transcription corresponding to your pronunciation.

Note: the symbol “r”, representing the letter ‘r’, is also used to represent the sound/r/.

lard: [lad] [lard]
laugh: [læf] [laf]

Do these two words form a minimal pair in your accent of English? Explain your reasoning.

6.2.2 Phonemic systems

The set of actual articulatory combinations used in the phonemic systems of different languages is unique to each language. Phonemic *systems* thus typically differ from language to language, although all phonemic systems of course draw on the range of articulatory possibilities of the human vocal tract that we discussed in Chapter 6. It is this idiosyncratic use of articulatory possibilities that makes a foreign language sound “foreign”. In addition, the typical “ring” of each language is given by its uses of pitch, whether of **tone** or **intonation**, each of which constitutes a linguistic system of its own.

This is also true of the systems of language varieties. Imagine yourself in a crowded international setting, say at an airport, with everybody talking at the same time in several unfamiliar languages. You then hear a particular group of people approaching, engaged in lively talk. In the background din, you can't make out what language they're speaking, nor anything of what they're saying, but suddenly you become dead sure of one thing: these people are speaking your language. What gives you this certainty? Their tones of voice and ways of using it, that we can subsume under the label **intonation**. The studies that first showed the importance of intonation for the identification of the uniqueness of each language observed this phenomenon in equally mixed and

equally noisy backgrounds found at cocktail-parties. Not surprisingly, this finding is known in the literature as the **cocktail-party effect**.

Also typical of all languages is that their phonemic matrices include empty slots of the kind shown in the IPA and DF charts of section 5.4. As noted then, there is no articulatory reason why English shouldn't have a phoneme that is both velar and fricative. English does have a velar place of articulation, as well as a fricative manner of articulation, yet the chart shows a blank in the slot corresponding to a velar fricative articulation. Similar gaps can also be found in other linguistic systems, e.g. morphological gaps. English, for example, has no word **glassify*, meaning 'to turn into N', although the morphology of English allows the formation of a word like *liquefy* by the same rule. Note that the word **gap** is a technical term in linguistics, referring to possible but non-occurring forms. The word *clat*, discussed in section 6.1, is another example of a word gap in English.

A complete matrix of the sound system of any language reveals the full set of unused articulatory combinations in that language, as we saw in our discussion of the degree of **redundancy** of linguistic analyses in section 5.4. But it also reveals the set of articulatory combinations that *is* used, and which is the concern of phonology. You will agree that it would be quite baffling to attempt to characterise a system, including a phonemic system, by focusing on the empty slots that an analysis uncovers. This would be equivalent to describing a system by what it lacks, or by a mixture of what it lacks and what it contains. From such a perspective, a cat would be defined in roughly the following terms: it has four legs, it has a furry coat, it doesn't have horns, it doesn't lay eggs. But no one would attempt to define what a cat is, in this strange fashion. Similarly, in phonology it does not make sense to say that English "lacks" velar fricatives, or that certain varieties of English "lack" the vowel distinction in words like *bet* and *bat*, or the pronunciation of the letter "r" in words like *bar* and *card* (check section 2.6.1 for more on this). The point is that the sounds produced by these particular articulatory combinations, among others, *play no role* in the language or language variety in question, and are therefore not relevant to their phonology.

6.3 Speech sounds and language sounds

Phonemes, like morphemes, are abstract entities which can neither be spoken nor heard. They constitute a linguistic system, in this case, the sound system of a language (variety).

The concrete pronunciation of a phoneme is called a **phone**. An analogy might be helpful here. In a system like music, the entity that we label *high C* stands in a purely formal, abstract relationship to other elements of the same

system. The grounds for the labelling are acoustic in music, articulatory in phonology. No one can produce, or has ever heard, an abstract high C. What we sing and hear are concrete manifestations of it, as produced by different musical instruments or by the human voice. We all know that the “same” musical note played on a piano or an oboe clearly sounds different. We know that it is the “same” note, however, because we abstract from the physical qualities, or the colouring, given to it by particular instruments. By the same token, the song *Happy Birthday To You* or the phoneme like /æ/ are the “same”, whether sung or spoken by an adult male or a young child, though the actual renditions of either may differ widely.

Individual **voices**, and the way their speakers use them, are unique because of physical features like the size and the proportions of each individual vocal tract, and because of features like personality, in each individual speaker. This is why we instantly recognise people by their voices on the telephone. But this is also why any individual rendition of speech is unique -- nobody speaks through someone else’s vocal tract. An adult contralto /æ/ is in fact physically different from anyone else’s /æ/, including other adult contraltos, yet no-one would mistake individual pronunciations of /æ/ for some other vowel, because the same speaker pronounces other vowels in a different way.

In order to find out in which way individual speakers pronounce their vowels and the other sounds of a language, a listener obviously needs to hear them speak. When we meet someone for the first time, the first thing we do is indeed speak. Not only that, what we say are purely stereotyped formulae like *Hey!* or *How do you do?*, that usually prompt near-exact replicas of themselves in response. What we’re doing by this linguistic ritual is in fact gauging the other speaker’s way of using the language, which constitutes one of the reasons for the endurance of such formulae in language use (we return to uses of **formulaic speech** in section 10.5). The particular voice of particular speakers is then mentally stored by listeners as a kind of calibrated baseline against which to interpret their unique renditions of /æ/ or any other sound of the language in question. In the process, we screen off individual variation that is irrelevant for the prime task at hand, that of interpreting the meaning conveyed by speakers’ shared uses of *language*.

In everyday communication, we constantly and unconsciously abstract from individual variation in order to make sense of speech. We also abstract from context-bound variation, as when someone is speaking to us through an intercom or in the seizures of a violent giggling fit. This is precisely what linguists do too, only consciously. Let’s see how.

6.2.3 An example of phonological analysis

In analyses of data, as we saw in Chapter 1, we obviously look for an explanation that accounts for the whole set of data that is available to us, or it will be no explanation of those data. Our explanation must also be **simple**, using no more words and concepts than those necessary for a full understanding of our analysis, and as **general** as possible, i.e. enabling us to predict the behaviour of unobserved phenomena.

The requirement of generality means that we need to take the data that we have available at a given moment in time as **representative**, that is, as data from which useful explanations can be drawn, at that time. However, we must take any conclusions as provisional, at all times: additional data or alternative analyses may well prove our previous conclusions inadequate.

This in fact means that scientific knowledge is, by definition, provisional. The philosopher of science Karl Popper captured the true nature of scientific research in the title of his autobiography, *Unended Quest* (Popper 1974/1992). A **grammar**, of words, sounds or sentences of a language, is therefore a simple, general and provisional statement about the behaviour of linguistic units, drawn from data that are assumed as representative.

Let's look at some data, to see how these requirements of scientific analysis can be observed. In some varieties of English, including standard varieties of British and American English, some consonants are pronounced with aspiration, i.e. a short puff of air following the sound. In the following transcribed data, take [^h] as indicating aspiration of the preceding sound.

(6.2) Dataset 1

<i>pan</i>	[p ^h æn]	*	[pæn]	<i>van</i>	*	[v ^h æn]	[væn]
<i>team</i>	[t ^h im]	*	[tim]	<i>seem</i>	*	[s ^h im]	[sim]
<i>cart</i>	[k ^h at]	*	[kat]	<i>mart</i>	*	[m ^h at]	[mat]
<i>pack</i>	[p ^h æk]	*	[pæk]	<i>knack</i>	*	[n ^h æk]	[næk]
<i>oop</i>	[k ^h up]	*	[kup]	<i>soup</i>	*	[s ^h up]	[sup]

In order to propose an analysis, ask yourself the following questions:

- What regularities can we observe in the data?
- What conclusions can we draw about these regularities, from the data?

Data analysis in fact shares many similarities with the kind of investigations that detectives do. There are clues in the data that allow inferences about the

modes and causes of a particular situation. Just as in a detective story, our job is first to find out *what* happened to *whom* and *where*, and then *who dunnit* and *why*. In other words, there is:

- a *crime*: the puzzle that we observe in the data;
- a *victim*: the linguistic unit to which something happened;
- a *crime scene*: the context where the puzzle occurs;
- a *culprit*: what was it, given the context, that may have caused the puzzle;
- a *motive*: the reason why the puzzle arose at all.

Further, the absence of certain clues may provide evidence for our deductions too: the absence of fingerprints in a crime scene may indicate that the culprits know how to cover their tracks. Likewise, in linguistic analysis we use both occurring and non-occurring forms, the ones indicated by an asterisk: non-occurring data can be as illuminating to the solution of a puzzle as actually occurring data.

Let's propose a number of successive analyses for our dataset in (6.2).

Analysis 1

We observe that aspiration appears to affect only plosive sounds, or [+stop - nasal] sounds. Also, that this type of sound can occur either aspirated or unaspirated: for example, [p^h] and [p] in the words *pan* and *coop*, respectively. We can also infer from these two examples that the aspirated vs. unaspirated versions of [p] cannot depend on their articulatory features, because both are bilabial and plosive. We must look for a reason elsewhere. The same examples show that each plosive sound occurs in different contexts in their respective words, word-initially in *pan*, word-finally in *coop*. We may then conclude that context is a likely cause of their different pronunciation. By the requirement of **generality**, we can formulate this finding as:

Rule 1 Word-initial plosives are aspirated.

This is also the **simplest** formulation of our findings. You will agree that there's no need to add that plosives are not aspirated in other contexts, or that other sounds are not affected by aspiration. Rule 1 is a **rule** of grammar, because it successfully describes the pattern that we observe in Dataset 1:

- It accounts for the behaviour of *only* plosives. Other sounds are not aspirated in the same context.
- It accounts for the behaviour of *all* plosives. In the given context, all plosives occur aspirated.

It's important to keep in mind that Rule 1 is provisional, like any other scientific rule/law. A rule only “rules” until the day that **counterevidence** to it is found, that is, data that disprove the analysis described by the rule.

Given that the job of scientists is to learn through observation, and not to find data that nicely fit proposed analyses, we now check the predictive power of our rule against more data that may disprove the rule, or restrict its application. That is, we try to **constrain** our rule by looking for data that may prove it either wrong, or too general. At first sight, constructing rules so that we can falsify them in this way may appear paradoxical. A closer look at the ultimate purpose of this standard scientific procedure reveals its rationale. Just like your body acquires immunity through exposure to adverse environmental input, not from benign protection in an antiseptic milieu, a theory garners strength from its ability to withstand empirical onslaught that is as diverse as possible. Putting similar data through the scrutiny of the same rule would only result in self-fulfilment, and we would learn nothing about the pattern that we are trying to investigate.

Since Rule 1 concerns plosives, we can start by checking it against other types of plosives. Looking again at Dataset 1, we notice that all the plosives in it are in fact voiceless. Can we then hypothesise that aspiration perhaps affects voiceless plosives only? If so, we look for data that contain voiced plosives in the same contexts, as shown in Dataset 2:

(6.3) **Dataset 2**

<i>pan</i>	[p ^h æn]	*[pæn]	<i>ban</i>	*[b ^h æn]	[bæn]
<i>team</i>	[t ^h im]	*[tim]	<i>deem</i>	*[d ^h im]	[dim]
<i>card</i>	[k ^h ad]	*[kad]	<i>guard</i>	*[g ^h ad]	[gad]

Analysis 2

Dataset 2 confirms our hypothesis that only voiceless plosives are aspirated in word-initial position. Rule 1 is therefore too general, and we either reject it or reformulate it into a new rule. By collating the findings of *both* datasets, we can constrain Rule 1 as:

Rule 2 Word-initial voiceless plosives are aspirated.

Recall that any observations from additional data must be incorporated in our theory. A grammar provides **general** descriptions, not partial descriptions for each particular set of data. Rule 2 successfully accounts for the patterns found in datasets 1 and 2.

Try now to account for the following data on your own, *before* reading the proposed analysis below.

(6.4) **Dataset 3**

<i>pan</i>	[p ^h æn]	*[pæn]	<i>span</i>	*[sp ^h æn]	[spæn]
<i>team</i>	[t ^h im]	*[tim]	<i>steam</i>	*[st ^h im]	[stim]
<i>coop</i>	[k ^h up]	*[kup]	<i>scoop</i>	*[sk ^h up]	[skup]

Analysis 3

Dataset 3 provides a different kind of puzzle, in that we may or may not find that the formulation of Rule 2 accounts for the data in it: our conclusion depends on how we interpret the term *word-initial* in the rule. Dataset 3 shows examples of both aspirated and unaspirated voiceless plosives in a context that may be interpreted as word-initial. Other vague formulations of this context include “at the beginning of a word”, “at the beginning of a syllable”, “before a vowel”, and so on. Because of the requirement that scientific statements must be **explicit**, scientific rules cannot be stated in terms that are open to individual opinion. Our task then is either to define, in precise terms, what we mean by *word-initial* in Rule 2, or choose an alternative and unambiguous formulation for our final rule. Ask yourself whether the following reformulation solves the matter:

Rule 3 Single word-initial voiceless plosives are aspirated.

Our Rule 3 is in fact a rule that accounts for voiceless plosive aspiration in English.

6.2.4 Phoneme and (allo)phones

From Datasets 1-3, it appears that there are two different types of voiceless plosives in English, one aspirated, and the other unaspirated, for each place of articulation (labial, alveolar and velar). How do we decide whether aspirated vs. unaspirated plosives are different phonemes or variants of the same phoneme? Once again, the data provide the answer. We observe that:

- Aspirated and unaspirated sounds occur in different contexts. Where one set occurs, the other does not.
- If we try to replace aspirated and unaspirated sounds in the same context, to check whether we get a minimal pair, the result is that we may get a strange pronunciation of the words, but we do not get a different meaning for each word.

- Aspirated and unaspirated sounds are otherwise phonetically identical. For example, in *pan* and *span* [p] and [p^h] are both voiceless, labial and plosive.

If these three conditions are met, the sounds in question are said to be **allophones** of the same phoneme. By convention, allophones are indicated in print between square brackets, as above.

Allophones have the following properties:

- They occur in **complementary distribution**, i.e. they occur in different contexts.
- They show **phonetic similarity**, i.e. they share several articulatory features.

Activity 6.4

In English, the following vowel pronunciations are found. In the transcriptions, the symbol [:] following a vowel symbol indicates a long vowel. Vowels transcribed without this symbol are short.

<i>tap</i> [tæp]	<i>moot</i> [mʊt]	<i>calf</i> [kɑf]
<i>tab</i> [tæ:bɪ]	<i>mood</i> [mu:d]	<i>carve</i> [kɑ:v]
<i>peace</i> [pis]	<i>cart</i> [kat]	<i>back</i> [bæk]
<i>peas</i> [pi:z]	<i>card</i> [ka:d]	<i>bag</i> [bæ:g]

- Give a rule that describes the patterning of long and short vowels in these data. Your rule should be as simple and general as possible.
- Based on your description, explain whether you would analyse the long and short vowels in the data as different phonemes or as allophones of the same phoneme.

6.2.5 Natural classes of sounds

In phonology, as in everyday life, a **natural class** can be defined as a set (of sounds, words, people, plants, musical instruments) whose members belong together because they look or sound alike and behave alike in similar contexts. Members of a natural class therefore share physical and behavioural traits.

Take, for example, you and your group of friends. You all belong, “naturally”, to the same group. Each one of you is an individual, with unique characteristics. Yet in certain contexts, say, when out shopping, you all tend to behave in similar ways that identify your group as a particular group. Your similar behaviour in particular contexts suggests that despite your individuality, you share features that make you acceptable as a member of your group.

The same is true of phonemes. We observe that the three phonemes /p t k/ discussed in section 6.3.1 above behave in the same way (aspirated or unaspirated) in the same contexts, and that they share the features [+stop, -voice] (they are all voiceless plosives). We then conclude that the phonemes /p t k/ form, or belong to, a natural class. Generalising, we can say that similar context-bound behaviour predicts physical similarity, and vice versa. Observation of actual data will confirm or disconfirm this hypothesis.

6.4 Alternation: *allo-forms* and *-eme units*

Allophones, as we saw, are the contextual variants of a phoneme. We can say that allophones are the way in which we pronounce phonemes according to where, in the speech chain, those phonemes occur.

This variation in form of the same linguistic unit because of the context in which it occurs is called **alternation**. The two pronunciations of the phoneme /k/, aspirated [k^h] and unaspirated [k], are examples of alternation, as are the rounded and the cough-like pronunciations of /k/ that we discussed in Activity 6.1. Going back to our analogy of your own distribution, introduced in section 3.3, we can say that your own alternations are the different ways in which you dress depending on where you are. Another good example of alternation is camouflage. Chameleons and octopuses can vary their appearance almost beyond recognition according to whatever background they happen to be found in. They remain chameleons and octopuses, although they may look like a bunch of dried leaves or a slimy rock.

We can now put together the observations about alternation in sound units that we have made in this chapter with our observations about morphemes in Chapter 3. In section 3.4.3, we said that morphemes can have different morphs depending on their context, and we gave the example of the morpheme {indefinite article}. We can now conclude that different pronunciations of the same morpheme depending on context are **allomorphs** of that morpheme. Generalising, we can say that **allo-forms** are concrete instances of speech and part of the way we use a language, and **-eme units** are

abstract units of analysis and part of the grammar of that language. To put it another way, from the wide variety of **allo**-forms that can be found in actual language use, linguists posit abstract **-eme** units that are relevant to make sense of language. Figure 6.1 summarises these observations.

allo-forms		-eme units	
of sound	of meaning	of sound	of meaning
allophones	allomorphs	phonemes	morphemes
<ul style="list-style-type: none"> context-dependent units of speech concrete: we pronounce them and hear them 		<ul style="list-style-type: none"> units of analysis abstract: help us think about language 	

Figure 6.1. Summary of *allo*-forms and *-eme* units

Saying that *allo*-forms depend on the contexts where they are found is saying that their actual forms depend on the sounds that constitute these contexts. Our example of the two allomorphs of {indefinite article} showed that they depend on whether a vowel or a consonant sound follows this morpheme. The following Activity gives another example of allomorphy.

Activity 6.5

The data below show that the English {plural} morpheme has three allomorphs.

Note: To make this activity more challenging, the data are jumbled up!

word	singular	plural		word	singular	plural
<i>noose</i>	nus	nusiz		<i>crab</i>	kræb	kræbz
<i>beak</i>	bik	biks		<i>bee</i>	bi	biz
<i>deed</i>	did	didz		<i>root</i>	rut	ruts
<i>sleeve</i>	sliv	slivz		<i>breeze</i>	briz	briziz
<i>farce</i>	fas	fasiz		<i>cream</i>	krim	krimz

On the basis of these data, do the following:

1. Find each of the {plural} allomorphs, and write them down. By convention, allomorphs are transcribed between slashes.
2. For each allomorph, give one rule that explains the context in which it occurs.
3. Test the predictive power of your rules. According to the rules, what would the plural form of the following words be?

*gang /gæŋ/ bean /bin/ crew /kru/
cap /kæp/ fleece /flis/ tag /taəg/*

6.5 Syllables

Syllables are units that are intermediate between sounds and words. More accurately, syllables are made up of phonemes and in turn make up morphemes.

Syllables appear to play a very important role in the way that we understand and experience language, because they mark the **rhythm** of utterances. Human physiology gives us several examples of rhythmical processes, like breathing or the beating of the heart, that we share with other animals. Human activities (some of which are also shared by other animals) largely consist of rhythmical processes too, whether waking up and going to sleep, chewing food, typing at a keyboard, or taking turns to hold a conversation with a partner.

Have you noticed how difficult it is to walk out of step with somebody, and at the same time follow a conversation with them? We either end up falling in step with our partner, so that our heads bob in synchrony, or losing the gist of what we are talking about. It is therefore no surprise that our languages reflect our inherent predisposition to organise ourselves rhythmically, and that syllables are intuitively real for speakers, in the sense that we all somehow know how to count syllables in words. Even very young children who are just starting to speak can do this, nodding or bouncing in synchrony with the rhythmical beat of the syllables in, for example, nursery rhymes.

When we count syllables, we pay attention to vowels, the sounds that are most prominent in syllables. We saw in the previous chapter that vowels involve no major obstruction in the vocal tract, and can therefore be produced and heard more prominently than consonants. We can then say that a word contains as many syllables as there are vowels in it.

Activity 6.6

How many syllables are there in each of these words?

- a. beanbag
- b. flasks
- c. *proofread*
- d. I
- e. ooze

Because of its prominence, the vowel part of a syllable is called the **peak** of the syllable (sometimes called the *nucleus* of the syllable, in the literature). In fact, the peak is the *obligatory* component of a syllable.

Vowels can of course be surrounded by consonants: consonants before the peak form the **onset** of a syllable, and consonants after the peak form its **coda**. Onsets and codas do not count for the rhythmical beat of words and utterances. But the vowel and the consonant(s) that may follow it in a syllable appear to be intuitively very real. For instance, if we ask you to say words that rhyme with *blue* and with *fax*, you would have no problem coming up with *crew*, *too*, *through*, etc., and with *axe*, *tax*, *lacks*, etc., respectively. The rhyming part of words, consisting of the peak and any consonants after it, therefore plays a role in syllable structure. We must be able to talk about it, and predictably, we call it the **rime** (sometimes also spelt *rhyme*) of the syllable. We can represent the structure of a syllable with the help of our familiar diagram notation, showing our intuition that syllable structure is hierarchical:

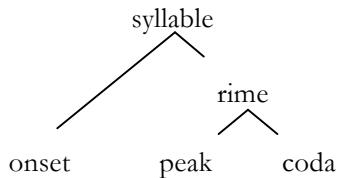


Figure 6.2. Diagram representation of syllable structure

One problem remains, that of establishing the boundaries between syllables. This is the issue of **syllabification**, or how to *syllabify* words. Just like we can split words into well-formed morphemes, we must be able to split them into well-formed syllables, too. In words with more than one syllable, several consonants may occur between each vowel. Consider the underlined consonant sequences in the words below:

<i>beanbag</i>	/bi <u>n</u> bæg/
<i>proofread</i>	/pru <u>f</u> rid/

In order to decide whether sequences like /nb/ and /fr/ belong in the same syllable or in two separate syllables, we follow these two principles:

- Make the onset of all syllables as long as possible. This means that we include in the onset as many consonants as we can, among those preceding a vowel.
- Sequences of consonants in syllable onsets must be found in word-initial position too.

By the first principle, we syllabify a word like *easy* /izi/ as /i.zi/ rather than */iz.i/, where a dot represents syllable boundary. The same principle would give us /bi.nbæg/ for *beanbag* and /pru.frid/ for *proofread*. But whereas the consonant sequence /fr-/ is found at the beginning of English words (e.g. *free*, *frantic*), */nb-/ is not. By our second principle, the consonant sequence */nb-/ is therefore not a well formed syllable onset, and the word *beanbag* must be syllabified /bin.bæg/. The second principle also explains why a word like **kat*, discussed in the first section of this chapter, is not a possible word of English.

Activity 6.7

1. Syllabify these words, using dots for syllable boundaries. You will need to transcribe the words first.
relaxing *blacklist* *masking* *bookmark*
2. Now provide tree diagrams for all the syllables in *relaxing* and *blacklist*.

The reason why we take onsets and not codas as the key to syllabification is that the majority of known languages prefer syllables that contain simple onsets (and often no codas), in what is called the “universal” **CV-syllable** (where C = consonant and V = vowel). Very young children learning to speak any language also prefer to babble in CV-syllables, as we shall see in Chapter 12.

Activity 6.8

The intuitive knowledge that we have about syllables shows in many play languages.

Find the rule for the play language called “p-language”, shown here with the names of the two authors of this book:

Supunipitapa

Mapadapalepenapa

Activity 6.9

In the children’s language game *Pink Stink*, one child asks a question, and another child answers the question, as shown below:

Question

What is a mighty circular instrument?

What is a large swine?

What is a chef’s manual?

Answer

strong gong

big pig

cook book

Based on the examples above, how would you state the phonological rule(s) for formulating answers in the language game *Pink Stink*? Which of these construct(s) – syllable, rime, onset, coda – would you NOT need, in order to articulate the phonological rule?

Syllabification is central to setting up rules that describe the patterns of word stress in different languages, since stress is a property of syllables. The stressed syllable in a word is the syllable that is most prominent, for example the first syllable in the word *rabbit* or the second syllable in the word *exam*. Patterns of word stress are part of the phonology of languages, although we do not deal with word stress in this book. If you want to find out more about word stress in English, read chapters 8-10 in Roach (1991) and chapters 11-12 in Deterding and Poedjosoedarmo (1998).

Food for thought

According to Crystal (2010), the smallest and largest known phoneme inventories consist of 11 and 141 phonemes, respectively. The number of consonants in known languages varies between 6 and 95, and the number of vowels between 3 and 46.

The RP (Received Pronunciation) accent of English is generally described as having 44 phonemes, 24 consonants and 20 vowels – a comfortable average among languages.

Further reading

- Deterding, David H. and Poedjosoedarmo, Gloria R. (1998). Chapter 9. Phonemes and allophones. In *The sounds of English. Phonetics and phonology for English teachers in Southeast Asia*. Singapore: Prentice Hall, pp. 77-85.
- Roach, Peter (1991). *English phonetics and phonology. A practical course*. (2nd ed.). Cambridge: Cambridge University Press.
Chapter 5. The phoneme, pp. 36-46.
Chapter 15. Intonation 1, pp. 133-143.

References

- Crystal, David (2010). *The Cambridge encyclopedia of language*. (3rd ed.). Cambridge: Cambridge University Press.
- Popper, Karl (1974/1992). *Unended quest. An intellectual autobiography*. London: Routledge.

7

The grammar of sentences: slots and phrases

Chapter Preview

How are words organised to build sentences?
What is a phrase?
Why are there different types of phrases?
Can phrases contain other phrases?
Can sentences contain other sentences?

7.1 Introduction

We saw in the previous chapter that structured patterns of sound give us well-formed syllables and words in a language, and we observed that several of these patterns are shared among different languages. We reached similar conclusions in Chapters 3 and 4 about building well-formed words from morphemes. In this chapter, we will find that similar observations hold for the patterning of words in larger units. That is, we will find structured (or **rule-governed**) patterns in the *syntax* of particular languages, that can be generalised across languages to be taken as a **universal** of language.

7.2 Syntax

Syntax is about parsing, that is, about assigning a structural analysis to the meaningful word sequences that constitute sentences. Different languages, or language varieties, parse in different ways, but all languages parse in some way. This means that sentences obey specific patterns. It must therefore be

possible to find rules describing the **well-formed** sentences of a language, those that are used and deemed acceptable by its speakers, as opposed to **ill-formed** sentences. For example, in English:

- (7.1) *I like cats.*
(7.2) **Like cats I.*

Syntax specifies the parsing rules that identify the string of words in (7.1) as a sentence of English, and that exclude the string in (7.2). Syntactic analysis deals with how words are put together to form sentences. Syntax studies the second level of **duality** in language, namely, words making up sentences (the first level, sounds making up words, was discussed in section 6.2).

Recall that a linguistic **rule** is a general statement about observed regularities that hold between form and meaning, enabling language use and judgements of acceptability among a majority of speakers of a language. As we have pointed out throughout this book, the set of linguistic rules of a language constitutes the **grammar** of that language. Syntax can be defined as the grammar of sentences. In proposing this definition, we should clarify one important point of terminology from the outset. Much current and past research in linguistics tends to identify *grammar* with *syntax*, and *syntax* with *language*. This is particularly true of the school of linguistic thought known as *generative linguistics*, which arose in the 1960s in the USA, and which has strongly influenced linguistic thought, especially North-American, ever since. The search for a “Universal Grammar”, within the same tradition, thus often refers to the search for universals of *syntax*. In this book, we have made it quite clear that the term *grammar* refers to the regular patterns found across all levels that make up a language, be it sounds, words, or texts, and we will continue to use this definition of the term.

7.3 Constituency

We saw in Chapter 4 that the word forms that we speak and hear can be analysed as reflecting an internal hierarchical structuring of its component elements, that we called *morphemes*. We now discuss how the sequential organisation of words in a sentence can also be analysed as reflecting an abstract hierarchical structuring. Within sentences, words organise themselves into larger *constituents*, that are smaller than the sentence itself, and that we will call *phrases*.

A **constituent** is a group of units of the same linguistic type, that usually occur consecutively, and that form a larger unit of a different type. Saying that a unit is a member of, or a constituent of, another unit is the same thing. We could also say that a family, for example, is a hierarchical social unit

constituted by smaller groups of individuals (parents, children), and is in turn a constituent of larger units like extended families, neighbourhoods, or countries. In syntax, the hierarchy is as follows: **words** are constituents of phrases, and **phrases** in turn are constituents of sentences. By the same token, we can say that morphemes are constituents of words, although the term *constituent* is more commonly used for syntactic constituency than for morphological constituency. **Constituency** is therefore an instance of **compositionality**, the part-whole relationship discussed in section 1.4.2.

Let's try to understand the notion of constituency by means of successive observations of the behaviour of words within sentences drawn from different sets of data, as presented in (7.3) to (7.11) below.

Words must occur in a certain order

- (7.3) (a) *That boy ate the durian.*
(b) *That boy ate the cheap durian.*
- (7.4) (a) **Boy that ate the durian.*
(b) **That boy ate durian the.*
(c) **That boy ate the durian cheap.*

Recall that the ordering of words in speech, i.e. their **distribution**, gives clues to the **word class** that they belong to. We may then conclude that the reason for the ill-formedness of the strings in (7.4) lies in the fact that some words that belong to a particular word class occur in a syntactic **slot** where a different word class should occur. Throughout this discussion, we will use the term *slot* as convenient shorthand for **syntactic position**. For example, (7.4a) and (7.4b) show that the Det and N slots (*that*, *the* and *boy*, *durian*, respectively) are reversed, as a comparison with the well-formed (7.3a) makes clear.

The position of certain words is interchangeable

- (7.5) *That boy ate the durian.*
The boy ate that durian.

The examples in (7.4) could have led us to conclude that the position of words in a sentence cannot be changed at all, if we are to build well-formed sentences. The data in (7.5) disprove this claim: we need to constrain our observations, by using the concept of word class. The data show that swapping the position of words that belong to the same word class, in this case Det (*that*, *the*), does not affect the well-formedness of the resulting sentences.

The position of certain sequences of words is interchangeable

- (7.6) *My cat licked that boy.*
 That boy licked my cat.

The data in (7.6) show something new. We are not swapping single words any more, but sequences of words, *my cat* and *that boy*. The results, being well-formed, suggest that the sequences of words that are being swapped “hang together” in some way. Det and N cannot be swapped with each other, as we saw in (7.4a) and (7.4b), but ordered sequences of Det + N can be swapped with each other, preserving syntactic well-formedness.

Certain sequences of words can be replaced by a single word

- (7.7) (a) *That boy ate the cheap durian.*
 (b) *That boy ate durian.*
 (c) *He ate the durian.*
 (d) *He ate it.*

Again, the data in (7.7) lead us to a new observation. We substituted *that boy* by *he*, and *the cheap durian* by *durian* and *it*, and these substitutions resulted in well-formed sentences. This observation then independently supports our previous observation from (7.6), that certain sequences of words hang together as a single unit. Syntactically, they behave in the same way, in that they can appropriately occupy the same slot. An analogy might help clarify things. In a company, we could replace the male, European CEO, with an Asian female or an international executive committee, with no loss to the smooth running of that company. That is, the CEO “slot” can be appropriately filled by different individuals or by different organised groups of individuals.

The data in (7.3)-(7.7) appear to point in a particular direction, captured in our final observation from the additional data in (7.8), as follows.

Particular slots must be filled by particular types of words or word sequences

- (7.8) (a) *He ate durian.*
 (b) *He ate cheap durian.*
 (c) **Stole ate durian.*
 (d) **The ate durian.*
 (e) **He ate the.*

Certain word sequences can be moved around or replaced as a **block**. Within the block, the word classes that may occur and their relative positions are fixed. For example, we can move *that boy* as a block as in (7.6), but not *that* and *boy* within *that boy*, as shown by (7.4a) and (7.4b). Nor can we have *the* occur on its own within a block, as (7.8e) makes clear. The crucial point appears thus to be that sequences of words, or the single words that can replace them, occupy certain slots. One way of explaining similar observations is to assume that word sequences like *that boy* or single words like *it* form a building block, or **constituent**.

7.3.1 Assumptions behind constituent analysis

Our observations about the behaviour of words and word groups within sentences lead us to postulate a number of assumptions, that we can use to guide our analysis of constituency. We formulate these assumptions as follows. Note the similarity of these assumptions to the ones proposed in section 3.4.2 for the analysis of the internal structure of words.

- Certain **syntactic positions**, or **slots**, can be usefully identified in the sentences of a language.
- These slots constitute the basic building blocks of **sentence structure**.
- These slots can be filled with appropriately organised **words**, in a way that is intuitively acceptable to speakers of the language.

The expression “intuitively acceptable”, used above, needs clarification. In some linguistics literature, a distinction is sometimes made between **acceptable** and **grammatical** sentences. These two sentences exemplify this distinction:

(7.9) *That boy ate the durian.*

(7.10) *The durian ate that boy.*

Both sentences are grammatical, because they both follow the constituency rules of English. They both parse different word classes appropriately in their slots. But only the sentence in (7.9) is likely to be acceptable, in that it is not only grammatical, but it also makes sense. The sentence in (7.10) is odd because durians are a type of fruit, and hence incapable of eating human beings.

What (7.9) and (7.10) demonstrate is that grammatical sentences need not make acceptable intuitive sense. The American linguist Noam Chomsky

famously made the point that grammatical parsing is independent of meaningfulness by proposing an example of what he viewed as a grammatical but nonsensical sentence, *Colorless green ideas sleep furiously* (Chomsky 1957: 15, note the American spelling of the first word in this sentence). We discuss matters of meaning in Chapter 9.

On the other hand, sentences can also be acceptable without being grammatical, as in some productions by foreign users of a language. One example is:

(7.11) *That boy the durian ate.*

Speakers of Japanese, for example, in whose language this word order is the rule for simple sentences, may produce sentences like the one in (7.11) in their first attempts at using English. English speakers are likely to assign an acceptable meaning to this sentence, akin to the meaning of (7.9), rather than hesitate between the interpretations shown in (7.9) and (7.10). For the purposes of this chapter and the next, the expression *intuitively acceptable* can be taken as synonymous with *grammatical*.

7.3.2 Tests of constituency

We have so far studied data that provide evidence for syntactic grouping, or constituency. We did this by manipulating our data, and probing for intuitions about those data. As already noted several times in this book, constructions that are possible in a language are as illuminating about its grammar as constructions that do not occur in that language, because they are rejected by its users as being intuitively unacceptable. We can then probe for acceptability of different constructions in different languages. In so doing, we must bear in mind that we are likely to conclude that what is grammatical/acceptable in one language (variety) may not be grammatical/acceptable in another. One example is in our discussion of (7.11), concerning the different rules that govern basic sentence structure in English and Japanese.

It is from cross-linguistic, generalised observations of this kind that linguists attempt to make sense of the overall structure of human language. As we said at the outset of this chapter, languages may parse their constituents *differently*, at times in radically different ways. Nevertheless, all languages parse their constituents in *regular* ways, and constituents can therefore usefully be found in all languages. We can now conclude this section with the statement of two tests that can help us identify syntactic blocks, or constituents:

- **Substitution.** This test shows that a group of words may be replaced by a single word within the same constituent.

- **Movement.** This test shows that constituents may appear in different positions, in different versions of a sentence.

For example, we know that “in the morning” is a constituent in the sentence *I like to exercise in the morning* because it can move from its default position at the end of the sentence to the beginning of the sentence (*In the morning, I like to exercise*) without affecting the grammaticality of the sentence. That is, both *I like to exercise in the morning* and *In the morning, I like to exercise* are well-formed sentences.

It's important to keep in mind that the movement test basically states that ‘Only single units can be moved’. What this means is that if something can be moved, then it is a single constituent. It does not mean that if something cannot be moved, then it is not a single unit. Nor does it mean that if something is a single unit, it can be moved. The statement *Only single units can be moved* does not mean *All constituents can be moved*.

Activity 7.1

Circle the label of the sentence(s) in which the underlined sequences form one syntactic constituent.

Argue for your analysis, using one, or both, of the constituency tests above.

- (a) Our neighbour saw my friend's dog in the park last week.
- (b) Our neighbour saw my friend's dog in the park last week.
- (c) Our neighbour saw my friend's dog in the park last week.
- (d) Our neighbour saw my friend's dog in the park last week.
- (e) Our neighbour saw my friend's dog in the park last week.

7.4 Phrases and phrase structure

We now move on to refine these observations, by investigating the properties that define the internal structure of syntactic constituents.

7.4.1 Phrases

We saw above that both single words and organised groups of words can be analysed as constituents of a larger unit that we call a *sentence*. We therefore need a specific term that helps us refer to ‘organised groups of words’ in a clear and consistent manner. We call this unit a **phrase**, and we define it as a constituent that is intermediate between **words** and **sentences**. Phrases are

“intermediate” units of analysis because their constituents are word classes and because phrases, in turn, are constituents of sentences.

Our observations in the preceding section show that certain word classes must occur in certain phrases, whereas other word classes may or may not occur in the same phrase. We can summarise this conclusion with three examples, adapted from our earlier set of examples:

- (7.12) *That boy ate the durian.*
- (7.13) *That boy ate durian.*
- (7.14) **That boy ate the.*

These examples show that both *the durian* and *durian* can occur after a verb like *ate*, as in (7.12) and (7.13), but *the* cannot occur alone in this position, given that (7.14) is ill-formed. In other words, we can replace the phrase *the durian*, which is made up of Det + N, with only one of its own constituents, N, but not the other. This must mean that in the phrase *the durian*, the noun *durian* is more central than the determiner *the*. Phrases appear then to consist of two types of constituent:

- **Head.** The head is the obligatory constituent of a phrase.

In terms of meaning, the head is what a phrase is about. For example, the phrase *the cheap durian* is about a durian. Given this analysis, we can account for the ill-formedness of (7.14) in terms of the absence of a head. Being obligatory, the head of a phrase is the word class that can replace the phrase as a whole.

- **Modifier.** Modifiers are optional constituents in a phrase.

Modifiers, as their name suggests, add meaning to, or modify, the meaning of syntactic heads. This is what the word *cheap*, for example, does in the phrase *the cheap durian*. Modifiers can be left out without affecting the well-formedness of phrases: both (7.12) and (7.13) are well-formed, with and without the word *the*, respectively. Being an optional constituent, a modifier cannot replace the phrase in which it appears.

We can now refine our formulation of the substitution test in section 7.3.2 as follows: the substitution test shows that a group of words may be replaced by a single word within the same constituent, which is of the same word class as the head of the constituent.

Phrases are labelled according to the label of the word class of their syntactic heads. For example, the phrase *the durian* is called a **noun phrase**, abbreviated NP, because its head is a noun. A **verb phrase** (VP) has a verb as

its head. Generalising this pattern, we can see why models of grammar that account for phrase structure in terms of head and modifiers are called **XP grammars** (X-phrase grammars), where X stands for the word class of the head of the phrase.

Activity 7.2

1. Propose one syntactic label for the underlined constituent in the sentence:

The room looked rather dark.

2. Use one of the two constituency tests introduced in this chapter to explain your choice of label for this constituent.

Recall that we have come across heads and modifiers before, in our morphological discussion of **headed compounds** (section 5.3.2), which shows the usefulness of these two constructs for our understanding of linguistic structure across the board. In syntax, the same central versus peripheral status holds for words in different types of phrases. Note that, as we made clear for compounds, **headedness** is not a property of particular word classes. It is a syntactic status that particular words acquire by virtue of their distribution, and therefore their function, within larger units. In the same way that, say, nouns can be either heads or modifiers in compounds (compare e.g. *race horse* and *horse race*), different word classes can function as head or modifier, depending on where they occur within a phrase.

Activity 7.3

Consider the following sentences:

- (a) Internet businesses are profitable gold mines.
- (b) He has grown really tall.
- (c) She sings extremely well.

1. Identify the head and the modifier(s) in each underlined phrase.
2. Give the word class of each head and each modifier in all underlined phrases.

7.4.2 Phrase structure

Phrases may consist of several constituents. We saw above that a noun phrase, for example, may contain a single noun, *durian*, or a noun preceded by a determiner, *the durian*, or a determiner and an adjective, *the cheap durian*. Noun phrases may also contain a single pronoun, as in (7.7d). You may have reached this conclusion yourself, based not only on the discussion in this chapter, but also drawing on your knowledge about the patterning of pronouns from section 3.4.1. We said there that pronouns replace sequences of an optional determiner, followed by an optional adjective, followed by a noun.

The term **phrase structure** (PS) designates the internal structure of a phrasal constituent, in terms of its own constituents and of the order in which they occur. Phrase structure can be represented in several alternative ways, i.e. we can talk about phrase structure in different ways. Three types of representation are given below, exemplified with an NP.

PS representation in words

A noun phrase must be constituted by either a noun or a pronoun.

The pronoun occurs on its own, whereas the noun may optionally co-occur with a determiner, an adjective, or both. In this case, the determiner precedes the adjective, and both precede the noun.

Descriptive statements like this are self-explanatory, but can be cumbersome and wordy. The commonest representations in the literature therefore use more compact notations, each involving a set of associated conventions and terminology, as follows.

PS representation in rule notation

Rule notation, introduced at the end of section 4.5.2 to account for morphological patterns, is a convenient, shorthand way of representing phrasal syntax too. One example of a phrase structure rule, or **PS rule**, is:

$$\text{NP} \rightarrow \left\{ \begin{array}{c} (\text{Det}) (\text{Adj})^* \text{N} \\ \text{Pr} \end{array} \right\}$$

The same rule can be written in a more compact format:

$$\text{NP} \rightarrow \{(\text{Det}) (\text{Adj})^* \text{N}, \text{Pr}\}$$

PS rules afford as much economy (and elegance) as stating *three plus two equals five* in the form of the equation $3 + 2 = 5$. Generalising from $3 + 2 = 5$, what

the notation $x + y = z$ captures the general principle that *the addition of a number (x) to another number (y) equals the sum of both numbers (z)*. In the same way, PS rules are said to **generate** phrases, in the sense that each PS rule states a general principle for generating all (and only) the well-formed phrases in a language (variety). The conventions used in PS rules include the following:

-
- ‘expands into’, ‘is constituted by’, ‘is rewritten as’
 - * one or more of the same constituent (note that the asterisk follows the symbol for the constituent)
 - () optional constituents in the phrase
 - { } alternative constituents that make up the phrase: each of the lines in the expanded half of the rule, i.e. to the right of the arrow, or each of the strings separated by a comma in the single-line version of the rule, indicates alternative ways of building the phrase.
-

Figure 7.1. Conventions used in PS rules

According to these conventions, the NP rule above specifies that an NP must consist either of a noun or a pronoun. If the NP contains a pronoun, this word occurs on its own. If a noun occurs, then it can be preceded by a determiner and several adjectives, in this order. We return to the matter of **recursion**, or the recurrence of several similar constituents, in section 7.4. below.

Activity 7.4

Do all of the following noun phrases, underlined, obey the NP rule stated above?

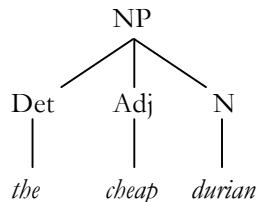
- (a) My youngest sister is a fashion model.
- (b) She likes to follow the latest stylish trends.
- (c) Models often enjoy their job.
- (d) Irregular schedules appeal to them.

Explain why you think so.

PS representation in tree diagrams

We discussed diagram representations of linguistic structure in section 4.5.2, when we dealt with complex words. Phrase diagrams, generally called **tree diagrams**, are also commonly used to give a clear visual representation of the assumed internal constituency and hierarchy of phrase structure. For example, the tree diagram of the phrase *the cheap durian* would be:

(7.15)



These are the conventions used in PS diagrams:

-
- | | |
|-------------------|--|
| branch: | a line joining two constituents; branches do not cross each other; |
| node: | any point from which a branch is drawn; |
| dominance: | hierarchical relationship between higher and lower nodes; |
| mother: | node that immediately dominates another; |
| daughter: | node that is immediately dominated by another; |
| sister: | node that has a mother in common with another; |
-

Figure 7.2. Conventions used in PS diagrams

In the tree diagram (7.15), we say that the NP *the cheap durian* stands in a **mother-daughter relationship** to its constituents (*the*, *cheap*, *durian*). The constituents *the*, *cheap* and *durian* are sisters.

When we build, or discuss, linguistic representations by means of tree diagrams, we can look at these representations in two complementary ways. Recall that we said in section 7.3 that constituency is an instance of **compositionality**. This means that constituency is a two-way relationship between a whole and its parts. We can therefore build our diagrams, or analyse them, from two different perspectives whose equivalence, for the purposes of this book, was already pointed out in section 4.5.2:

- **Bottom-up**, by grouping smaller units into larger units. We start at the bottom of the tree, and find the successive mother nodes that are shared by a number of sister nodes.
- **Top-down**, by breaking up larger units into smaller units. We start at the top of the tree, and expand its successive nodes into their daughter constituents.

Activity 7.5

In much linguistics literature, we find the word class *pronoun* defined as follows:

‘A pronoun replaces a noun phrase.’

Given what we have discussed in this chapter, is this definition syntactically accurate? Why?

You will have noticed that the three alternative representations that we have introduced, words, PS rules and PS diagrams, are equivalent. They all satisfy the criteria of explicitness and systematicity that are required of scientific tools. All three are equally general, in that they specify the constituents of a particular phrase and the relative position of these constituents within a phrase. The choice of one type of representation over another is therefore largely a matter of simplicity or convenience. Representations in words can be cumbersome. Tree diagrams give us clear visual clues about constituency, but they take up a lot of printed space, and can take time and skills to format on a printed page. In contrast, the compactness of PS rules saves space, to the detriment of visual clarity.

As a final remark on this section, you should bear in mind that the NP rule that we chose to discuss here is of course not the only rule that accounts for noun phrases, in English or any other language. Activity 7.4 should help make this point clear. In fact, it would be fair to say that linguists have not reached agreement about the structure of noun phrases, or of any other phrases, in English or in any other language!

Activity 7.6

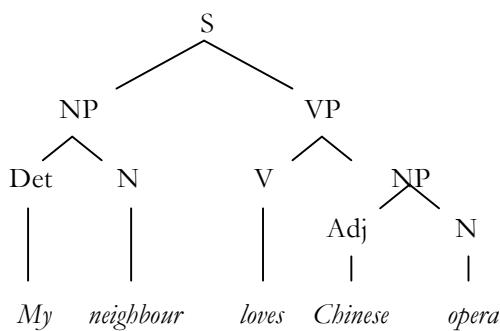
Propose a NP rule for the following data. Your rule should account for these data only!

- (a) Young children love lollipops and comfortable clothes.
- (b) Older children love diet food and tight jeans.

7.4.3 Sentences

A sentence can be thought of as a type of constituent (see section 7.5 below for clarification of this claim). On this assumption, one way of representing **sentence structure** by means of PS rules and tree diagrams is as follows, exemplified by the sentence *My neighbour loves Chinese opera*. In the example, the symbol *S* stands for ‘sentence’, we use the same NP rule that we’ve discussed in this chapter, and we introduce a new VP rule, one possible VP rule among many:

$$\begin{aligned} S &\rightarrow \text{NP VP} \\ \text{NP} &\rightarrow (\text{Det}) (\text{Adj})^* \text{N} \\ \text{VP} &\rightarrow \text{V NP} \end{aligned}$$



Note that the rule expanding NP is used twice in the analysis of this sentence, in two different ways: one rewrites NP as Det N (*My neighbour*), the other as Adj N (*Chinese opera*). Incidentally, you may want to work out for yourself why the word *Chinese*, that can also be a noun, is analysed as an adjective in this context.

You will also notice that the two NPs in this sentence appear in different positions (before and after the verb), and are represented at two different hierarchical levels in the diagram. The relative position of phrasal constituents

within a sentence gives information about the **syntactic function** of the constituents. We discuss syntactic function in the next chapter.

7.5 Recursion

A rule of the form $NP \rightarrow (Det)(Adj)^* N$ shows that one constituent, Adj, may be repeated. In theory, the number of repetitions is unlimited, because the rule simply states that repetition is possible, not the number of possible repetitions. In practice, the number of adjectives that does occur in a noun phrase is of course limited, large though it may be. Speakers eventually run out of breath, or of adjectives, or both. Examples would be:

Of all the sickening, disgusting, revolting, shocking, appalling, nauseating, atrocious, inexcusable, filthy, ~~etc~~, ~~etc~~, ..., things to say!

Of all the sickening, sickening, sickening, sickening, sickening, sickening, sickening, sickening, sickening, ..., things to say!

Constituents may also be repeated in different phrase types. For example, the structure of a phrase like *on a Sunday*, called a prepositional phrase (PP), can be represented as:

$PP \rightarrow P\ NP$

A noun phrase may, in turn, contain a PP. One example is *the cat with the funny tail*, which has the structure:

$NP \rightarrow Det\ N\ PP$

These two rules represent the fact that a PP may contain an NP, which in turn may contain a PP, and so on. They also represent the fact that an NP may contain another NP, and a PP another PP. The possibility of repetition of linguistic structures in this open-ended way is called **recursion**. PS rules represent the property of recursion by having the expanded constituents of one rule, those to the right of the arrow, appear on the left side of another rule.

Recall that in Chapter 1 we saw that one defining characteristic of human spoken language is its **creativity**, or open-endedness. We have now seen that our analyses represent this property at different levels. Just like a word may contain other words, for example in compounding, discussed in section 4.3.2, a phrase may also contain other phrases. Generalising, we say that a linguistic unit X may contain another X . Here is one example of an utterance containing phrasal recursion of PP (highlighted in italics):

I took a holiday in the early weeks of the month of May at the cottage by the river near the bridge on ...

Similarly, the sentence given as an example of the creative property of language in section 1.4.3, contains several sentences:

The little old lady who tried to carry the Golden Retriever disguised as her son into the 601 bus was told off by the commuter holding a fainting bald eagle by its left foot.

One sentence refers to the lady being told off by someone, another to the lady trying to do something, another to the lady carrying something, and so on. Even a long, complex sentence like this one can in turn be expanded through recursion, on both sides:

... that he told me that she thought that he said that the little old lady who tried to carry the Golden Retriever disguised as her son into the 601 bus was told off by the commuter holding a fainting bald eagle by its left foot and by the nurse who was tending to it but was struggling with the oxygen tent that she had brought along as part of her first-aid training and ...

We notice from this sentence that certain words appear to signal recursion, namely, the words *that* and *and*. Recursion may in fact include a **marker**, defined as a word, or sequence of words, that indicate a particular type of constituency. Recursion can be marked by means of a **conjunction**, a word class that was only briefly mentioned in section 3.4.1. We can now distinguish between two types of recursion, each associated with a type of conjunction, as follows.

7.5.1 Coordination

Coordination involves linking constituents of the same syntactic type by means of **coordinating conjunctions**, or *coordinators*. Another way of saying this is that coordinated constituents must be **sisters**, in a diagram representation, and of the same syntactic type as their mother. This property can be generalised by means of a coordination rule, given in notation form below, where *CoConj* stands for ‘coordinating conjunction’:

$$X \rightarrow X \text{ CoConj } X$$

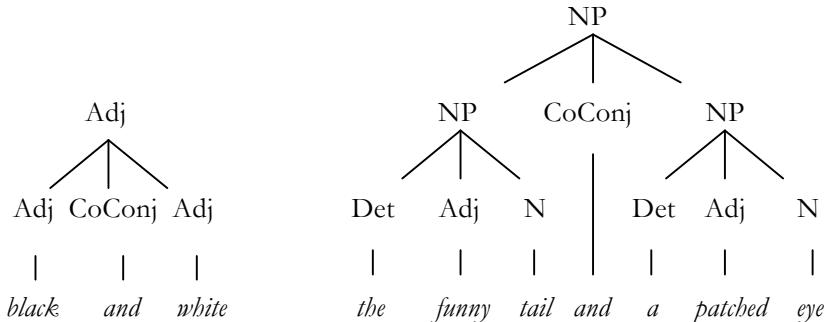
Consider now this example:

(7.16) *I fed the black and white cat with the funny tail and a patched eye.*

We notice that the same word *and* marks the recursion of two Adj (*black*, *white*) and of two NP (*the funny tail*, *a patched eye*), respectively. Given in rule notation, each recursion can be represented as follows:

$$\begin{aligned} \text{Adj} &\rightarrow \text{Adj CoConj Adj} \\ \text{NP} &\rightarrow \text{NP CoConj NP} \end{aligned}$$

In tree diagram notation, the representation of each of these coordinations would be:



Activity 7.7

Consider the following sentence:

He played it well but too slowly.

1. Propose one syntactic label for the underlined constituent in the sentence.
2. Use one of the two constituency tests introduced in this chapter to explain your choice of label for this constituent.

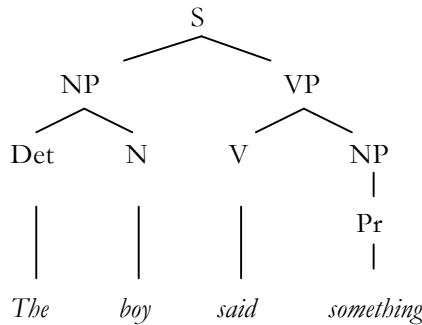
7.5.2 Subordination

Subordination differs from coordination in that recursion concerns constituents that stand in a hierarchical relationship, or **mother-to-daughter** relationship, rather than a sister relationship. Unlike coordination, the recursive constituents in subordination need not be of the same syntactic type. Typically, **subordinating conjunctions**, or *subordinators*, introduce constituents that are dependent on, or subordinated to, a higher constituent. For example:

(7.17) *The boy said that he dropped the cat.*

We observe that this sentence in fact contains two sentences, *The boy said (something)* and *He dropped the cat*, linked by the subordinator *that*. Traditionally, these two sentences are known as the *main clause* and *subordinate clause*, respectively. The word **clause** can thus be taken as referring to an instance of sentence recursion. Syntactically, there is no difference between a clause and a sentence. Just as words can be divided into simple (containing one morpheme) and complex words (containing more than one morpheme), so also sentences can be divided into **simple** (containing one clause) and **complex** sentences (containing more than one clause). Similarly, just as complex words can be classified into compounded and affixed words, so also complex sentences can be classified into coordinated and subordinated sentences.

A sentence like *The boy said something* has the following structure:



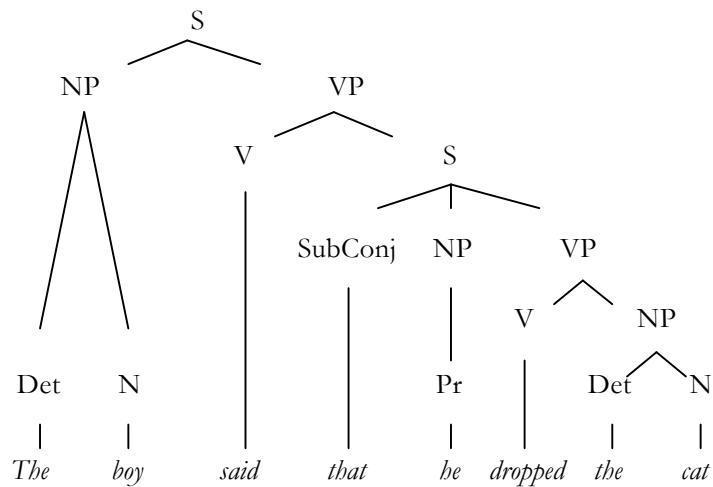
By **substitution**, the subordinate clause (*that he dropped the cat*) can replace the single word *something* in this sentence. The substitution includes the subordinator *that*, which is there to introduce the subordinate clause. As we saw in section 7.3.2, substitution allows us to conclude that the subordinate clause (*that he dropped the cat*) must occur in the same slot as the NP (*something*) following the verb *said*, in the diagram above. The PS-rule that rewrites the VP of the main clause in order to account for subordination is therefore:

$$VP \rightarrow V \ S$$

This rule, compared to the rule $VP \rightarrow V \ NP$ given in section 7.4.3, makes it clear that S and NP are taken as syntactically equivalent constituents inside the VP. We take the subordinator to be part of the subordinate clause, because it cannot move independently of the subordinate clause. Accordingly, our earlier rule expanding S needs to be reformulated as:

$$S \rightarrow (\text{SubConj}) \ NP \ VP$$

The parentheses indicate that the subordinator is optional: the sentence *The boy said he dropped the cat* is well-formed too. In diagram notation, the representation of subordination would be:



Making use of both forms of recursion, coordination and subordination, our original sentence (7.17) can in turn be expanded as shown below:

... *that my cousin is sure that the boy said that he dropped the cat and its feeding bowl and ...*

The utterances used in everyday exchanges are often of this complex type. Our analysis of this complexity by means of the single concept of **recursion** captures this fact in a satisfactory way.

Food for thought

“Grammar is the business of taking a language to pieces, to see how it works.”

David Crystal (1996). *Rediscover grammar*.
London: Longman, p. 6.

“Our meddling intellect
Mis-shapes the beauteous form of things
We murder to dissect.”

William Wordsworth (1798), ‘The tables turned’.

Further reading

Deterding, David H. and Poedjosoedarmo, Gloria R. (2001). Chapter 6. Phrases. In *The grammar of English. Morphology and syntax for English teachers in Southeast Asia*. Singapore: Prentice Hall, pp. 65-71.

Reference

Chomsky, Noam (1957). *Syntactic structures*. 's-Gravenhage: Mouton & Co.

8

The grammar of sentences: slots and functions

Chapter Preview

What types of phrases can build sentences?

How are phrases organised among themselves to build sentences?

Does the order of the phrases within sentences affect meaning?

Why are there different types of sentences?

8.1 Introduction

In the previous chapter, we looked at how **phrase structure** accounts for the internal structure of a phrasal constituent. Phrase structure deals with constituents within phrases. We specified the word classes that constitute a phrasal constituent, and their relative position within a phrase. In this chapter, we deal with **sentence structure**, the internal organisation of sentences. Sentence structure deals with constituents within sentences. We will therefore investigate which phrases constitute a sentence, and their relative position within it.

8.2 Syntactic form and syntactic function

In general terms, it is usually the case that a specific **form**, syntactic or otherwise, corresponds to a specific **function**. A hammer, for example, has a specific shape, or form, because we use it for specific purposes, or functions, that are best served by a hammer-like structure. Consider the two sentences below:

- (8.1) *She would be angry.*
(8.2) *Would she be angry?*

We interpret (8.1) as a statement and (8.2) as a question, for two reasons. First, (8.1) and (8.2) are uttered with different intonations. The different punctuation symbols used in (8.1) and (8.2) attempt to capture this difference. The full stop in (8.1) represents a falling intonation typical of statements, whereas the question mark in (8.2) signals a rising intonation typical of questions (intonational falls and rises were discussed in section 5.5). Second, (8.1) and (8.2) show a difference in word order. Sentence (8.1) has a pronoun *she* before the auxiliary verb *would*, whereas sentence (8.2) inverts the order of these two words. **Statement** and **question** are labels that pertain to the function of sentences, i.e. to the “job” that they perform in a language. We typically use statements to communicate assertions, and questions to find out information. In contrast, **intonation** and **word order** pertain to the form of sentences, i.e. to their audible characteristics.

Function can, however, be independent of (physical) form. For example, you can use either a hammer or a stone to nail two pieces of wood together. Hammers and stones are differently-shaped objects, yet they may serve the same purpose of nailing objects together. Conversely, a stone can be used to nail objects together or to crack open, say, a hard-shelled fruit. The same is true of linguistic units. In fact, the difference between the form and the function of linguistic units, as of any other objects of our interest, has recurred throughout this book since Chapter 1. We saw, for example, that the form of morphemes may be the same (they sound the same), but that their grammar and meaning may tell us that they are distinct linguistic units (they have different functions in a language). At word level, the same physical word-form, e.g. *paint*, can be a noun or a verb, depending on its distribution. Conversely, we also dealt with several examples of alternation, where different forms correspond to the same linguistic function. The term *function* can thus be said to indicate a distributional, i.e. a *relational* property of linguistic units. Generalising, we say that linguistic **function** is the grammatical relationship that one constituent holds in relation to other constituents in a structure. Linguistic function thus depends on **distribution**.

Let’s clarify that it is indeed distribution and not form that enables us to interpret function. The following real-life example might help. If you’ve ever been out shopping and been mistaken by another customer for a shop assistant, you probably wondered what it was about your clothes or general appearance to suggest you earned your living as a shop-assistant. But, clearly, something in your behaviour got interpreted as shop-assistant-like behaviour.

Likewise, we identify heads versus modifiers, or affixes versus stems, by their behaviour inside constituents.

Function clearly plays a crucial role in our interpretation of linguistic meaning. The reason for investigating sentence constituency is that phrase constituency gives no clue about function. For example, why were we able to conclude, as early as in section 1.4.4, that these two word sequences are examples of two different sentences?

- (8.3) (a) *The cat licked the boy.*
(b) *The boy licked the cat.*

Both sentences in (8.3) contain one verb and two noun phrases each, in the same order, NP V NP. Yet we interpret the two sentences in totally different ways. In other words, both sentences are identical in terms of their formal constituents. What changes from one sentence to the other is the relative position of the two noun phrases. In (8.3a), the NP *the cat* precedes the verb *licked*, whereas in (8.3b) it follows the verb, and conversely for the NP *the boy*. Relative position of phrasal constituents must then play role in assigning meaning to sentences.

Keep in mind, however, that the examples that we have discussed so far concern one particular language, English, and by extension, languages whose syntactic patterns are similar to those of English. Taking the relative position of sentence constituents as a clue to syntactic function does not hold true for all languages. In many richly inflected languages, inflection contains the clues to syntactic function, and word order is thus much freer than in languages that lack functional inflections. Latin is the classic example, in both senses of the word “classic”, of what is meant by a free-word language. The English sentence *Father loves mother* can be rendered in Latin in any of the following six ways:

- (8.4) *Pater amat matrem.* *Matrem pater amat.*
 Pater matrem amat. *Amat pater matrem.*
 Matrem amat pater. *Amat matrem pater.*

The word-final inflections attached to the words *pater* and *matrem* indicate their function. Any difference among the meanings of the six Latin sentences concerns stylistics, not syntax.

Richness of inflection and free word order constitute a cline among languages, in a trade-off effect typical of language, whereby more structure at

one (morphological) level often implies less structure at another (syntactical). This trade-off in complexity, across different levels of structural organisation, across languages, helps us understand why it makes little sense to say that a language is, overall, “more complex” than another, or has “more grammar” than another. As in the proverbial mistaking of isolated trees for a forest, it all depends where, within the languages that you are comparing, you choose to look.

8.3 Obligatory and optional sentence constituents

In the previous chapter, we saw that phrases contain obligatory constituents and may contain optional constituents. Let’s now check whether the same is true of the phrasal constituents that make up sentences. Consider the following data:

- (8.5) *The cat licked the boy.*
- (8.6) *The cat licked the boy on the knee.*
- (8.7) **The cat licked.*
- (8.8) **The cat licked on the knee.*

We observe that certain phrasal constituents are obligatory, in order to form a grammatical sentence. Intuitively, English speakers know that if you lick, you must lick something. We can account for the unacceptability of (8.7) and (8.8) in terms of the absence of a constituent denoting the “something” that the cat licked. Other constituents are optional, in that the grammaticality of the sentence is unaffected by their presence or absence. Sentences (8.5) and (8.6) show that the constituent *on the knee* is optional because its absence in (8.5) and its presence in (8.6) does not affect the grammaticality of either sentence. Both are well-formed. Similarly, its presence in (8.6) does not help the ungrammaticality of (8.8).

How can we make sense of these observations? We need a starting point and, as before, this means that we will need to make assumptions that may guide our reasoning. As a working assumption in syntax, it is usual to take the **verb** as the pivotal element of the sentence. This verb has to be a main verb, not an auxiliary. That is to say, a sentence must contain a main verb. Conversely, any word sequence without a verb is not a sentence. The constituents of well-formed sentences are then said to occur, not occur or occur optionally because of the characteristics of the verbs in those sentences.

8.3.1 Adjunct

We can make a first broad distinction between optional and obligatory constituents. Optional constituents are called **adjuncts**. In the following examples, the adjuncts are in italics:

- (8.9) (a) The cat disappeared *last night*.
(b) *Last night*, the cat disappeared.
(c) The boy had licked it *furiously*.

These data help us define the properties that characterise adjuncts:

- The presence, or absence, of adjuncts does not affect the grammaticality of the sentences in which they occur. The sentences in (8.9) remain grammatical without their respective adjuncts.
- Adjuncts are often mobile within their sentence, and are often preceded and/or followed by a pause (indicated in spelling by a comma), as in (8.9a) and (8.9b).
- Adjuncts often convey meanings associated with the manner, place and time of events described in the sentence. Adjuncts typically answer questions like *How?*, *Where?*, *When*?

The reason that the presence or absence of adjuncts does not affect the grammaticality of sentences is that adjuncts convey extra information about the circumstances surrounding the events described in the sentences.

Adjunct **movement** in turn reflects the mobile character of adjuncts, and represents a further test of **constituency**, in that adjuncts can move to phrasal boundaries but not to positions inside phrases. Compare sentences (8.9a) and (8.9b) with:

- (8.10) The cat, *last night*, disappeared.
(8.11) *The, *last night*, cat disappeared.

The well-formedness of (8.10) indicates that *The cat* and *disappeared* belong to two different constituents, that can accept a different constituent at their boundaries. In contrast, the unacceptability of (8.11) shows the phrasal cohesion that holds between the determiner *The* and the noun *cat*.

Activity 8.1

Consider the underlined constituents in the following data:

- (a) I was tired after dinner.
- (b) I was tired yesterday.
- (c) I was tired that evening.
- (d) I was tired when they left.

With support from the data, provide arguments for distinguishing between *adverb* and *adjunct*, in English grammar.

8.3.2 Subject

Among obligatory constituents, common syntactic accounts include the subject. The **subject** is often defined in distributional terms, as the NP that comes before the verb.

However, it should be noted that the widespread assumption of subjects as obligatory sentence constituents is largely based on features of languages like English, where subjects are traditionally viewed as obligatory. In many other languages, like Mandarin or Portuguese, subject constituents are optional. Here is one example from Portuguese, in the form of a short dialogue between speaker A and speaker B, with word-by-word glosses in English and a translation in brackets. As was the case with Latin in (8.4), functional information is contained in inflections. In this example, information about the subject is suffixed to the verb:

- A. *Pareces doente*. ‘Look ill.’ (You look ill.)
- B. *Estou com febre*. ‘Am with fever’. (I have a fever.)

In the following examples from English, the subjects are in italics:

- (8.12) *That cat* is crazy.
- (8.13) *It* chases the schoolboys every day.
- (8.14) *The boys* chase the cat on Sundays.

Activity 8.2

Given the following sentence, would you say that *cat* is its subject? Why?
That fat cat looks like Garfield.

We can summarise the properties that identify the functional constituent *subject* as follows:

- The subject is usually a noun phrase.
- The subject precedes the verb.
- Subject and verb agree in number and person.

In analyses of English, the principle of subject-verb **agreement** (or **concord**) means that subject and verb must share features of number and person. Using this principle, we can account for the ungrammaticality of the sentences in (8.15) in terms of the absence of agreement:

- (8.15) **It chase the schoolboys every day.*
 **The boys chases the cat on Sundays.*

In both sentences, we have a discrepancy between the number of the subject (singular versus plural, respectively) and the number of the verbal form (plural versus singular, respectively). In many languages, agreement between subject and verb is present whenever a subject is present too.

Note that many languages have agreement of different kinds. Besides agreement between subject and verb, languages can have agreement for example between nouns and their modifiers within a noun phrase, which must all be singular or all plural, or must all be marked in other ways that signal the internal cohesion of noun phrases. In English, subject-verb agreement is extremely restricted, in that it occurs only in the 3rd person singular of present tense forms, and therefore concerns both person and number together. In a language like Latin, and in Latin languages, subject-verb agreement is the rule for each person, number, tense, and so on, independently of one another.

8.3.3 Object

Given the assumption of obligatory functional constituents, a second broad distinction can be made between subjects and non-subjects. Obligatory non-

subject constituents can be *objects* or *complements*. The major distinction between the two can be worked out through the relationship between **active** and **passive** sentences. Compare:

- (8.16) *My son spilled the milk.*
 (8.17) *The milk was spilled by my son.*

These two sentences mean roughly the same: there was some milk, which my son caused to be spilled. But the perspective from which each of the sentences describes this event is different. In (8.16) we are talking about my son and what he did, whereas in (8.17) we are talking about the milk and what happened to it (we return to the issue of perspective in the description of events in section 11.2.2). Sentence (8.16) is an *active* sentence, because its subject, *my son*, is actively doing something, i.e. it is the *agent* of the action described by the verb. Sentence (8.17) is *passive* because its subject, *the milk*, is passively affected by the action described by the verb, i.e. it is a *patient* of that action. The passive subject corresponds to the **object** of the equivalent active sentence, *the milk*. The form of each of the two sentences above is also different. The functional constituents of active sentences and their corresponding passives stand in a predictable relationship:

- The subject of an active sentence is incorporated within a PP (headed by the preposition *by*) following the verb in the corresponding passive.
- The object of an active sentence maps onto the subject in the corresponding passive.

Figure 8.1 shows how to toggle between an active sentence and its passive.

Active	Subject	Verb	Object
	My son	spilled	the milk.
↔			
Passive	Subject	<i>be</i> + Verb	<i>by</i> phrase
	The milk	was spilled	by my son.

Figure 8.1. The relationship between active and passive sentences

Let's now try to passivise another sentence, as in these examples:

- (8.18) *My son became a happy man.*
- (8.19) **A happy man was become by my son.*

Comparing the two sentences in (8.16) and (8.18), we notice that in both cases we have an NP following the verb, *the milk* and *a happy man*, respectively. In contrast to what we concluded in our discussion of example (8.3) above, the relative positions of these NPs cannot explain the acceptability of (8.18) and the unacceptability of (8.19). Since the constituent *a happy man* in (8.18) cannot be made into the subject of a corresponding passive, as shown by the ill-formed (8.19), we must conclude that *a happy man* is not an object in (8.18). Objects can be passivised. This constituent, which cannot be passivised, is known as a **complement**, whose other properties we detail in the next section.

Having made clear the distinction between objects and complements, we can now focus on the types and additional properties of objects. Two types of objects can be identified through their behaviour in **substitution** and **movement** tests. In these and in following examples in this section, we use underlining and italics to distinguish between the constituents that are relevant for our discussion:

- (8.20) *I can make a kite.* **I can make my son.*
- (8.21) *I can make my son a kite.* **I can make a kite my son.*
- (8.22) *I can make a kite for my son.* **I can make my son for a kite.*

The data above allow us to make three observations. First, of the two NPs, *a kite* and *my son*, only the former can occur on its own after the verb, as shown in (8.20). Second, the two NPs after the verb must be ordered in a specific way: *a kite* must follow *my son*, and not the other way around, as shown in (8.21). Thirdly, only one of the two NPs, *my son*, can be replaced by a PP, *for my son*, as shown in (8.22).

These observations clearly show that *a kite* and *my son* are two different types of constituents, that behave differently and therefore play different roles in their sentences. They are therefore given different labels, **direct object** and **indirect object**, respectively. Their properties may be summarised as follows:

Direct object	Indirect object
Can occur alone after the verb	Occurs with a direct object
Cannot be replaced by a PP	Can be replaced by a PP
Must precede an indirect object PP	If PP, must follow the direct object
Must follow an indirect object NP	If NP, must precede the direct object

Figure 8.2. The relationship between direct and indirect objects

Activity 8.3

Using syntactic arguments, explain why the following dialogue is an example of language play (you may use morphological arguments too!):

- A. *Have you ever seen a starfish?*
- B. *Never. Stars can't fish.*

8.3.4 Complement

In the preceding section, we concluded that complements cannot be passivised. Let's now check for additional properties of complements, comparing the following data:

- (8.23) I can make *my son a kite*.
 I can make *a kite for my son*.
- (8.24) I can make *my son a happy man*.
 *I can make *a happy man for my son*.

Example (8.24) shows that *a happy man*, although also an NP, is not an object: it doesn't behave like the object *a kite* that we identified in (8.23). Like the phrase *a happy man* in example (8.18), it cannot be passivised either:

- (8.25) *A kite can be made for my son by me.*
 **A happy man can be made for my son by me.*

Let's therefore check whether there are any regularities in the meaning contributed by the NP *a happy man* to sentences (8.18) and (8.24). If I say that

my son became a happy man, I'm attributing the quality of being a happy man to my son – the subject of the sentence. *My son became a happy man* means that my son is now a happy man. Similarly, if I say that *I can make my son a happy man*, then I'm counting on my son being a happy man at some stage. In other words, I'm attributing the quality of being a happy man to my son. The difference between (8.18) and (8.24) is that *my son* is a subject in (8.18) and an object in (8.24). That is, the quality of being happy affects a subject NP and an object NP, respectively.

Constituents whose meanings typically attribute qualities to a subject or an object are called **subject complements** and **object complements**, respectively. Figure 8.3 below summarises their differences:

Subject complement	Object complement
Can occur alone after the verb	Must occur with a direct object
Immediately follows the verb	Immediately follows a direct object

Figure 8.3. The relationship between subject and object complements

Activity 8.4

Using syntactic arguments, explain why this sentence is ambiguous:

I can make your son a star.

Start by providing clear paraphrases showing the different possible interpretations of the sentence.

8.3.5 Summary of syntactic functions

Figure 8.4 summarises one way of looking at functional constituents, based on our observations about English:

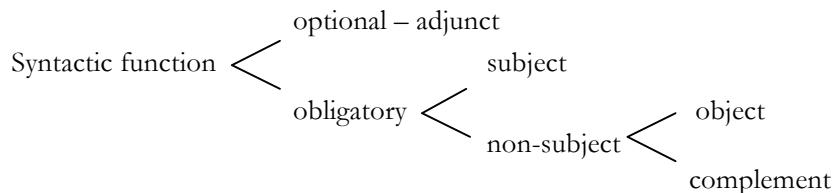


Figure 8.4. Functional syntactic constituents based upon English

Note that starting by distinguishing adjuncts from non-adjuncts, as we did in this chapter, is simply one choice among others. The important thing to keep in mind is the *procedure* in the identification of each functional constituent, through observation of similar and dissimilar syntactic behaviour, and through a principled discussion of those observations.

Before we move on to exemplify how different functional constituents pattern with different verbs, a note on terminology is in order. The syntactic terminology found in linguistics literature can at times be nebulous and confusing because of varying definitions. Two examples are:

- **Predicate.** This term is sometimes used to identify a functional constituent of the sentence. The confusion arises because the “predicate” function can correspond to two formal constituents: in some definitions, it corresponds to just the **verb**, while in others it corresponds to the **verb phrase**. To avoid such confusion, we chose to use the term *verb* to designate both a formal and a functional constituent.
- **Complement.** This term is also used in the literature in at least two senses. One, more general, takes it as a cover term for any obligatory functional constituent other than the verb. Thus, *verb complementation* includes all non-adjunct constituents besides the verb, that is, objects, complements, and the subject. The other sense matches our use of the term in section 8.3.4, distinguishing complements from both objects and the subject.

8.4 Verb subcategorisation: one example

We mentioned at the beginning of section 8.3 that the verb is taken as the pivotal constituent of a sentence, and that the presence, or absence, of other constituents in a sentence depends on the type of verb. We also saw that, for languages like English, the assumption is that a sentence must contain a subject. Let’s then see what kind of behaviour we can observe in the functional constituents that follow the verb. Consider these data:

(8.26)	<i>The cat fell.</i>	* <i>I threw.</i>
	<i>The cat fell from the roof.</i>	* <i>I threw from the roof.</i>
	* <i>The cat fell the roof.</i>	<i>I threw the cat.</i>
	* <i>The cat fell her the roof.</i>	<i>I threw her the cat.</i>

We notice that there is a difference in the constituents that are required, allowed or disallowed with a verb like *fall* and a verb like *throw*. Different verbs thus appear to occur with different constituents. Other data show, additionally, that the same verb may occur with different phrasal constituents, or on its own, in different sentences. One example is the verb *believe*:

- (8.27) *I believe him.*
I believe that he's honest.
I believe.

It must then be possible to state the constraints in the syntactic patterning of verbs. **Verb subcategorisation** classifies the word class (or *category*) **verb** into types (or *subcategories*) according to the distribution and the meaning of particular verbs. For the sake of simplicity, take all verbs given below as *typical* examples of each verb type, bearing in mind that actual usage may vary widely.

We can represent verb subcategorisation by means of **subcategorisation frames**. These frames tell us the kinds of **verb phrase** that different verbs can form. Given in PS rule-type format, they can be generalised as follows:

verb, V, [__ X]

The conventions used in subcategorisation frames are the following:

<i>verb</i>	the verb itself, usually given in ordinary spelling
V	the word class to which the verb belongs
[]	the frame itself
__	the context in which the verb occurs
X	the type of constituent that makes up the VP together with V

Figure 8.5. Conventions used in subcategorisation frames

Subcategorisation frames state, explicitly, which constituents are obligatory. Implicitly, they also tell us which constituents are disallowed. In what follows we will assume that adjuncts, being optional constituents, need not be specified in the frame.

In English and in several other languages, verbs are traditionally categorised into five types. We briefly describe their frames, with examples, in turn.

- **Intransitive.** Intransitive verbs may form a VP on their own. They take no objects and no complements, but may of course take adjuncts. Example:

fall, V

The cat fell.

- **(Simple) transitive.** Transitive verbs must be followed by another constituent, often an NP, functioning as direct object. Example:

throw, V [= NP]

The boy threw the cat.

- **Link / copular.** Link verbs must be followed by another constituent, often an AdjP or an NP functioning as subject complement. Example:

become, V [_ {Adj, NP}]

The cat became restless.

The cat became my friend.

- **Ditransitive.** Ditransitive verbs must be followed by two constituents, often two NPs, functioning as indirect and direct object, respectively. Recall that an indirect object NP can be replaced by a PP, with associated changes in constituent order. Example:

give, V [_ NP NP]

She gave him the cat.

She gave the cat to him.

- **Complex transitive**. Complex transitive verbs must be followed by two constituents, often two NPs, or one NP and one AdjP, functioning as direct object and object complement, respectively.
Example:

call, V [__ NP {NP, Adj}]

She called him a nerd.

She called him brilliant.

The frames that we describe above are not exhaustive, and offer only a small sample of VP constituency. To verify that this is so, recall our discussion of syntactic **subordination**, in the previous chapter. Our analysis of sentence (7.17) highlighted the similarity in structure (formal constituency) between the complex sentence *The boy said that he dropped the cat* and the simple sentence *The boy said something*. We saw how the subordinate clause *that he dropped the cat* could replace the noun phrase *something*. We can now extend our reasoning to functional constituency and say that, if *something* is the direct object of *said*, then so is the clause *that he dropped the cat*. The same is true of any sentence that may replace other constituents. Syntactic function also concerns the role that sentences play within other sentences. We would urge you to experiment

with other verb types, to see what modifications might be required to their frames.

As you experiment, keep in mind that most verbs belong in several subcategories, as illustrated by the verbs *make*, in (8.23) and *believe*, in (8.27). This knowledge should help you explain the following lame joke:

Mary: *John, will you call me a cab?*

John: *You're a cab.*

Figure 8.6 below summarises the different types of verbs according to the constituency of the VP in which they occur. Figure 8.6 suggests a number of strategies that may help distinguish between different uses of each verb. The symbol \approx stands for ‘equivalent to’.

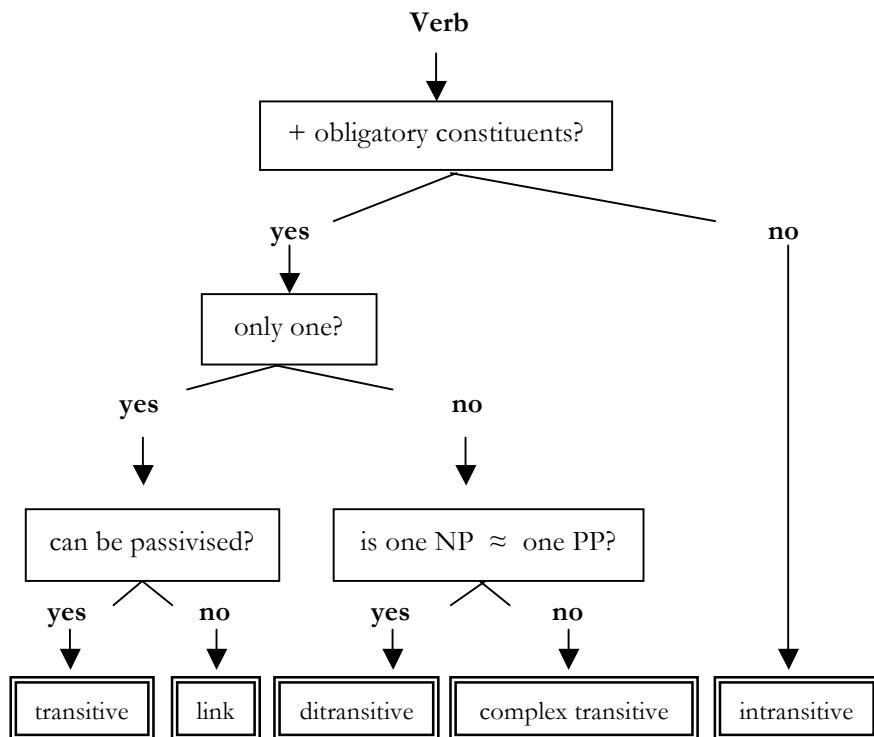


Figure 8.6. Flowchart to help determine verb subcategory

To recap: of the five types, intransitive verbs stand out from the remaining four, because they can form a VP on their own. Both (simple) transitive and

link verbs pattern with only one obligatory functional constituent – a direct object and a complement, respectively. To distinguish between transitive and link verbs, run the passivisation test. Link verbs don't passivise.

Ditransitive and complex transitive verbs pattern with two obligatory constituents. Ditransitive verbs take two objects, direct and indirect, whereas complex transitive verbs are so named because they pattern with two different kinds of constituent, a (direct) object and a complement. To distinguish between these two verb types, check whether one of the NPs corresponds to a PP.

These strategies and the syntactic manipulations discussed in this chapter should help you solve the more tricky cases in a consistent and systematic manner.

Activity 8.5

Find examples of each of the five types of verb above in another language that you're familiar with.

Do those verbs pattern exactly like English verbs? Can you find examples of verbs that belong to different subcategories?

Food for thought

“The structure of every sentence is a lesson in logic.”

John Stuart Mill

Further reading

- Deterding, David H. and Poedjosoedarmo, Gloria R. (2001). Chapter 7. Objects and complements. In *The grammar of English. Morphology and syntax for English teachers in Southeast Asia*. Singapore: Prentice Hall, pp. 73-82.
- Hudson, Grover (2000). Chapter 6. Sentences and syntax. In *Essential introductory linguistics*. Oxford: Blackwell, pp. 88-99.

9

The meaning of meaning

Chapter Preview

What do we mean by *meaning*?

What kinds of meaning relationships are there between words?

What kinds of meaning relationships are there between sentences?

What is the relationship between meaning and truth?

9.1 Introduction

We started our exploration of language in Chapter 1 by highlighting that the primary purpose of language is to express meaning, and that language links meaning with expression via grammar. In chapters 3-8, we explored how meaning interacts with linguistic expression at the level of sounds, words and sentences. In this chapter and the next, we explore this central element of language, meaning, from two complementary perspectives:

- **Semantics**, the study of linguistic meaning, which explores the variety of meaning relationships that words or phrases establish with other words and phrases in a language variety;
- **Pragmatics**, the study of utterance meaning, which deals with how the meaning of an utterance can vary, depending on the way in which it is spoken and the context in which it is spoken.

We reserve our exploration of pragmatics for the next chapter. In this chapter, we explore semantics, focusing on four key issues:

- What we mean by meaning
- Meaning relationships between words
- Meaning relationships between sentences
- The relationship between meaning and truth

9.2 Different types of meaning

As language users, we are constantly deciding whether two words or sentences have similar or different meanings, and we do so with relative ease. Trying to determine what exactly we mean by the concept **meaning**, however, is a slightly more difficult task. One way we can think about meaning is along the following four parameters:

- Sense vs. reference
- Denotation vs. connotation
- Literal vs. metaphorical meaning
- Compositional vs. idiomatic meaning

In the following subsections, we consider each of these parameters, so that it becomes clearer why all four pairs are needed.

9.2.1 Sense and reference

Most often, when we think of the meaning of a word, we think of the entity that the word refers to. For example, when we think of the meaning of the word *crocodile*, we think of the animal to which the word refers. Linguists and philosophers of language label this part of the meaning of a word, i.e. the part that associates the word with some actual entity in the real world, as its **extension**, or **reference**. Thus, we would say that the word *crocodile* has reference because it can be used to refer to an actual entity in the real world. This entity in turn is known as the **referent** of the word *crocodile*.

This characterisation of words as having referential meaning/reference works well for words that do have referents in the real world, e.g. *tree*, *baby*, *screwdriver*. But what do we do with words like *unicorn* or *dragon*, which have no referents in the real world? You might answer that these words have referents in the imaginative worlds of children's fiction or fantasy films. For example, if you were watching a film or reading an illustrated book containing unicorns and dragons, you would be able to figure out which unicorn or dragon I was referring to, if I said, *The smallest unicorn is the main protagonist of this story* or *The big red dragon on the left is the one I like best*. In other words, we could treat the entities in film and art as special cases, imaginary worlds which complement the world we live in. Since *dragons*, *Mickey Mouse*, *the Kitchen God* and other

imaginary entities can be talked about by means of words (as we are doing right now!), we take these words to have a referent, too. This referent is, for our purposes, the **concept** that we form in our minds when we use, or hear, or read words and phrases like these or, for that matter, words and phrases like *slowly*, *Internet Explorer*, *inside* or *Deepavali*.

Consider the expressions *first democratically-elected president of South Africa* and *ANC leader from 1991 to 1997*, both of which refer to Nelson Mandela. Given that both these phrases refer to the same individual, we say they have the same referent. But would you say both these expressions mean the same thing? Would you define the meaning of the expression *first democratically-elected president of South Africa* as *ANC leader from 1991 to 1997*, and vice versa? Our hunch is that almost no one would do this.

What the example above shows is that there is more to meaning than just reference. Take, for instance, words like *anger*, *freedom*, *peace* or *joy*. None of these words refer to actual/imagined entities. Rather, they express concepts – abstract, general ideas. Similarly, consider the words *sad*, *sing*, *slowly*, *before*, and *out*. Again, none of these words correspond to real/imagined entities. Yet, we know what they mean. And, if we do not, we can look up their meanings in a dictionary. The meaning that the dictionary provides reflects the underlying sense of a word/phrase. This is the idea or concept that the word/phrase expresses. Linguists call this the **sense**, or *intension*, of a word/phrase.

Given the two kinds of meaning that we have just outlined, we can say that the phrase *first democratically-elected president of South Africa* has both sense and reference. The referent of this phrase is the individual that it picks out, namely, Nelson Mandela, while its sense is the concept ‘first leader of the South African government to be chosen by the people’.

Notice that in order to correctly identify the referent of an expression, we need to know its sense and the context in which the expression is uttered. Take the phrase: *American President*. In 2010, this phrase refers to Barack Obama. In 1995, the same phrase would have referred to a different individual – Bill Clinton. What these examples show is that the same expression can be referential in one context and non-referential in another. This reinforces the point we made earlier about the importance of context (both linguistic context and situational context) in determining whether an expression has a referent, and who/what that referent is.

Linguistic context, or **co-text**, refers to the language preceding and following the expression in question, while **situational context** refers to knowledge about the setting, purpose and participants in a communicative situation, and includes knowledge of the world. It is knowledge of the world

that tells us that a phrase like *the king of Singapore* has sense but not reference, given that Singapore does not have a monarchy.

Deixis

We have seen that all words have sense, if not reference. For instance, the proper noun *Lewis* and the noun phrase *my best friend* in the sentence *Lewis is my best friend* refer to the same individual. This does not mean that all nouns/noun phrases have reference. In the sentence *I wish I had a best friend*, the noun phrase *a best friend* has sense but not reference because there is no real-world entity that corresponds to this expression.

In talking about reference, it is worth highlighting that all languages have linguistic forms whose referents depend on the situational context of the utterance. These referents cannot be worked out from their linguistic context, or co-text: they are identifiable only in relation to the identity and location, in time and space, of the participants in the communicative exchange. This aspect of referential meaning is labelled **deixis**, from the Greek adjective *deiktikos* meaning ‘pointing, indicative’, and the words or expressions that convey it are labelled **deictics**. Deixis has to do with marking the orientation of entities and events with respect to certain points of reference. Typically, linguists distinguish three kinds of deixis:

- Personal deixis (point of reference: the identity of the participants)
- Spatial deixis (point of reference: the participants’ location in space)
- Temporal deixis (point of reference: the participants’ location in time)

Personal deixis is commonly conveyed through personal pronouns. It signals orientation in relation to the participants in a communicative exchange, namely, the speaker and the addressee. Pronouns that refer to the speaker (or a group including the speaker) are called first person pronouns, while pronouns that refer to the addressee (or a group including the addressee) are called second person pronouns, as we saw in section 3.4.1. For example, if you heard someone utter the words *I love you*, you would know that *I* refers to the speaker, and *you* to the addressee. But, to identify the people to whom these pronouns refer, you would need situational context. For example, if these words were spoken by a mother to her five-year-old daughter, the first person pronoun *I* would refer to the mother, and the second person pronoun *you* to her five-year-old daughter. The same words uttered by a man to his wife would have different referents. The first person

pronoun *I* would now refer to the man, and the second person pronoun *you* to his wife.

Whereas all languages have this opposition between first and second person pronouns, not all languages have a separate pronoun for entities that are neither the speaker nor addressee – referred to as the third person, and marked in English by the third person pronouns *he*, *she*, *it*, and *they*.

As pointed out in chapter 3, pronouns mark distinctions not just in person (first person: speaker; second person: addressee; third person: neither speaker nor addressee), but also in sex (male; female; neither), reflected in grammatical gender, and number (singular; plural).

Activity 9.1

Think about the personal pronoun systems in the languages you are familiar with.

Do they mark distinctions in first, second and third person?

Do they mark distinctions in number? In sex?

Besides marking distinctions in person, gender and number, personal deixis systems may also mark distinctions in the social status of referents and the social relations between speaker and addressee (for more on social roles and relations, see Chapter 10). Contemporary English does not mark distinctions based on social roles and relations (sometimes referred to as social deixis). But languages like French, Hindi, Japanese, Thai and Korean have complex deictic systems which reflect the complex interplay between social distance/closeness, on the one hand, and social equality/inequality between speaker and addressee, on the other. For second person pronouns, examples include the familiar/polite *tu/vous* distinction in French, or the *tum/aap* distinction in Hindi.

Whereas personal deixis takes the participants' identity as reference point, **spatial deixis** marks the orientation or position of events and entities in relation to space. It tells us where exactly a communicative exchange is taking place, and the location of the participants in that communicative exchange. The linguistic forms most commonly used to express spatial deixis include demonstrative pronouns (*this, that*) and spatial adverbs (*here, there*).

Consider the following utterance spoken by a woman client to some furniture delivery people: *Please put the table here and the lamp there*. Without knowing where this communicative exchange is taking place, it is impossible to establish the referents of *here* and *there*. In terms of the sense of *here* and

there, we know that *here* signals proximity to the speaker, whereas *there* signals distance from the speaker. Thus, we would be able to infer that the speaker wants the table to be placed closer to her than the lamp. But, without knowing exactly where the speaker is as she utters these words, it would be difficult to establish the referents (the *where*) of *here* and *there*. The same would apply to an utterance like *I'll take this, this and that*, uttered by someone in a dress shop, where *this* signals proximity to the speaker and *that* signals distance from the speaker. Often, spatial deictics are supported by gesture, as the speaker points to the entities referred to by the pronouns or adverbs.

Activity 9.2

Spatial deictic meaning can also be signalled by directional verbs like *come* and *go*, and *bring, fetch, take*, and *send*.

Let's suppose you overhear two phone conversations.

In the first conversation, the speaker asks the person she is speaking to:
When are you going home?

In the second conversation, the speaker asks the person she is speaking to:
When are you coming home?

What can you infer about the movements of the person being spoken to on the phone?

We said above that spatial deixis marks the orientation or position of events and entities in relation to the location in space of the participants in a communicative exchange. **Temporal deixis** in turn refers to the orientation of events in relation to the time of the communicative exchange, and is commonly expressed by words like *today, two days ago, next March, tonight, this evening, tomorrow, yesterday, last week, last year, now, and before*. In order to find out which specific times these expressions refer to, we need to know exactly when they were uttered. For example, *next March* would have a different referent if uttered in 2005 as opposed to 1995. Similarly, if you walked past a door with an undated notice on it, saying *This room has been booked for a meeting tonight*, you would not know whether the meeting has already taken place (perhaps someone forgot to remove the sign after the meeting) or whether it has yet to take place.

Activity 9.3

The owner of a restaurant, fed up with regular customers asking for meals on credit, one day put up this sign:

Free meals tomorrow only

Can you explain why his customers first became all excited and then very disappointed?

9.2.2 Denotation and connotation

Distinguishing between sense and reference represents one way of conceptualising meaning. But words and phrases don't just express concepts. They also evoke emotional associations.

Compare for instance the words *freedom fighters* and *terrorists*. Both could refer to the same group of people, and so have the same referent. However, each evokes very different associations. *Freedom fighter* is likely to evoke sympathy for the referent, given its focus on fighting for freedom – a value cherished in most cultures. In contrast, referring to the same group of people as *terrorists* is likely to have an alienating effect, given that most of us do not enjoy being terrorised.

Linguists refer to the emotional or affective meanings associated with a word/phrase as its **connotation**, in contrast to **denotation**, which corresponds to its literal meaning. The word *kitten*, for example, literally means the young of a particular mammal. But the word means more than 'feline offspring' because it evokes all kinds of emotional reactions. Not surprisingly, the denotation of a word tends to be shared across individuals, whereas connotation tends to be more idiosyncratic, given our varied experiences of the world. The word *summer*, for instance, could evoke positive images of sun-drenched, fun-filled days of leisure, or negative images of sweltering heat, water rationing/draught, and general discomfort.

Dictionaries attempt to collate the meanings of words and expressions, taking into account both denotation and connotation. Usually, dictionary entries make it clear which of the two is being dealt with. For example, the Collins Cobuild Dictionary has the following two entries, among several, for the word *patron*:

Patron.

A *patron* is a person who supports and gives money to artists, writers, or musicians.

The *patron* of a charity, group or campaign is an important person who allows his or her name to be used for publicity.

The word *important* in the second entry already evokes connotations, which are duly given as a different meaning of the word. We wouldn't expect denotations and connotations collapsed into one entry, although this is exactly what Samuel Johnson did in his famous *Dictionary of the English Language*, published in 1755:

Patron. One who countenances, supports or protects. Commonly a wretch who supports with indolence, and is paid with flattery.

The point here is that two words can have the same denotation, but different connotations. Once again, context is crucial. Take, for instance, the words *vision* and *sight*. If you look up the word *vision* in a dictionary, you will find the word *sight* listed as a synonym (a word having a similar meaning), and vice versa. This tells us that *vision* and *sight* have the same denotation in certain linguistic contexts. For example, if you said *My vision is good* or *My sight is good*, most people would understand you to be saying roughly the same thing. But consider now these two statements:

Nora looked a sight in her blue dress.

Nora looked a vision in her blue dress.

The first statement is likely to be interpreted as an insult, and the second one as a compliment. In this linguistic context, *sight* and *vision* have different connotations.

Distinguishing sense from reference, in section 9.2.1 above, helped us see that lexical words express concepts. Distinguishing denotation from connotation in turn helps us see that words not only express ideas but also shape the way we perceive things, by evoking positive or negative feelings or attitudes. Many professionals, among them lawyers, politicians, journalists and advertisers, are skilled language users, who learn to use connotation persuasively to shape opinion. Think of the different attitudes evoked by describing someone as *assertive* rather than *aggressive*, *authoritative* rather than *authoritarian*, *childlike* rather than *childish*, or *frugal* rather than *miserly* or *cheap*.

Activity 9.4

Collect 4-6 print advertisements. Separate the ones that you find persuasive (Set A) from the ones that you don't find quite so persuasive (Set B). Now consider the words used in the two sets of advertisements, looking especially at their connotation. Is there a difference in the way connotation is exploited across the two sets?

We mentioned above that connotation may or may not be shared across speakers, given our different experiences of the world. Since different cultures reflect shared values and ways of doing things, **culture** and language are inextricably bound, and the same word can have different connotations across different cultures. In some cultures, the word *snake*, for example, evokes positive connotations of wisdom and nobility, while in other cultures the same word has negative connotations of deception and danger. Given that connotation varies both from individual to individual and from culture to culture, it's easy to see why it is important to be culturally-aware, when engaging in cross-cultural communication. A word with strong negative connotations could easily give offence, resulting in a serious cross-cultural blunder. One example is the use of a word like *boy* commonly used to address young males in Singapore, e.g. *Come here, boy*. In some Western English-speaking cultures, the use of this word as a form of address is reserved only for animals, e.g. *Come here, boy!* uttered by a pet owner addressing her dog, and never for human males, young or old.

9.2.3 Literal and metaphorical meaning

So far, we have looked at two ways of understanding the concept of meaning, in terms of sense as opposed to reference, and denotation as opposed to connotation. A third way of understanding the concept of meaning has to do with literal as opposed to metaphorical meaning.

Consider the sentence *Tom has a sharp mind*. The adjective *sharp* is most commonly used to describe objects having a point that can pierce or a thin edge that can cut. In other words, the primary referents described by the adjective *sharp* tend to be objects like knives, scissors and swords, which cut or pierce things. A mind cannot cut or pierce anything, or can it? If we think of minds not as cutting through tangible objects but through abstract entities like ideas, then we can interpret the sentence above metaphorically. In **metaphor**, the meaning of a word is extended beyond its primary sense to describe referents that bear similarities to the word's primary referent. In the

example above, we are meant to see the similarity between knives and minds. Just like a sharp knife can cut or pierce a tangible object, so also a sharp mind can cut or pierce an abstract entity.

Metaphor is extremely common in everyday speech. It is through metaphor that we can talk about receiving a *cool* reception from someone, the *falling* price of oil, piano *legs* or road *shoulders*. Expressions like these also show that the metaphorical origins of a word can fade and eventually be lost in time. For instance, few speakers today would associate a word like *lousy* with its original meaning, ‘lice-ridden’.

As with connotation, here too it is important to keep in mind that metaphorical meanings vary from **culture** to culture. For example, if you describe someone as a *banana* in parts of Asia, you will be understood as referring to an individual who is ethnically Chinese but Western in outlook. The metaphor is based on the internal/external colour of bananas: yellow on the outside, white on the inside. In contrast, if you describe someone as a *banana* in Portugal, you will be understood as referring to an individual who mindlessly follows the crowd, on the grounds that all the bananas in a bunch look pretty much the same, and no one banana stands out from the other bananas in the bunch.

9.2.4 Compositional and idiomatic meaning

As we consider the fourth way of thinking about the meaning of meaning, we need to recall one of the key features of language discussed in earlier chapters – **compositionality**. We interpret sentence meaning by paying attention to the linear and hierarchical relationships between the phrases making up the sentence. This is how we work out that the sentence *The farmer chased the cow* means something quite different from the sentence *The cow chased the farmer* (see the discussion of formal and functional sentence constituents in Chapter 8). Similarly, we know that the compound words *birdsong* and *songbird* have different meanings because of their different morphological composition (see the discussion of word building in Chapter 4). The idea that larger units of language are composed of smaller units holds true for meaning, too. We assume that meaning is compositional, that the meaning of the whole stems from the meaning of the parts.

The exception to this generalisation is what we call **idioms** – expressions whose meanings cannot be worked out from the meanings of the words that compose them. The meaning of idioms is as idiosyncratic, and therefore as unpredictable, as the meaning of single lexical units. In a sense, we can think of idioms as multi-word words. Take for instance the idiom *It's raining cats and*

dogs. If you'd never heard this idiom before, would you know that it means 'it's raining very hard'?

Activity 9.5

See if you can come up with the equivalents of the following English idioms in your other language(s):

water under the bridge
let bygones be bygones
let sleeping dogs lie

What similarities do you see between these different ways of conveying the "same" meaning?

Structurally, the words that make up an idiomatic expression tend to be frozen or welded together, and cannot be manipulated syntactically. Compare, for instance, the following two sentences:

The police caught forty smugglers last night.
I caught forty winks last night.

Syntactically, both sentences have the same structure. But they mean different things. Notice that the first sentence can be passivised as follows: *Forty smugglers were caught last night by the police*. However, it's not possible to passivise the second sentence (**Forty winks were caught by me last night*) because *catch forty winks* is an idiomatic expression, meaning 'get some sleep'.

At this point, it is worth highlighting one difference between idioms and **metaphors**. Metaphors reflect our creativity as language users. As speakers, we create metaphors quite spontaneously. Our addressees are likewise able to comprehend these metaphors by working out the points of similarity between the events or entities referred to in the metaphor. Take, for instance, the utterance *She sailed down the corridor*, which requires readers/listeners to look for a correspondence between sea vessels (the primary referent associated with the verb *sailed*) and the woman referred to by the pronoun *she*, in terms of their movement. Metaphorical meaning, like literal meaning, is thus compositional.

In contrast, idiomatic meaning tends to be non-compositional. As mentioned above, we learn the meanings of idioms in the same way that we learn the meanings of words. For example, if you didn't already know the

meaning of the idiom *to let the cat out of the bag*. If ('to disclose a secret'), would you have been able to work it out by combining the meanings of the words in this expression? If your answer is no, then you've made our point for us.

Having highlighted the difference between idioms and metaphors in terms of compositionality/transparency in meaning, we should emphasise that it is a matter of controversy whether idioms may have metaphorical origins that have faded with time. Some researchers, like Glucksberg (2001), have characterised the passage from metaphor to idiom as a movement from 'living' metaphor to 'dead' metaphor, i.e. from vivid and novel comparison to frozen idiom.

9.3 Semantic shift

We now take a slight detour to highlight an important language phenomenon known as **semantic shift**, the process of meaning change that words can go through over time. As pointed out in Chapter 2, language varies across space (regionally and socio-culturally) and evolves over time. In the preceding section, we highlighted how meaning varies from culture to culture, with respect to connotation, metaphor and idiom. Here, we point out two key ways in which words can undergo semantic shift. Words can broaden or narrow their denotation, over time. Alternatively, they can upgrade or downgrade their connotation.

The term **semantic broadening** refers to a meaning change that results in a word's acquiring more meanings than it had before. One example of broadening would be the word *bird* in English, which used to refer only to young birds, i.e. nestlings, as in *a hen and her birds*, but today is used to refer to any bird at all – young or old. One common way in which meaning is broadened is through metaphor, given that metaphor extends the meaning of an expression beyond its primary referent to new referents. For example, if I say *Tom's nephew is a pig*, I do not mean that Tom's nephew is literally a pig (since humans and pigs are different kinds of beings), but that there is something about his appearance or behaviour that reminds me of a pig. The meaning of the word *pig* has thus been broadened: its primary referent is the animal that it names, but it can also refer to human beings.

The opposite process to semantic broadening is **semantic narrowing**, which results in a word coming to refer to only part of its original meaning. One example of narrowing in English would be the word *hound*, which used to be a generic word for any kind of dog, but today has the restricted meaning of a dog kept or used for chasing game, usually one that hunts by scent.

Whereas semantic broadening and narrowing have to do with increasing or restricting the meaning scope of a word, upgrading and downgrading have to do with changing the connotation of words. **Upgrading**, or *amelioration*, refers to a word gaining a positive connotation, while **downgrading**, or *pejoration*, refers to the opposite process. The word *knight*, for example, has undergone amelioration from ‘boy, youth or attendant’ to its more positive contemporary meaning ‘an armed champion of a lady’. The word *silly*, in contrast, has undergone pejoration, being downgraded from its Old English meaning of ‘happy’ or ‘blessed’ to the more negative meaning of ‘foolish’ or ‘empty-headed’ that it still carries today.

Sometimes, the connotation of a word becomes so negative that the word either falls into disuse or becomes **taboo**, forbidden in polite company (for more on taboo, see section 12.4). What is taboo varies across both time and space. In most cultures today, words relating to certain domains of life, like sex, death and certain bodily functions are linguistically taboo, and tend to be replaced by euphemisms. A **euphemism** (from Greek *euphanai*, ‘to speak well’) is an expression that the speaker intends to be less offensive, disturbing, or troubling to the listener than the word or phrase it replaces. For example, *pass away* instead of *die*, when referring to the death of a loved one, or *to sleep with*, when referring to the sex act. As with all things in life, euphemism can be a blessing or a bane. Taken to extremes, euphemism might be seen as an example of politically correct language which some people find not only prissy but far worse, an obstacle to clear thinking. Such uses of euphemism fall under the label of **doublespeak** – evasive, ambiguous, high-flown language intended to deceive or confuse, e.g. *negative patient care outcome* to mean ‘the patient died’ or *collateral damage* to refer to civilian casualties of war. When discussing connotation earlier, we highlighted the integral role that language plays in shaping ideas/opinions. The point to keep in mind is that when we use language, we can either clarify or obscure the way we think.

Activity 9.6

Is there anything to be gained by describing a jug of water as *half full* rather than *half empty*?

Activity 9.7

The word *handicapped* has fallen into disuse, having been replaced by the word *disabled* and, more recently, by the word *physically-challenged* to denote people with a partial or total physical limitation. Is this an example of doublespeak? Why?

What denotations and connotations do the following words have?

blind, visually-impaired, visually-challenged, visually-limited

Meaning can be conceptualised in at least four ways, as discussed above. When you read/hear an utterance, you can now ask four questions about its meaning:

- What kind of context – linguistic, situational, or both – do we need to identify in an exchange, in order to interpret referents of lexical words?
- What kind of connotation do the words have – extremely/slightly positive, extremely/slightly negative, neutral?
- Should the utterance be interpreted literally or metaphorically?
- Can the meaning of the whole be worked out from its parts, or are we dealing with idioms?

9.4 Relationships between meaning, sound and spelling

Consider the words in (9.1) and (9.2). Those in (9.1) have been transcribed phonetically, while those in (9.2) have been spelt out:

(9.1)	[bit]	[pis]	[ti]	[tu]
(9.2)	resent	object	sow	bass

How would you spell the words in (9.1)? Did you have the following alternatives?

(9.3)	[bit]	[pis]	[ti]	[tu]
	<i>beet-beat</i>	<i>piece-peace</i>	<i>tea-tee</i>	<i>too-two</i>

And how would you pronounce the words in (9.2)? Did you have the alternatives shown in the following sentences?

- (9.4) *I resent what you said – This letter had to be resent.*
 I object to what you said – This is a purely decorative object.
 In order to reap, you need to sow – The sow just had eight piglets.
 She plays bass guitar – Sea bass is delicious.

In Chapter 4, we considered ambiguity, where a particular linguistic form is assigned multiple meanings. We looked specifically at **structural ambiguity**, so named because the multiple meanings associated with a form can be explained in terms of alternative parsing of the ambiguous structure. Here, we look at another kind of ambiguity, **lexical ambiguity**. This occurs when a word can be understood in more than one way, in a given context. Unlike structural ambiguity which is a systematic and predictable phenomenon, lexical ambiguity is idiosyncratic to individual morphemes, and is often the result of homophony, homography, homonymy and/or polysemy (see Figure 9.1 at the end of this section).

9.4.1 Homophony and homography

Homophones (from Greek *homo*, ‘same’ and *phone*, ‘sound’) are words with unrelated meanings, that are spelt differently but pronounced in exactly the same way. The words in (9.3) are all examples of homophones.

In contrast to homophones, **homographs** (from Greek *homo*, ‘same’ and *graphein*, ‘to write’) are words with unrelated meanings, that are spelt in exactly the same way but pronounced differently. The words in (9.4) are all examples of homographs.

Activity 9.8

Can you explain the wit in the following passage, using what you’ve just learnt about homophones and homographs? (The passage is given as Food for thought in Chapter 3.)

Why English is so hard to learn

We must polish the Polish furniture.
He could lead if he would get the lead out.
The farmer used to produce produce.
The dump was so full that it had to refuse more refuse.

The soldier decided to desert in the desert.
This was a good time to present the present.
A bass was painted on the head of the bass drum.
When shot at, the dove dove into the bushes.
I did not object to the object.
The insurance was invalid for the invalid.
The bandage was wound around the wound.
There was a row among the oarsmen about how to row.
They were too close to the door to close it.
The buck does funny things when the does are present.
They sent a sewer down to stitch the tear in the sewer line.
To help with planting, the farmer taught his sow to sow.
The wind was too strong to wind the sail.
After a number of injections my jaw got number.
Upon seeing the tear in my clothes I shed a tear.
I had to subject the subject to a series of tests.
How can I intimate this to my most intimate friend?

9.4.2 Homonymy and polysemy

In addition to homophony and homography, another pair of word relationships based on meaning, sound and spelling is homonymy and polysemy.

Like homophones and homographs, **homonyms** are words with completely unrelated meanings. But, whereas homophones sound alike and homographs look alike, homonyms both look and sound alike: they are spelt and pronounced in exactly the same way. A good example of a homonym is the noun *bat*, which refers both to a shaped piece of wood and the nocturnal flying mammal that uses echolocation to hunt. We then say that we have two different words *bat*.

Now consider words with the same spelling and pronunciation, like *head*, meaning ‘the uppermost part of an animal’s body’ and *head*, meaning ‘the leader of a group’. Words like *head* are generally felt by speakers, and described by linguists, as one word with several related meanings. These words are said to be instances of **polysemy** (from Greek *poly-*, ‘many, much’ and *-semy*, ‘meaning’), to signal the fact that such words have multiple related meanings.

Deciding whether two words are homonyms or polysemes can be tricky, in that we need to decide whether or not our description of meaning should take word origins into account. This would involve knowing the history of the

word in question, its original meaning, and any semantic shifts it might have undergone. One of the problems here involves deciding how far back in time we go, in our quest for word origins. What are we to do, for example, with a word like *port*, which means ‘harbour’ but also refers to a dark-red or tawny fortified wine from Portugal, two apparently unrelated meanings? But, are they unrelated? The Portuguese word for harbour is *porto*, and this is also the name of the harbour city, *Porto* (generally misspelt as *Oporto* in English), from which this fortified wine was first exported. The historical connection between the wine and the port from which it originated is clear, although it is doubtful that contemporary English speakers interpret *port wine* in the original sense of *wine from the city called Harbour*. Similarly, no semanticist would want to argue that the English word *nice* means ‘foolish’ today, given the Latin origins of the word (*nescius*, ‘ignorant or unknowing’). As we discussed in section 9.3, words enter a language and undergo various meaning shifts over time, such that their original meaning is often lost to contemporary language users.

So what is a general language user to do, when trying to decide whether or not a word is a polyseme or a homonym? This is where the way a dictionary is organised can offer useful clues. Have you ever wondered why dictionaries contain separate entries for a word, as well as multiple meanings all under one entry? If you look up the word *bear*, you will find two separate entries for it. If you look up the word *head*, however, you will find up to 14 meanings listed all under the one entry. The reason for this organisation has to do with homonymy and polysemy. Separate entries for words (e.g. *bat*, *bar*) signal that the words are homonyms, because their unrelated senses call for separate entries, whereas multiple meanings listed under one entry suggest that the word is a polyseme, a word with several related meanings. If you look up the word *port*, you will find at least five separate entries, that is, five unrelated meanings of this word. Two of these meanings ('harbour' and 'fortified wine from Portugal') relate historically to the provenance of the wine, although they are, today, treated as completely unrelated words.

It is important to keep in mind that homonymy and polysemy are not mutually exclusive categories. That is to say, a word can be both a homonym and a polyseme. If you look up the words *school* and *bear*, for instance, you will find that each of them is both a homonym, with separate entries, and a polyseme, with multiple meanings under one entry.

Activity 9.9

Look up and discuss the alternative meanings of *school*.

How can we use what we have just learnt to help us explain lexical ambiguity? Let's consider the sentence *My aunt cannot bear children*. The sentence is ambiguous in that it could mean either *My aunt cannot tolerate children* or *My aunt cannot have children*. The source of the ambiguity lies in the polysemous nature of the verb *bear*.

Activity 9.10

Which of the sentences below is/are ambiguous? If a sentence is ambiguous, you should be able to provide unambiguous paraphrases that make the different meanings clear.

Once you've done this, explain whether the ambiguity is structural, lexical, or both.

- (1) *We drove along a windy road.*
- (2) *The students are revolting.*
- (3) *Jack hid the unwrapped gift.*
- (4) *Racing cars can be dangerous.*

The relationship between homophones, homographs, homonyms and polysemes can be summarised as follows:

	Homophones	Homographs	Homonyms	Polysemes
Meaning	unrelated	unrelated	unrelated	related
Sound	same	different	same	same
Spelling	different	same	same	same
Examples	<i>bean / been</i> <i>sea / see</i> <i>feat / feet</i>	<i>lead (N) / lead (V)</i> <i>tear (N) / tear (V)</i> <i>wind (N) / wind (V)</i>	<i>bat / bat</i> <i>bar / bar</i> <i>bear / bear</i>	<i>plain</i> <i>guard</i> <i>bear</i>

Figure 9.1. The relationship between homophones, homographs, homonyms and polysemes

9.5 Meaning relationships between words

In section 9.2, we said that all words express concepts of various kinds, i.e. all words have sense, if not reference. In this section, we consider four meaning relationships that can hold among the words of a language. Because words express concepts, looking at the semantic relations between words provides insight into the human conceptual system (how we organise concepts), from the point of view of linguistic meaning.

In Chapter 3, we highlighted that when we try to understand or explain something, we tend to use the strategies of comparison and contrast. That is, we try to work out both what something is (like), and what it is not (like). Compatibility/similarity and opposition are thus two fundamental ways in which we organise linguistic meaning. For example, to explain the meaning of the adjective *fat*, we might say that *fat* is similar in meaning to *chubby*, *plump* or *overweight*. Alternatively, we could explain the meaning of the adjective *fat* in terms of its opposite, what it is not.

9.5.1 Synonymy and antonymy

Synonymy is the label used by linguists to express a relationship of similarity in meaning, while antonymy reflects a relationship of oppositeness in meaning.

For example, *tactless*, *inconsiderate*, *insensitive*, and *discourteous* all share the underlying concept *thoughtless*, and might be said to be synonyms of one another. Two words are said to be **synonyms** of each other, or synonymous with each other, if they can be used interchangeably in a given context. As with all language use, context is important, because synonyms reflect similarity of meaning in a particular context. Note that “similarity of meaning” does not mean ‘identical meaning’. Take, for example, the words *start* and *begin*, which most of us think of as synonyms, given that they can be used interchangeably in quite a few contexts, including the one in (9.5) below.

- (9.5) (a) *He started the exam at 9 a.m.*
(b) *He began the exam at 9 a.m.*

The data in (9.6), however, show a linguistic context in which the two words cannot be used interchangeably. In this context, *start* and *begin* are not synonyms. By convention, # represents a semantically anomalous utterance.

- (9.6) (a) *He started the car.*
(b) *#He began the car.*

We could say that *start* and *begin* have different collocations. **Collocation** refers to the habitual linguistic contexts in which a word might be found. To put it another way, collocation refers to the company that words keep, the words that a given word typically patterns with, and is thus an instance of **distribution**, discussed in section 3.3. Based on the data in (9.5) and (9.6), we can say that *start* collocates with both *the exam* and *the car*, whereas *began* collocates with *the exam* but not *the car*.

Activity 9.11

Can you think of a linguistic context where *begin* is acceptable but not *start*, i.e. the opposite of what is shown in (9.6)?

Whereas synonymy is a relationship of similarity in meaning, antonymy is a relationship of oppositeness in meaning between pairs of words. Linguists tend to distinguish three kinds of **antonyms**:

- Complementary antonyms
- Gradable antonyms
- Relational antonyms (or converses)

Complementary antonymy involves a binary relationship, where there are only two possibilities which are mutually exclusive: X or not-X, but not both. Examples of **complementary antonyms** include *alive-dead*, *male-female*, and *married-single*. For example, one is either married (not single) or single (not married), but not both. Because complementary antonyms are mutually exclusive, to assert one term in the pair is to deny the other, and vice versa. For example, to assert that *I am married* is to deny that *I am single* (if I am married, then I am not single). Conversely, to deny that *I am married* is to assert that *I am single* (if I am not married, then I am single).

Unlike complementary antonyms, which exist as binary pairs and admit only one of two mutually exclusive possibilities, **gradable antonyms** reflect a scale or continuum of possibilities. These antonyms can be compared (*large*, *larger*, *largest*) and intensified (*large*, *very large*). So, while *large* means *not small*, *not small* does not automatically mean *large* because on a scale from small to large, an entity can be neither large nor small but somewhere in between, e.g. medium.

Gradable antonyms allow for fuzzy edges, unlike complementary antonyms. Consider, for example, the concept corresponding to the word

large. How large does something need to be in order to be described as large? After all, a large baby is nowhere near as large as a large elephant or a large car. This brings us to an important difference between gradable and complementary antonyms. When we use a gradable term, it applies only to the class of entities to which the term applies. If I say *Raphael is a small hippo*, Raphael is small only in relation to other hippos. In relation to other entities, like babies, ants or toasters, Raphael might be considered large, or even very large.

Gradable antonyms are also fuzzy in that you can have scales within scales. For example, on the temperature scale, one can have *hot* and *cold*, but since these terms can be intensified, hot and cold are not the endpoints of the scale, *hottest* and *coldest* are. And somewhere within the *hot-cold* range, one might have a *warm-cool* scale, raising the question: when does warm become hot, and cool become cold?

To recap, a crucial difference between complementary and gradable antonyms has to do with the meanings entailed by each type of antonym. Complementary antonyms entail each other in both directions: to assert one term in the pair is to deny the other, and vice versa. If *I am single*, then *I am not married* and if *I am not single*, then *I am married*.

In contrast, gradable antonyms entail each other in only one direction. To assert a gradable term is to deny its antonym: *I am fat* means *I am not thin*. Conversely, *I am thin* means *I am not fat*. But to deny a gradable term is not to assert its antonym: *I am not fat* does not mean *I am thin*. I could be neither fat nor thin. Similarly, *I am not thin* does not mean *I am fat*. There are other possibilities in between.

The third kind of antonyms are **relational antonyms**, which establish a relationship of reciprocity, or *converseness*, between two entities or events. For example, *child* is the converse of *parent*, in that if A is B's child, then B is A's parent. Other examples of relational antonymy include:

- | | |
|---------------------|---|
| <i>sell-buy</i> | If A sold a car to B, then B bought the car from A. |
| <i>husband-wife</i> | If A is B's husband, then B is A's wife. |
| <i>before-after</i> | If A happened before B, then B happened after A. |
| <i>above-below</i> | If A is above B, then B is below A. |

Activity 9.12

Is *sent* the converse of *received*? Why do you think so?

It is worth highlighting that English has gender-specific words for some relational terms (e.g. *father*, *son*, *daughter*, *aunt*, and *nephew*) but not others (e.g. *cousin*). To use these gender-specific terms, we need to know the sex of the referents. For example, it is impossible to complete the sentence *If A is B's mother, then B is A's _____*, using either *son* or *daughter*, unless I happen to know B's sex. Thankfully, there is a superordinate non-gender specific word “child”, which I can use in this instance. The sentence *If A is B's sister, then B is A's _____* poses a similar problem with regard to the gender-specific terms *brother* and *sister*, which can be circumvented by the general non-gender specific word “sibling”. Notice, however, that there is no general term for nephew/niece or uncle/aunt, in English. To complete the sentence *If A is B's aunt, then B is A's _____*, one would have to use the phrase *nephew or niece*.

9.5.2 Hyponymy and meronymy

Synonymy and antonymy organise meaning in terms of similarity and contrast, respectively. An alternative way of organising a meaning network/conceptual system is in terms of hierarchy. Both hyponymy and meronymy refer to hierarchical meaning relationships, where the meaning of one word is included in the meaning of another. The difference between the two is that **hyponyms** involve a specific-general relationship while **meronyms** involve a part-whole relationship.

Consider, for example, the terms *mother*, *father*, and *parent*. The meaning of the term *parent* encompasses the meaning of *mother* (female parent) and *father* (male parent). *Parent* is the **superordinate**/general term, while *mother* and *father* are both hyponyms of *parent*. *Dress*, *jacket* and *blouse*, similarly, are hyponyms of the superordinate term *clothing*, while *car*, *bus*, and *lorry* are all hyponyms of the superordinate term *vehicle*.

In contrast to hyponyms, which are a type/kind of their superordinate, meronyms reflect a part-whole relationship with their holonyms. For example, *eyes*, *nose*, and *mouth* are meronyms of the holonym *face*, while *root*, *branch*, and *leaves* are meronyms of the holonym *tree*.

9.6 Meaning relationships between sentences

Synonymy, antonymy, hyponymy and meronymy reflect meaning relationships between the words of a language. In this section, we consider the interaction between word meaning and sentence meaning.

In sections 9.2 and 9.5, we observed how words express concepts and how synonymous words can be used interchangeably in a given context.

Sentences in turn express **propositions**, and sentences that express the same meaning are said to be **paraphrases** of each other, as illustrated in (9.7):

- (9.7) (a) *The farmer chased the cow.*
 (b) *The cow was chased by the farmer.*

In Chapter 8, you learnt about the relationship between active and passive sentences, that represent different ways of packaging similar meanings. The two sentences in (9.7) are active and passive paraphrases of the same proposition – one entity chased another, the chaser (agent of the verb *chased*) being the farmer, and the chased (patient of the verb *chased*) being the cow. We know that both (9.7a) and (9.7b) are asserting the same proposition because it is impossible for (9.7a) to be true without (9.7b) also being true. If it is true that the farmer chased the cow, then it must also be true that the cow was chased by the farmer. Conversely, if it is false that the farmer chased the cow, then it must also be false that the cow was chased by the farmer. Sentences (9.7a) and (9.7b) are **paraphrases** of each other because they share the same truth conditions. What is true for one sentence is also true for the other.

This relationship, in which the truth of one sentence necessarily implies the truth of another, as in sentences (9.7a) and (9.7b), is called **entailment**. In these sentences, the entailment relationship between (a) and (b) is mutual, since the truth of (a) guarantees the truth of (b), and vice versa. Based on (9.7a) and (9.7b), we can generalise that active and passive sentences share a relationship of mutual entailment. If you look back at our discussion of synonyms, you will notice that they too share a relationship of mutual entailment.

- (9.8) #*Mary gave Alice a gift, but Mary didn't give Alice a present.*

Recall that the symbol # denotes a semantically anomalous utterance. Sentence (9.8) is odd because the second clause contradicts the first. If it is true that Mary gave Alice a gift, then it has to be true that Mary gave Alice a present, because *gift* and *present* are synonymous, in this context.

Now consider the sentences in (9.9) and (9.10):

- (9.9) #*Mary gave Sarah a tulip, but Mary did not give Sarah a flower.*
(9.10) *Mary gave Sarah a flower, but Mary did not give Sarah a tulip.*

As in (9.8), we can explain the semantic oddness of (9.9) in terms of a contradiction between the first and second clauses. If it is true that Mary gave Sarah a tulip, then it has to be true that Mary gave Sarah a flower, because tulips are a type of flower. In contrast, if Mary gave Sarah a flower, then it does not necessarily follow that Mary gave Sarah a tulip, because Mary could have given Sarah a daffodil, a rose or some other type of flower. Based on the data in (9.9) and (9.10), we can generalise that hyponyms entail their superordinates, but not vice versa. Unlike synonyms, hyponyms do not share a relationship of mutual entailment. The entailment is one-directional, from hyponym to superordinate, but not from superordinate to hyponym.

Here is another example where the entailment is asymmetrical.

(9.11) *Mary killed John.*

(9.12) *John is dead.*

Sentence (9.11) entails sentence (9.12), but (9.12) does not entail (9.11). If it is true that Mary killed John, then it must be true that John is dead, because the word *killed* means ‘caused to die’. Notice how odd it would be to say (9.13):

(9.13) *#Mary killed John, but John is not dead.*

We would have a contradiction, as in (9.9). In contrast, *John is dead* does not entail that *Mary killed John*, because John could have died without Mary’s participation. Notice that, unlike (9.13), utterance (9.14) is not contradictory:

(9.14) *John is dead but Mary did not kill him.*

Contradiction is a useful diagnostic tool for entailment. If you’re not sure whether expression A entails expression B, negate B and combine it with A. If the result is contradictory, then A entails B. Let’s use this method to see if (9.7a) entails (9.7b):

Step 1: negate (b): *The cow was not chased by the farmer.*

Step 2: combine (a) and (not-b): *The farmer chased the cow, but the cow was not chased by the farmer.*

Step 3: Step 2 yields a contradiction. Conclusion: (a) entails (b).

Semantic entailment draws on our knowledge that the meaning of certain expressions must be true if the meaning of certain other expressions is also true. This can be stated in terms of *if-then* relationships: *if* it is true that a tulip is a flower, *then* it is also true that giving a tulip means giving a flower; *if*

someone caused John to die, *then* it is also true that John is dead. The truth of the *then*-statement is implicit in the truth of the *if*-statement, and need not be made explicit. Suppose now your friend tells you:

(9.15) *My son has started licking the cat.*

Statement (9.15) conveys two pieces of information. The explicit information is that someone started something. But you can start something only if it has not already happened. In other words, the implicit meaning conveyed here is that your friend's son never licked the cat before. Your friend expects you to assume the truth of both pieces of information, by means of *if-then* reasoning: if her son has started licking the cat, then it's safe to assume that he never did so before. Starting something includes, or entails, the idea of not having done it before. However, the entailment in utterances like (9.15) differs from the entailment that we discussed above. To understand the difference, consider utterance (9.16), which has become something of a classic in the literature, despite its very politically incorrect content:

(9.16) *Have you stopped beating your wife?*

On the surface, the question looks simple enough, requiring a straightforward yes or no response. In reality, it's a trap waiting to spring shut. No matter which choice you make (yes or no), you will be admitting to wife-beating:

(9.17) *Yes, I have stopped beating her.*

No, I haven't stopped beating her.

Such questions are known as *complex questions* (because they contain complex assertions), or *loaded questions* because they contain loaded assumptions. For instance, question (9.16) assumes, or presupposes, that you beat your wife. After all, you can only stop or not stop something that is currently happening. So the assumption that you beat your wife remains true whether you admit or deny the statement that contains it. The implicit piece of information that remains true in utterances such as (9.15) and (9.16), regardless of the truth of the utterance that contains it, is called a **presupposition**. The test for presupposition is negation. If you think utterance A presupposes utterance B, negate A. If B still holds true, then A presupposes B.

You may now realise why the use of utterances containing presuppositions is typical in criminal and medical investigations, in order to trap suspects into admission, or to clarify whether symptoms of disease are due to hypochondria or physical ailment, respectively. Ask yourself how you would reply to a question like *So tell me, is it long ago since you've cheated in exams?*

Activity 9.13

Use the negation test to find out the presupposition contained in each of the following utterances:

- (a) *Mehmet had another cup of tea.*
- (b) *Was Janice worried about her laptop?*
- (c) *Mary denied that Sarah is a genius.*
- (d) *My husband is Malaysian.*

This chapter focused on semantics, the study of linguistic meaning as it is stored in the vocabulary and grammar of a language. We looked at four meanings of the word *meaning*, and we explored the meaning relationships that hold between the words and the sentences of a language, in terms of the twin relationships of presupposition and entailment. As we leave this chapter, it's worth keeping in mind the difference between semantic knowledge and world knowledge, or encyclopaedic knowledge. Semantic knowledge refers to knowledge of word and sentence meaning that comes from knowing a language. This is different from world knowledge, which is knowledge that goes beyond semantics, and has to do with our experience of the real world. For example, you were able to explain why sentence (9.9) is semantically odd based on your semantic knowledge alone, i.e. based on your knowledge of the meanings of the nouns *tulip* and *flower*, namely, that tulips are types of flowers. In other words, it doesn't matter whether or not you've ever seen a rose, grown a tulip, or whether you know anything else about either. In the next chapter, we look at meaning in action, or **pragmatics**, which focuses on the interaction of linguistic and real-world knowledge, and how language users deploy this knowledge to both convey and interpret meaning in different communicative settings.

Food for thought

“There’s glory for you!”

“I don’t know what you mean by ‘glory’,” Alice said.

Humpty Dumpty smiled contemptuously. “Of course you don’t – till I tell you. I meant ‘there’s a nice knock-down argument for you!’”

“But ‘glory’ doesn’t mean a nice knock-down argument,” Alice objected.

“When I use a word,” Humpty Dumpty said, in rather a scornful tone, “it means just what I choose it to mean – neither more nor less.”

“The question is,” said Alice, “whether you *can* make words mean so many different things.”

Lewis Carroll, *Through the looking glass* (1923/1961).

“In general we do not learn new words of our mother tongue through definitions; we learn them by hearing them applied to particular examples.”

Geoffrey Sampson (2001). *Empirical linguistics*.
London: Continuum, p. 186.

Further reading

Brinton, Laurel J. (2000). Chapter 6. Lexical semantics. In *The structure of modern English: A linguistic introduction*. Amsterdam: John Benjamins, pp. 129-138.

Yule, George (1996). Chapter 11. Semantics. In *The Study of Language*. (2nd ed.). Cambridge: Cambridge University Press, pp. 114-126.

Reference

Glucksberg, Sam (2001). *Understanding figurative language: From metaphors to idioms*. Oxford: Oxford University Press.

10

Meaning in action

Chapter Preview

What can we do with language?
Why isn't there more miscommunication?
What role does politeness play in communication?
How is conversation organised?

10.1 Introduction

We started this book by highlighting that the primary purpose of language is to express meaning. In the preceding chapter, we pointed out that meaning can be studied from two complementary perspectives: semantics, the study of linguistic meaning, and pragmatics, the study of utterance meaning. Chapter 9 focused on semantics, and explored not only the meaning of meaning but also the variety of meaning relationships that hold between the words of a language and between sentences.

In this chapter, we focus on **pragmatics**, the study of utterance meaning, or meaning in action. Specifically, we look at how the meaning of an utterance can vary depending on the way in which it is spoken, and the context in which it is spoken. Two kinds of context are relevant here: linguistic and non-linguistic.

Linguistic context, or **co-text**, refers to the language preceding and following the item to be interpreted. **Situational context** in turn refers to:

- the setting (the time and place);
- the purpose (genre and activity type); and,

- the social roles and relations of participants involved in the communication.

One of the key themes of this book is that language is syncretic, i.e. there is no one-to-one correspondence between form and function. One form can perform multiple functions. Conversely, a particular function can be carried out by multiple forms.

Consider, for instance, the utterance *How are you?* Typically, when someone utters these words as they see us along a corridor or in the canteen, we interpret this interrogative not as a question, which is a request for information, but as a greeting, equivalent to other greetings like *How's it going?* or *Hi, how you doin'?* The typical response to such a greeting tends to be brief, e.g. *Fine, thanks!* or *Not bad!* No one expects to receive a litany of details about the addressee's health, business, or professional problems. Now, let's consider a different situational context, changing the setting and the participants. Let's imagine the same utterance addressed by a doctor to her patients, in the doctor's office. Chances are that this interrogative would be interpreted by the doctor's addressees (her patients) as a request for information about what is ailing them. Conversely, if it is the patient who opens the exchange with this utterance, then the addressee (the doctor, in this case) is likely to interpret the utterance as a greeting rather than as a request for information about what ails her. This example shows how utterances derive their meaning from the situational context in which they are embedded.

A clarification of terms might be in order here. In our discussion of deixis in chapter 9, we talked briefly about social roles and relations. The term **social relations** has to do with the social distance/proximity between the participants in a communicative exchange, while the term **social roles** has to do with the power differential, or social status of the participants relative to one another. One way to think about social relations and roles is in terms of the horizontal and vertical axes of a graph. Here's an example to help you see the difference between the two: how would you characterise the relations between you and your mother, compared to that between you and the leader of your nation? Our hunch is that you, like most people, are closer to your mother than to the leader of your nation, whom you may or may not know personally. Now, consider your social status relative to your mother. Do you consider your mother to be your social equal, superior, or inferior? Social roles have to do with hierarchical ordering. In an egalitarian setting, two people might be complete strangers and have the same status. If so, we would plot them far apart on the horizontal (social relations) axis, but fairly close on the vertical (social roles) axis of our graph.

These two aspects – social relations and roles – interact in complex ways with one another, and with other aspects of the situational context, like the setting of the communicative exchange. One of the authors of this book learnt early in life the complex interplay between situational context and meaning, given the mixed blessing of having a parent as a teacher in the secondary school she attended. Trying to figure out how to speak to my mother in various school settings, e.g. along a corridor with no other students present, in my maths class where she was the teacher, in the staffroom with other teachers present, was challenging, to say the least. For starters, should I address her as *Mum* or *Mrs*? Clearly, each of these ways of communicating with my mother at school contrasted with the way we interacted communicatively at home.

Activity 10.1

Children grow up surrounded by natural uses of language. A child is likely to hear her father addressed in various ways, e.g.

*daddy, dad, darling, Robert, Bob, sir, Mr Jones, hey!, son, uncle Bob,
old chap, Sergeant Jones, excuse me!, Jones, sweetheart.*

She's also likely to hear her father respond equally naturally to all of these "labels", meaning that he accepts all of them as appropriate ways of addressing him. It is very likely that you remember a similar experience from your own childhood.

Can you explain why children don't grow up completely confused about how to address other people, and learn instead from observations such as these the "proper ways" of addressing others?

10.2 What functions can language perform?

Our brief discussion of social relations and roles leads us to the question raised by philosophers of language John R. Searle and John L. Austin about the functions that language can perform. According to Searle (1969) and Austin (1975), speech is a form of (symbolic) action. Put another way, *saying* is a form of *doing* something. Some of the things we do with language include making promises and threats, offering congratulations and commiserations, and hiring and firing people. Searle's and Austin's ideas about what we can *do* by means of language are referred to as **Speech Act Theory**.

Speech Act Theory holds that any utterance conveys a meaning, possesses a force, and elicits an effect, all at the same time. That is, when we speak, we not only mean something, but we also wish to mean something and we expect listeners to react in some way to what we say. Every speech act is thus seen to have three principal components:

- the syntactic structure and linguistic meaning of the utterance, known as the **locution**;
- the speaker's intention in making the utterance, known as the **illocution**;
- the addressee's uptake, known as the **perlocution**.

You may be wondering why all three components are needed, why not just two – locution and illocution. The answer has to do with the gap between intention and effect, the fact that addressees can misinterpret our intentions either deliberately or accidentally. Consider the following utterance by a teacher, Mrs Tan, to her 10-year-old pupil Beng Huat:

Mrs Tan: *I'm going to speak to your mother about this.*

In terms of locution (syntactic structure and linguistic meaning), this speech act is a declarative sentence about what Mrs Tan is going to do – speak to Beng Huat's mother. In terms of illocution (speaker's intention), the speech act commits Mrs Tan to a particular course of action, namely, speaking to Beng Huat's mother. Perlocution in turn depends on the addressee's uptake, or perception of the speaker's intention. Beng Huat could interpret his teacher's utterance as a promise or a threat, depending on the context. One way to clarify both illocution and perlocution is through performative verbs (verbs that name the action being performed), e.g. *Mrs Tan promised to speak to my mother*, or *Mrs Tan threatened to speak to my mother*.

Activity 10.2

Knowing what you now know about the three components of an utterance, if you had to group the following utterances into various categories, based on the utterance's illocution, how would you do so?

- (a) Miss Jaya is a teacher.
- (b) Please take this note to the principal.
- (c) Jennifer plays the piano.

- (d) Miss Jaya is a highly effective teacher.
- (e) Could you lend me your notes, please?
- (f) I'm sorry I took your notes.
- (g) Jennifer plays the piano poorly.
- (h) I declare this exhibition open.
- (i) I promise not to touch your things in future.
- (j) You're fired.
- (k) I'm delighted the thief has been caught.
- (l) I won't be coming back here again.

10.3 Speech acts: using language to do things

Among the various kinds of speech act outlined by Searle and Austin, six have received particular attention:

- representatives
- declarations
- verdictives
- expressives
- commissives
- directives

The six groupings in Activity 10.2 reflect these six kinds of speech act. Let's look at them one by one.

10.3.1 Representatives

Representatives state the speaker's beliefs, and include sensory perceptions (sight, sound, smell, taste, touch) as well as interpretations of texts, behaviour, and so on. Representatives can generally be characterised as being either true or false. Assertions, statements, claims, hypotheses, and descriptions are all examples of representatives:

- (10.1) *It's very windy today.*
John won the tennis match.
It's going to be very hot this afternoon.
Chomsky is not a psychologist.

Water boils at 100° C.

Miss Jaya is a teacher.

Jennifer plays the piano.

10.3.2 Declarations

In contrast to representatives, which reflect a speaker's beliefs about the world, **declarations** bring about the state of affairs they name. The utterance *It's going to be very hot this afternoon* is a representative rather than a declaration because in uttering these words, the speaker cannot bring about the predicted state of affairs. Rather, the utterance represents the speaker's belief about what is likely to happen in the afternoon. In contrast, an ordained priest uttering the words *I pronounce you man and wife* brings about the state of affairs named. Prior to the utterance, the couple standing at the altar were not man and wife. With the utterance of these words, they become man and wife.

The key thing about declarations is that to be performed properly, i.e. to have illocutionary force, they must occur in the appropriate situational context, and be spoken by the appropriate person, someone with the appropriate institutional role within the given context. If one of the guests at a wedding service were to say to the couple *I pronounce you man and wife*, the declaration would be void. Marrying, blessing, hiring, firing, baptisms, arrests, and declaring mistrials are all examples of declarations:

- (10.2) Employer (to interviewee): *You're hired.*
 Presiding Judge: *Case dismissed.*
 Presiding Judge: *I fine you 100 dollars.*
 Police officer: *You're under arrest.*
 Employee (to employer): *I resign!*
 Guest of honour: *I declare this exhibition open.*
 Employer (to employee): *You're fired.*

Notice that in terms of their locution, declarations tend to be stated in the affirmative, comprise declarative sentences, and be in the present tense. In addition, the word *hereby* can often be inserted between the subject and the verb in declarations. Examples include *I hereby pronounce you man and wife* and *You are hereby sentenced to 25 years of hard labour*.

10.3.3 Verdictives

Verdictives are so named because they render judgments (think of what judges do — determine guilt vs. innocence, success vs. failure, and deliver their verdict). Examples of verdictives include ranking, assessing, appraising, and condoning. In addition, because some verdictives combine the characteristics of declarations and representatives, verdictives are sometimes referred to as *representational declarations*. Examples are:

- (10.3) *Your proposal is substandard.*
His argument was both well-structured and engaging.
Monet is a better painter than Manet.
Miss Jaya is a highly effective teacher.
Jennifer plays the piano poorly.

Looking back at the examples of representatives in (10.1), you might be wondering why the utterance *It's very windy today* has been labelled representative rather than verdictive. The key difference between representatives and verdictives lies in their purpose: the former offers observations; the latter renders judgment, offering a positive or negative evaluation. Compare, for example, the difference between *Miss Jaya is a teacher* and *Miss Jaya is a highly effective teacher*. The first is a representative, a claim whose truth can be verified, once we know the meaning of the word *teacher*. In contrast, the second is a verdictive, assessing Miss Jaya's job performance. The same difference can be seen in the pair of sentences *Jennifer plays the piano* and *Jennifer plays the piano poorly*. Whereas the first is a representative whose truth can be verified through observation, the second is a verdictive which negatively evaluates Jennifer's piano-playing.

10.3.4 Expressives

Whereas representatives convey speakers' beliefs about the world, and verdictives render judgment, **expressives** are so named because they express speakers' emotional and psychological states, their fears, hopes and desires. Greetings, apologies, congratulations, condolences, and thanksgiving are all examples of expressives. In the following examples, the words indicating the speaker's feelings are in italics:

- (10.4) I'm so *sorry* for your loss.
Congratulations on your promotion!
Thank you for your lovely card.

I appreciate your kindness.
I'm grateful for your friendship.
I'm delighted the thief has been caught.

In terms of locution, expressives tend to have the speaker as subject, and contain words that express how the speaker feels, as in (10.4). Like declarations, expressives tend to be affirmative and in the present tense.

10.3.5 Commissives

Commissives are so labelled because they commit the speaker to a course of action. They express what the speaker intends to do. Threats, promises, refusals, vows, pledges are all examples of commissives:

- (10.5) *I promise to do better.*
 I will find you.
 I won't do that again.
 I pledge 1000 dollars.
 I vow to be true to you.
 I'm going to visit Aunt May next week.

As with expressives and declarations, commissives tend to have the speaker as subject, be affirmative, and in the present tense. They contain verbs like *promise*, *vow*, *swear*, and *pledge* that signal intention. Alternatively, the commitment to a course of action is signalled by the presence of auxiliary verbs (*am going to*) or the modal verb *will*.

10.3.6 Directives

Whereas commissives commit the speaker to a course of action, **directives** are intended to get the addressee to do something. Verbs that are common in directives include *order*, *command*, *ask*, *request*, *beg*, *invite*, *permit*, *advise*, *suggest*, *challenge*, *dare*, and *entreat*. Commands, requests, challenges, invitations, entreaties, and dares are all examples of directives:

- (10.6) *I challenge you to a match.*
 I dare you to step over this line.
 I move that we adjourn.
 Please pass me the butter.
 Don't touch my computer.
 Gimme a cup of coffee, please. Make it black.

Not surprisingly, given that directives are intended to get the addressee to do something, they tend to contain the second-person pronoun, *you*, either explicitly or implicitly. In English, when directives are issued using imperative sentences, the second person pronoun is implicit, e.g. *Please pass me the butter*. In contrast, when directives are performed indirectly, using a declarative or interrogative sentence, the second person pronoun is explicit, e.g. *I challenge you to a match. Could you lend me your pen, please?*

To recap, the six types of speech act that we have dealt with can be summarised as follows:

Speech act	Defining feature
Representative	Speaker believes X to be true/false
Declaration	Speaker brings X about by speaking
Verdictive	Speaker judges X to be good/bad
Expressive	Speaker expresses feeling X
Commissive	Speaker intends to do X
Directive	Speaker wants addressee to do X

Figure 10.1. The six types of speech act and their defining features

Activity 10.3

Let's talk about children again. The following is a true story, involving one of the authors of this book and her 2-year-old daughter.

The mother is busy preparing dinner, and tells the child: *Go ask your uncle what he wants to drink*. The child runs to the living-room where the uncle is relaxing, and doesn't come back. After a good 15 minutes, the mother checks with the uncle, who says: *Yeah, she did come to me and said "Uncle, uncle, what you want to drink?", then she disappeared towards her bedroom*.

Keeping in mind the 2-year-old's level of grammatical and communicative competence, can you explain how locution, illocution and perlocution interact to account for this episode?

You will find that a similar explanation accounts for similar misunderstandings involving second-language learners of all ages.

10.4 The Cooperative Principle

The principles that govern the interpretation of utterances are diverse and complex, and differ both within and across **cultures**, making miscommunication a distinct possibility, every time we speak, listen, read or write. For instance, we saw in Chapter 9 how culture-specific connotations, metaphors and idiomatic meanings can result in non-comprehension or miscomprehension.

Yet, despite the risk of misinterpretation, people in most situations manage to understand utterances essentially as they were intended. Why? The answer lies in shared interpretive conventions. Philosopher H. Paul Grice envisaged conversation as a cooperative enterprise, in which speakers follow unspoken rules/conventions, which he dubbed the **Cooperative Principle**. Basically, the Cooperative Principle suggests that without cause to expect otherwise, people assume that they and their conversational partners are honouring the same interpretive conventions. According to Grice (1975), this cooperative pact touches four areas of communication, each of which can be described as a **maxim**, or general principle, which can be summarised as follows:

Grice's maxims	Defining feature
Quality	Be truthful (don't lie or make unsupported claims)
Quantity	Be appropriately informative (don't say more than is needed)
Relevance	Be relevant to the current topic of conversation (stay on topic)
Manner	Be brief and orderly (avoid obscurity and ambiguity)

Figure 10.2. Grice's maxims

Let's analyse a hypothetical conversation, using Grice's maxims. Imagine that you and your housemate are having breakfast. Your housemate is reading a book, and you want to know what she is reading. So, you ask: *What are you reading?* Your housemate answers: *A book*. Would you be surprised by her response? Why? Grice would answer that your housemate's response infringes the maxim of quantity that requires interlocutors to be appropriately informative. According to Grice, such deliberate infringements, known as **flouting** a maxim, generate *conversational implicatures* which draw the addressee's attention to implicit meanings that speakers wish to convey. Your housemate's response is clearly unininformative, because it gives you no

information that you do not already have. After all, you can see for yourself that she is reading a book. So, what implicit meaning might you infer from your housemate's response? Would you infer that she does not want to tell you the exact nature of what she is reading?

Now consider the same situation, but let's change your housemate's response to the question *What are you reading?* Let's suppose that she responds, *Isn't it a perfectly lovely day today?* The relevant response to a question would be the information requested by the speaker. By changing the topic to the weather, your housemate now seems to be flouting the maxim of relevance, implicitly (and politely?) signalling her desire to avoid answering your question.

Activity 10.4

We flout maxims, as mentioned above, to communicate social meanings of various kinds. For example, at the end of a home-cooked meal, do you feel constrained to say to your host: *The dinner was delicious*, even though you feel it was quite the opposite? Why would you flout the maxim of quality, which says "be truthful"?

10.5 The role of politeness in communication

Politeness plays an integral role in communicative exchanges, as shown by the work of language researchers like Lakoff (1973) and Brown and Levinson (1987). In an attempt to discover universal principles of politeness, Brown and Levinson (1987) compared linguistic data from English, Tzeltal (a language spoken in Mexico) and Tamil (as spoken in India), viewing polite behaviour as a way of minimising social conflict within any social group.

Central to Brown and Levinson's theory of politeness is the concept of **face**, which they trace back to Goffman's (1967) notion of facework, which in turn derives from the Chinese notion of face — the public self-image, or approved social attributes that each of us claims for ourselves. Brown and Levinson propose two kinds of face needs which we ourselves have, and which we acknowledge everyone else as having. **Positive face** needs refer to our desire to be liked, admired and accepted by others, to be treated as a member of a group. **Negative face** needs in turn refer to our desire to be unimpeded, to have freedom of action. You can think of these two face needs as pulling in opposite directions, with positive face needs corresponding to

our desire for connectedness, and negative face needs, to our desire for independence.

Face can be lost, maintained, given and enhanced. Brown and Levinson argue that strategies of polite behaviour arise in communities to mitigate the threat to positive and negative face, respectively. Positive politeness strategies attend to positive face needs, while negative politeness strategies attend to negative face needs. Do note that negative politeness does not mean being rude or impolite. Rather, **negative politeness strategies** pay attention to negative face needs (the desire to be unimpeded) by minimising imposition, offering options, showing deference, apologising, indicating pessimism about the likelihood of a request being granted (e.g. *I don't suppose I could borrow your umbrella for just a few minutes*) and impersonalising (e.g. *Patrons are reminded not to walk on the grass*). Linguistic politeness is highly contextual. Which negative politeness strategies you adopt in a particular context, with a particular addressee, will depend on your respective social proximity/distance, power differential and the weight of the imposition. **Positive politeness strategies**, meanwhile, pay attention to positive face needs by emphasising what you have in common, expressing interest, approval, and sympathy, and by emphasising solidarity (e.g. by using in-group identity markers like nicknames), friendliness and reciprocity.

Whereas positive and negative politeness strategies seek to save face, **face-threatening acts** (sometimes abbreviated as *FTAs*) are speech acts which threaten someone's positive and/or negative face needs. Consider, for example, the speech acts we have labelled as directives – speech acts in which the speaker wants the addressee to do something. Directives necessarily impose on the addressee, thereby threatening the addressee's negative face needs (their desire for independence or autonomy of action). To attenuate this imposition on an addressee's negative face needs, speakers typically express directives indirectly as questions (*Could you return these books to the library?*) or statements (*It's rather hot in here*, where the implication is: Is there anything you can do about it?) rather than as imperatives. If the imperative structure is used, politeness formulas like *please* are often used to temper the imposition of the directive, e.g. *Please take this letter to the principal*.

Although Brown and Levinson (1987) consider positive and negative face needs to be a universal phenomenon, they do make an important qualification, namely, that face needs are still subject to cultural specifications of many sorts. Cultural face needs vary according to what kinds of acts threaten face, what sorts of people have special rights to face-protection, and what kinds of personal styles (in terms of things like graciousness, ease of social relations, etc.) are especially appreciated in a given **culture**.

More recently, scholars like Culpeper (1996, 2005) have argued that we cannot have a comprehensive theory of politeness, if the integral topic of impoliteness is not also addressed, and strategies of impoliteness carefully defined. Based on Brown and Levinson's notion of Face-Threatening Acts (FTAs), Culpeper (2005) offers the parallel and opposite notion of Face Attack Acts (FAAs), defining impoliteness as arising when speakers communicate face-attack intentionally or when addressees perceive behaviour as intentionally face-attacking. Culpeper's call for greater attention to impoliteness is certainly timely, given the growing trend of media programming relying on conflict between interactants for their entertainment value. The question of why television shows based upon impoliteness have become so popular, especially in Western culture, is certainly worth investigating.

10.6 The organisation of conversation

Having considered some of the things that we can do with language, and the role of politeness in communication, we move in this section to ask how **conversation**, one of the commonest forms of communication between humans, is organised.

You might think that conversation does not have any organisation at all, given that we are typically busy paying attention to the content of a conversation to worry about the principles underlying its organisation. But, as with the structure of words and sentences, it is easy to see that conversation has both linear and hierarchical organisation. Suppose that during a conversation, everybody starts talking at the same time, or someone keeps interrupting you, or someone keeps talking and talking so that no one else can get a word in. In short, suppose there is no organisation to a conversation. It is often when communication breaks down that we first become aware of the complex ballet performed by the participants in a conversation. Conversation in fact obeys a sophisticated choreography, as it were. We have ways of organising conversation so that more than one person has a chance to speak, that **turn taking** is done in an orderly fashion, and that there are **formulaic** signals marking the beginning and ending of a conversation. We also have ways of making corrections or repairs as and when they are needed.

In this section, we consider adjacency pairs as one mechanism in the organisation of conversation. **Adjacency pairs** are so labelled because they comprise a pair of speaking turns, which are contiguous, or adjacent to one another. A few examples are in Figure 10.3.

Greeting – Greeting
 Question – Answer
 Invitation – Acceptance
 Apology – Acceptance
 Compliment – Thanks
 Summons – Answer

Figure 10.3. Examples of adjacency pairs

Specifically, adjacency pairs share three criteria: adjacency, sequencing, and appropriate matching.

Adjacency

The adjacency criterion states that the two parts of an adjacency pair must be adjacent, or contiguous. For example:

Val: *Where's the bread?* (Question)
 Tom: *In the freezer.* (Answer)

The only legitimate exception to the adjacency criterion is when an insertion sequence is needed. An **insertion sequence** is itself an adjacency pair that interrupts the original adjacency pair, putting it on hold. An insertion sequence is an example of **recursion**, with the adjacency pair in the insertion sequence being embedded within the main adjacency pair. Figure 10.4 gives one example.

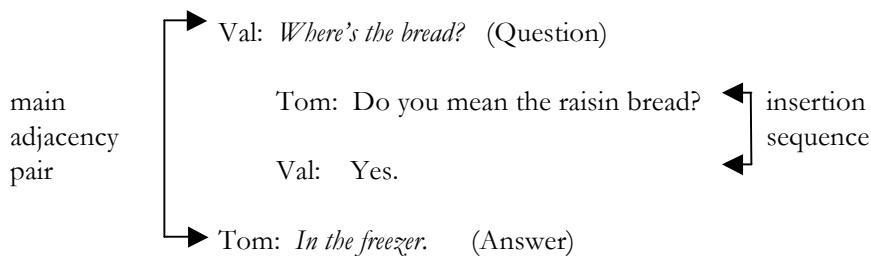


Figure 10.4. Recursion in an adjacency pair

Sequencing (A before B)

The sequencing criterion requires that the two parts of an adjacency pair appear in a particular sequence, e.g. Question followed by Answer, not vice versa; Invitation followed by Acceptance, not vice versa; Request followed by Granting of request, not vice versa.

Appropriateness

The appropriateness criterion requires that the two parts of an adjacency must be suitably matched, e.g. Question goes with Answer, and not some other turn. Similarly, Request goes with Granting or Denial of request, and not some other turn.

Using what we've just learnt about adjacency pairs, we can analyse the short telephone conversation in Figure 10.5 in terms of the four adjacency pairs that make it up.

Caller	(dials; phone rings)	Summons
Other	<i>Hello?</i>	Answer
Caller	<i>Is that Bill?</i>	Request for identification
Other	<i>Yup.</i>	Confirmation of identity
Caller	<i>Is the game still on for tonight?</i>	Question
Other	<i>Yes, it is.</i>	Answer
Caller	<i>Great! I'll see you tonight then. Bye.</i>	Closing salutation
Other	<i>Bye.</i>	Acknowledgement
Caller	(hangs up)	

Figure 10.5. An example of adjacency pair organisation in a conversation

At this point, we can also consolidate what we have learnt about politeness in section 10.5 with what we now know about adjacency pairs, to explain why certain types of adjacency pairs, e.g. requests, apologies and invitations, have preferred and dispreferred responses.

Consider the adjacency pairs in the scenarios 1-3 below. Of the three scenarios, which do you think represents the preferred response to a request? Between scenarios 2 and 3, does one feel ruder than the other?

Scenario 1

Alice: <i>Can I borrow 10 dollars, please?</i>	Request for favour
Mike: <i>Sure.</i>	Granting of request

Scenario 2

Alice: <i>Can I borrow 10 dollars, please?</i>	Request for favour
Mike: <i>No.</i>	Denial of request

Scenario 3

Alice: <i>Can I borrow 10 dollars, please?</i>	Request for favour
Mike: <i>I'm so sorry, but I'm low on cash myself today.</i>	Apology and Explanation

If you felt that Scenario 1 (granting of favour) represents the preferred response to a request, you would be in good company. Using what we have learnt about addressees' positive face needs, we can see why scenario 1 is the preferred response. In granting Alice's favour, Mike is affirming Alice's desire for him to show solidarity by being willing to help her out. Notice that Alice herself uses negative politeness strategies in making her request, to mitigate the threat to Mike's negative face needs (his desire for freedom of action). First, she makes her request indirectly in the form of a yes/no question rather than an imperative (*Lend me 10 dollars*). Second, she uses the politeness **formula, *please***.

Turning to Scenarios 2 and 3, did you think that Mike's response in the former seemed rude? Notice that in both scenarios, Alice's request to borrow 10 dollars is turned down. In Scenario 2, the denial is explicit. In Scenario 3, the denial is implicit in the apology and explanation. The question here is why does Mike apologise and explain to Alice why he cannot grant her request? Why does this make Mike's response appear less rude? We have already established that the preferred response to a request is the granting of the request, because this shows solidarity or concern for the one making the request. Both Scenarios 2 and 3 involve the dispreferred response of denying the request. But Scenario 3 appears less rude because the speaker expresses regret, via his apology, at not being able to help the addressee, and lets the addressee know why he is unable to help her by pointing out his own need of the cash.

We began this chapter by asking what language can be used for. We discussed Searle's and Austin's Speech Act Theory to analyse the speech acts performed by utterances of various kinds. We then asked why there isn't more miscommunication when people talk to one another, and found Grice's Cooperative Principle and the notion of adjacency pairs to be useful in

uncovering how conversation is organised. Both Grice's maxims and adjacency pairs, however, provided us with only partial answers, given our observations that the maxims can be infringed (or flouted), and that there are preferred and dispreferred responses within adjacency pairs. To solve this puzzle, we took into account Brown and Levinson's work on the role of politeness in communicative interactions. In the next chapter, we continue our exploration of meaning in action from the perspective of language in use, or **discourse**.

Food for thought

"I know you think you understand what I'm trying to say, but what you said I was trying to say is not what I meant."

Anonymous

"The question is," said Alice, "whether you *can* make words mean so many different things."

"The question is," said Humpty Dumpty, "which is to be master -- that's all."

Lewis Carroll, *Through the Looking Glass* (1923/1961).

"There is no copyright in words."

Geoffrey Sampson (2005). *The 'language instinct' debate*. London/New York: Continuum, p. 170.

"... ordinary conversation is made up of linguistic strategies that have been thought quintessentially literary." (p. 1)

"... literary (...) genres elaborate and manipulate strategies that are spontaneous in conversation." (p. 80)

Deborah Tannen (1989). *Talking voices: Repetition, dialogue and imagery in conversational discourse*. Cambridge: Cambridge University Press.

Further reading

Hudson, Grover (2000). Chapter 19. Pragmatics: Inferring meaning in context. In *Essential introductory linguistics*. Oxford: Blackwell, pp. 312-326.

Leech, Geoffrey N. (1983). *Principles of pragmatics*. London: Longman.

Yule, George (1996). Chapter 12. Pragmatics. In *The study of language* (2nd ed.). Cambridge: Cambridge University Press, pp. 127-138.

References

- Austin, John L. (1975). *How to do things with words*. Cambridge, MA: Harvard University Press.
- Brown, Penelope and Levinson, Stephen C. (1987). *Politeness: Some universals in language usage*. New York: Cambridge University Press.
- Culpeper, Jonathan (1996). Towards an anatomy of impoliteness. *Journal of Pragmatics* 25, 349-367.
- Culpeper, Jonathan (2005). Impoliteness and entertainment in the television quiz show: The weakest link. *Journal of Politeness Research* 1(1): 35-72.
- Goffman, Erving (1967). *Interaction ritual*. New York: Pantheon books.
- Grice, H. Paul (1975). Logic and conversation. In P. Cole and James L. Morgan (eds.). *Syntax and Semantics (vol. 3) Speech Acts*. New York/London: Academic Press, pp. 41-58.
- Lakoff, Robin (1973). The logic of politeness: Or, minding your p's and q's. *Papers from the 9th Regional Meeting of the Chicago Linguistic Society*. Chicago: Chicago Linguistic Society, pp. 292-305.
- Searle, John R. (1969) *Speech acts: An essay in the philosophy of language*. Cambridge: Cambridge University Press.

11

Language in use

Chapter Preview

What lies beyond the sentence?
How is discourse organised?
What makes discourse cohesive?
What makes discourse coherent?

11.1 Introduction

Throughout this book, we have emphasised the compositional nature of language, investigating both its linear and hierarchical organisation. Having worked through chapters 3 through 6, you now know that words are composed of morphemes, which are themselves composed of phonemes. Similarly, having worked through chapters 7 and 8, you know that sentences are composed of clauses which are themselves composed of phrases.

The central question we ask in this chapter is: what lies beyond the sentence? Are there linguistic units larger than the sentence and, if so, how are they organised? To answer this question, we would remind you of the basic purpose of language, introduced in the first chapter and elaborated on in the preceding two chapters, as a tool for expressing meaning. Linguists refer to language use in the real world as discourse. Simply defined, **discourse** covers any use of language, spoken or written, in a specific context, to achieve a specific purpose. In chapter 9, we introduced two kinds of context – linguistic and situational. **Linguistic context**, or **co-text**, refers to the language surrounding (preceding and following) the discourse we are interested in, while **situational context** includes the setting, purpose and participants involved in a communicative event. Both types of context are

important to **discourse analysis**, the branch of linguistics concerned with the organisation of discourse, or real-world language use.

Take a look at items (11.1) through (11.5). Which of these do you recognise as actual or possible instances of discourse, or language in use? In order to answer this question, think of a real-world context and a likely communicative purpose for each.

- (11.1) No parking
- (11.2) Washing-up liquid
Toothbrush
Bananas
Cheese
Milk
Eggs
- (11.3) Admittedly, some linguists use the terms *discourse* and *text* interchangeably. This tin contains the equivalent of 19.4 litres of non-fat milk. Upstairs, Ted groaned and moaned.
- (11.4) Three plain rice... one omelette... the large steamed fish... and the mixed vegetables, please. Thank you!
- (11.5) Okay, sheep over there... donkeys next to the sheep... and... where are my Three Wise Men?

Before we answer the question posed above, let's start with a couple of general observations. First, did you notice that items (11.1) to (11.3) are examples of written discourse, while items (11.4) and (11.5) represent transcribed speech? Second, did you notice that of the five stretches of language, only (11.3) comprises complete sentences? We shall have more to say about this, in a moment. But, for now, let's identify each instance of language use, starting with the easiest.

Item (11.1) is clearly a road-sign prohibiting parking. Item (11.2) is a little more challenging — did you recognise it as a shopping list? What about item (11.4) — did the food-related words help you identify it as part of the activity of ordering a meal at a restaurant? Example (11.5) is a little trickier, in that it requires the deployment of both linguistic and real-world knowledge. You need to be familiar with the *Three Wise Men* as characters in the story of the birth of Christ, and the activities surrounding the celebration of Christmas, to correctly guess that (11.5) was uttered during a rehearsal for a Christmas nativity play.

Ironically, the only stretch of language to contain complete sentences also seems to be the only one that doesn't hang together. If you thought that (11.3) sounds like a cut-and-paste job, that's exactly what it is: a random collection of sentences from three unrelated sources. So, the first conclusion we can draw about discourse is that it forms an organic whole, with parts that hang together to serve the language user's overall purpose.

In the next two sections, we explore the question *How is discourse organised?* by investigating how information is structured both within the **clause** and across clauses. After that, we consider how discourse is structured beyond the sentence.

11.2 Information structure within the clause

In order to discuss how information is packaged within clauses, we need to understand three sets of relationships, that between **given** and **new information**, that between **topic** and **comment**, and how given-new information interacts with topic and comment.

11.2.1 Given and new information

In our exploration of meaning in action (chapter 10), we saw that different speech acts convey different kinds of information. Commissives, for instance, indicate what we intend to do, while directives reflect what we want our addressees to do. Similarly, representatives convey our beliefs about the world, while verdictives render judgment. All these different kinds of information can be thought of as language *information*.

In Chapter 8, we discussed the functional constituents of the clause, underscoring the verb as the pivotal element (to identify a clause, look for the main verb). In some languages, the other obligatory constituent of the clause is the subject, which is explicitly stated in English declarative and interrogative clauses (e.g. *I know you. Do I know you?*) but implicit in imperative clauses (e.g. *Shut up. Go away!*). While the notions of subject and verb are useful for analysing the syntactic structure of clauses, they don't tell us very much about the flow of information in communicative exchanges. This is where the concepts of given and new information prove useful. **New information**, as the label suggests, refers to information just being introduced into the discourse, while **given information** is information that has already been introduced and is thus already activated in the addressee's mind. Consider the Question-Answer adjacency pair below (for more on adjacency pairs, see section 10.6):

Sarah: *Who brought the flowers?*
 Martin: *Jamal brought the flowers.*

Does Martin's response to Sarah's question sound stilted and artificial to you? How can we explain this intuition, keeping in mind what we know about the four maxims of Grice's **Cooperative Principle** (see section 10.4)? In the opening turn of this Question-Answer adjacency pair, Sarah introduces the flowers into the discourse. The (new) information she seeks is the identity of the person who brought the flowers. All Martin has to do to answer Sarah's query is to provide the relevant information as truthfully, concisely, and clearly as he can. In short, there is no need for Martin to mention the flowers or the act of bringing the flowers, since that is given information.

In accord with the Law of Maximal Economy (see section 2.4.2), we tend to do one of two things with given information:

- We condense it, using **proforms**, pronouns and other deictic expressions which stand in for other linguistic units, thereby preempting clumsy repetition, as shown in (11.6) and (11.7); or
- We omit it altogether, as shown in (11.8).

(11.6) given information VP *brought the flowers* condensed to the proform *did*

Sarah: *Who brought the flowers?*
 Martin: *Jamal did.*

(11.7) given information NP *the flowers* condensed to the pronoun *them*

Sarah: *Who brought the flowers?*
 Martin: *Jamal brought them.*

(11.8) given information VP *brought the flowers* omitted altogether

Sarah: *Who brought the flowers?*
 Martin: *Jamal.*

In case the examples above lead to the mistaken belief that given information must be introduced by a speaker other than yourself, here are two single-speaker utterances that prove otherwise.

- (11.9) *Janet gave me two puppies for my birthday. She got them at the animal shelter.*
 (11.10) *James showed me this amazing tree outside his window. The leaves were different shades of red and yellow.*

In (11.9), the pronouns *she* and *them* refer back to Janet and the puppies, both of whom were introduced in the prior utterance, and thus represent given information. Similarly, in (11.10), *the leaves* are clearly part of the tree (see meronymy in section 9.5.2) introduced in the preceding sentence. The tree (with all its associations and parts) doesn't have to be mentioned, since it now represents part of the given information in this discourse.

11.2.2 Topic and comment

The distinction between given and new information helps us keep track of information that is shared by speaker and addressee because it has already been introduced into the discourse, as opposed to information that is new to the addressee.

Along with given-new information, we need another pair of concepts, topic and comment, to analyse information structure within and across clauses, because all languages offer speakers a system of choices or a suite of options for packaging information. Consider the four statements below, which represent paraphrases of one another, given that they all share the same truth conditions (see the discussion of entailment in section 9.6):

- (11.11) (a) *My mother gave me this necklace on my 21st birthday.*
 (b) *I was given this necklace by my mother on my 21st birthday.*
 (c) *This necklace was given to me by my mother on my 21st birthday,*
 (d) *On my 21st birthday, I was given this necklace by my mother.*

Topic refers to the point of departure of an utterance, i.e. what the speaker wants to talk about, while **comment** refers to what is being said about the topic. Example (11.11) highlights the different topic options available to the speaker, depending on what she wishes to talk about — her mother (11.11a), herself (11.11b), the necklace (11.11c), or her 21st birthday (11.11d). Notice, too, that the topic of a clause does not need to correspond to the syntactic function *subject*. In utterances (11.11a-c), the topic does correspond to the subject, but in utterance (11.11d), it corresponds to the adjunct of time *on my 21st birthday*.

Now that we're familiar with given-new information and topic-comment, let's explore how the two pairs of concepts interact.

In English, the convention tends to be for given information to precede new information. This makes sense, since addressees expect to be told something they do not know in terms of what they do know. This is also why, in English and in many other languages, the end of utterances is marked by features of **intonation** that reinforce the salience of the new piece of information. Major modulations of pitch like falls, rises, rise-falls and fall-rises, take place at the end of utterances, against the more even tone of the preceding stretch of speech containing given information. In addition, given information tends to map onto the topic, while new information typically maps onto the comment. Let's work this out with an example:

- (11.12) *My cat made a mess of the kitchen yesterday.*

In (11.12), the topic of the clause is the speaker's cat, and the comment tells us something about the cat – that it made a mess of the kitchen yesterday. There are several possible responses to this utterance. Let's consider two. If the addressee responds *What, again?*, we can infer that the topic (*my cat*) maps onto given information – the fact that the speaker has a cat is not news to the addressee. In contrast, if the addressee responds *I didn't know you had a cat*, the topic is clearly not given/shared information.

We can use what we have just learnt about given-new information and topic-comment to revisit **active** and **passive** sentences, discussed in sections 8.3.3 and 9.6. Not all languages have passive constructions. But languages which do, like English, allow speakers to bundle information differently in terms of topic and comment.

As mentioned in section 9.6, active and passive sentences entail each other. They are alternative ways of representing the same proposition because they share the same truth conditions. The difference between them has to do with information structure, as illustrated in the example below:

- (11.13) *The farmer chased the cow.*

- (11.14) *The cow was chased by the farmer.*

In (11.13), the topic of the clause is the farmer (the agent of the action *chased*), and the comment tells us what the farmer did. In contrast, in the passive version (11.14), the topic of the clause is the cow (the patient of the action *chased*), and the comment tells us what happened to the cow. Thus, in languages with both active and passive constructions, speakers have a choice about whether to make the agent or the patient of an action the topic of the clause.

In English, the choice of a passive sentence over its active counterpart is regulated by information structure. To understand the informational purposes served by the passive construction, we need to distinguish between two kinds of passives — those which omit the agent and those that don't. Passives which omit the agent are known as **agentless passives** (e.g. *The cow was chased*) in contrast to passives which do not omit the agent, as in (11.14). Agentless passives are typically used when the agent of the action is unknown, irrelevant to the point which the speaker wishes to make, or maps onto given information, as shown in examples 11.15 and 11.16 below:

- (11.15) *The road behind my house is being resurfaced.*
(11.16) *Mr Singh's nephew was kidnapped on his way to school.*

Activity 11.1

Can you explain why the passive construction is so common in headlines, advertisements and notices like these?

Buried miners found alive
Ocean cruises tailor-made for you
English spoken

11.3 Information structure across clauses

Thus far, we have looked at how information is structured *within* the clause in terms of given and new information, and how given-new information relates to topic and comment. In this section, we consider how information is structured *across* clauses. Central to this discussion are the twin notions of **cohesion** and **coherence**.

11.3.1 Cohesion

In examples (11.6) to (11.8), we saw that given information tends to be condensed through the use of proforms or omitted altogether. Both these processes play an important role in creating **cohesion**, the sense of linguistic connectedness apparent from written and spoken texts through the use of cohesive devices.

In their book-length study of cohesion in English, Halliday and Hasan (1976) identify five major cohesive devices, which they categorise into two

broad groups: lexical cohesion and grammatical cohesion. Lexical cohesion includes:

- Repetition: the reiteration of certain words and phrases creates a network of keywords, which help reinforce the topic of the discourse
- Collocation: the synonyms, antonyms, meronyms and hyponyms that a word keeps company with; see example 11.10)

Grammatical cohesion in turn comprises:

- Ellipsis: the omission of given information (see examples 11.8 and 11.10).
- Substitution: the replacement of a linguistic unit by a closed set of proforms like *do* (see example 11.6), *one* (e.g. *Would you like the blue hat or the green one?*).
- Reference: the use of a proform to stand-in for another linguistic unit (see examples 11.7 and 11.9).
- Conjunctions: the use of coordinating and subordinating conjunctions to create logical ties.

Consider the two sentences in example (11.17):

(11.17) *A friend of mine is visiting from the UK. She will be here for three weeks.*

Would you say that the two sentences are cohesive? Given Grice's (1975) maxim of relevance (stay on topic), most of us would infer that the topic of the second clause, the pronoun *she*, refers back to the topic of the first clause, *a friend of mine*. Halliday and Hasan (1976) label this process of backward reference **anaphora**. Anaphora creates cohesion by forming a chain of back-references, such that each mention of a pronoun can be traced back to an earlier mention of it, until we reach the entity referred to by the pronoun at the start of the discourse, e.g. *My grandmother....she....she.....she....*

The opposite of anaphora is **cataphora**, the label Halliday and Hasan (1976) give to the cohesive process of forward referencing, e.g. *she.....she....she....Jane*. This technique is often used in the opening of thrillers to create suspense and forward moment. Most of us keep reading in order to discover the identity of the elusive *she* in the opening paragraph. Both anaphora and cataphora are forms of what Halliday and Hasan (1976) call text-internal, or **endophoric reference** because the identity of the referent can be worked out from co-text.

In contrast, text-external, or **exophoric reference**, creates a referential tie between an expression in a piece of discourse and something in the real world

(see the discussion of personal, temporal and spatial **deixis** in Chapter 9). In example (11.17), the adverb *here* creates such an exophoric tie, since it is impossible to identify the location of this deictic expression without knowing where exactly the speaker is. All we can tell is that *here* refers to a country other than the UK, given that the UK is where the friend is visiting from. To recap, then, the cohesion in (11.17) is created through two kinds of reference – endophoric (signalled by the anaphoric pronoun *she*) and exophoric (signalled by the deictic expression *here*).

To underscore the idea that we need both linguistic and real-world knowledge to interpret discourse, let us consider one more example:

- (11.18) *There was a cupcake in the blue box. I was hungry. So I ate it.*

Most of us would agree that the stretch of language in (11.18) is cohesive, given the anaphoric reference created by the repeated first person pronoun. But what does the third person pronoun *it* refer back to – the cupcake or the blue box? Since our real-world knowledge informs us that human beings are more likely to eat cupcakes than boxes, we would identify the referent of *it* as being the cupcake and not the box.

11.3.2 The relationship between cohesion and coherence

Now that we know that cohesion is a linguistic phenomenon, we can ask what kind of phenomenon coherence is. For example, if a piece of discourse is cohesive, will it be coherent? Conversely, if a piece of discourse is coherent, will it also be cohesive? Recall that cohesion involves the creation of textual connections through linguistic devices like repetition, collocation, ellipsis, substitution, reference and conjunctions). In contrast, **coherence** has to do with conceptual relations, i.e. a reader/listener's sense that the discourse as a whole hangs together in a meaningful way. To make the difference between cohesion and coherence clearer, consider the two sentences in (11.19). What relationship, if any, do you think exists between the first and second sentences?

- (11.19) *Benny turned bright red. Samantha was right about Michael being a thief.*

Notice that there are no cohesive ties between the two sentences. But, did you think that the two sentences were related, nevertheless – that Benny's turning bright red had something to do with Samantha's being right about Michael? If you did, what this example underscores is our tendency to try to make sense of juxtaposed sentences in relation to one another – a great example of Grice's maxim of relevance at play. In doing this, we use whatever

resources (linguistic and real-world knowledge) we have at hand. In example (11.19), these resources include our linguistic knowledge (e.g. syntax and semantics) as well as our world knowledge about the kind of things likely to cause embarrassment, and how people behave when they are embarrassed. Interestingly, we are likely to see the same causal relationship between the two sentences in (11.19) even when they are reordered as in (11.20):

(11.20) *Samantha was right about Michael being a thief. Benny turned bright red.*

The difference is that in (11.20), the cause is stated first followed by the effect, unlike in (11.19), where the effect is followed by the cause. In addition, if we wanted to, we could clarify the relationship between the two sentences in two ways. We could project the discourse into dialogue form, making explicit the questions being implicitly answered in each sentence. Alternatively, we could signal the conceptual relation between the sentences, using cohesive devices like conjunctions. Figure 11.1 below demonstrates both methods.

Using dialogue to clarify the relationship between sentences

Benny turned bright red.

Why?

Samantha was right about Michael being a thief and a liar.

Samantha was right about Michael being a thief and a liar.

What happened as a result?

Benny turned bright red.

Using cohesive devices to clarify the relationship between sentences

Benny turned bright red because Samantha was right about Michael being a thief and a liar.

Samantha was right about Michael being a thief and a liar. As a result, Benny turned bright red.

Figure 11.1. Using dialogue and discourse signals to clarify the relationship between sentences

11.4 Clause relations

We mentioned above that coherence refers to the conceptual relations that we perceive between clauses, which Hoey and Winter (1986) label **clause relations**. Simply put, clause relations embody the cognitive process by which

human beings create and interpret meaning. They point out our pattern-matching tendencies, our penchant for noticing resemblances and differences. Hoey and Winter (1986) call these **matching relations**, and subcategorise them into relations of compatibility and contrast. The other main way we tend to organise relationships is sequentially, in what Hoey and Winter call **sequential relations** subdividing these in turn into temporal and logical sequencing.

Activity 11.2

Sentences (a) and (b) comprise two clauses each, and are identical in form to each other except for the ordering of the clauses. In terms of the information conveyed, are the two sentences identical or is there a difference in terms of what happened?

- (a) *Jane and Harry got married and had a baby.*
- (b) *Jane and Harry had a baby and got married.*

Activity 11.3

Does one of the sentences below seem odd to you? Why?

- (a) *John locked the door and left the building.*
- (b) *John left the building and locked the door.*

In Chapter 4, we described the process of building words as being analogous to building a wall, in that we need both building blocks (morphemes or bricks) and rules (a building plan) to build walls and words properly. The same analogy applies to building a coherent discourse. Just as attempting to fit morphemes together at random won't result in words, so also attempting to fit unrelated sentences together at random won't result in meaningful discourse. In this analogy, the building blocks are the clauses, and the plan/rules for constructing coherent discourse correspond to Hoey and Winter's clause relations. Here's a simple activity to illustrate this point.

Activity 11.4

In how many ways can the four sentences below be sequenced? How many of these sequences result in a coherent discourse?

- (a) *I ducked as low as I could.*
- (b) *I was in the garden.*
- (c) *I avoided getting stung.*
- (d) *I saw a bumble bee heading straight at me.*

Mathematically speaking, there are 24 possible ways to sequence four sentences. However, not all 24 sequences are equally acceptable. Some possible sequences are totally deviant, e.g. (11.21) and (11.22):

(11.21) *I ducked as low as I could. I was in the garden. I avoided getting stung. I saw a bumble bee heading straight at me.*

(11.22) *I avoided getting stung. I ducked as low as I could. I saw a bumble bee heading straight at me. I was in the garden.*

Other sequences are less deviant if some of the sentences are given normal intonation while others are spoken with parenthetical intonation, e.g.

(11.23) *I saw a bumble bee heading straight at me. (I was in the garden). I ducked as low as I could. I avoided getting stung.*

Only one sequence, however, seems completely natural without special emphasis or intonation:

(11.24) *I was in the garden. I saw a bumble bee heading straight at me. I ducked as low as I could. I avoided getting stung.*

What's interesting is that the events in (11.24) are communicated in the order in which they occurred, i.e. the structure of the discourse mirrors the chronology of events. The same narrative can also be told in reverse order, however. Notice how totally deviant sequences like (11.21) and (11.22) become acceptable if we use **subordination**, as in (11.25):

(11.25) *I avoided getting stung by ducking as low as I could, because I saw a bumble bee heading straight at me while I was in the garden.*

From (11.25), we can infer that sequence and subordination are in part complementary, i.e. they represent alternative ways of supplying the same meaning to a piece of discourse.

Let's now try to unearth the clause relations between the sentences in Activity 11.4. The sequential clause relations between sentences (d) and (a), on the one hand, and sentences (a) and (c), on the other, are quite easy to see. Sentences (d) and (a) stand in a cause-consequence relationship. Seeing a bumble bee heading straight at me is what caused me to duck as low as I could. Here, the cause precedes the consequence. But, in (11.25), which uses subordination, the consequence precedes the cause. What this shows is that in terms of discourse structure, either sequence (cause-consequence or consequence-cause) is possible.

Sentences (a) and (c), in turn, stand in an instrument-achievement clause relationship. Ducking as low as I could is the means or instrument I used to avoid getting stung by the bee. Once again, notice that by using subordination, as in (11.25), we can reverse the order so that the "achievement" clause precedes the "instrument" clause. Again, what this shows is that in terms of discourse organisation, both sequences (instrument-achievement or achievement-instrument) are possible.

11.5 Discourse patterns

You will have noticed that our analysis so far only covers the **linear organisation** of sentences (a), (c) and (d) from Activity 11.4. It does not explain the role of sentence (b), *I was in the garden*. In order to account for the role that this sentence plays in our short discourse, we need to consider the **hierarchical organisation** of discourse. Hierarchically, the organisation of this discourse example represents a Problem-Solution discourse pattern (see Hoey, 1983), as shown in Figure 11.2.

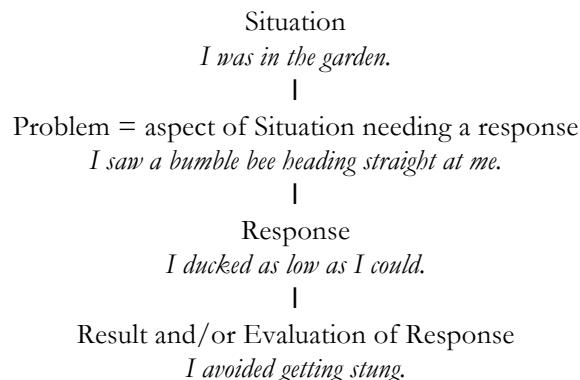


Figure 11.2. Problem-Solution discourse pattern

Two observations are worth making here, highlighting the interaction between discourse and real-world knowledge. Firstly, in the discourse represented in Figure 11.2, we evaluate seeing a bumble bee heading straight for the speaker as a problem, because of our real-world knowledge that bee stings are painful and, for those allergic to them, potentially life-threatening. Let's suppose our discourse example had proceeded as follows:

- (11.26) *I was in the garden. I saw a bumble bee heading straight at me. I wasn't worried.*

What we have in (11.26) is a conflict between our real-world knowledge of approaching bees as likely to cause problems and the evaluation of this situation as a non-Problem (*I wasn't worried*). Given our real-world knowledge of bees and bee stings, we would expect this evaluation of the situation as a non-Problem to be explained. We'd be asking the speaker, "Why weren't you worried when you saw a bumble bee heading straight at you?" In other words, we would want to know the basis for the speaker's evaluation of this situation as a non-Problem. And, we would be satisfied if the speaker said something like *I wasn't worried because I was wearing thick canvas coveralls*. This would resolve the conflict between our evaluation of the situation as a Problem and the speaker's evaluation of the same situation as a non-Problem. The final analysis for this alternative discourse could then be represented as in Figure 11.3:

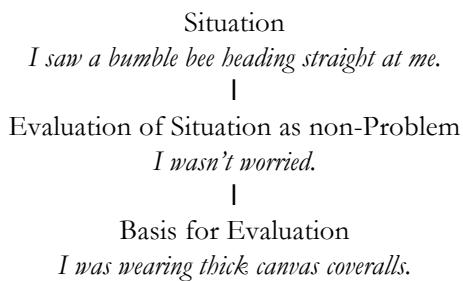


Figure 11.3. Situation-Evaluation-Basis for Evaluation discourse pattern

Hoey (1983) refers to the text pattern exemplified in (11.24) as Problem-Solution, rather than Problem-Response, because he argues that discourse organised using the Problem-Solution pattern feels complete only when the problem has been solved in some way (a solution is a response that has been positively evaluated). In contrast, if a response to a problem were evaluated negatively, then it would not be perceived as a solution, and the problem

would still remain, waiting to be solved. Activity 11.5 taps into our deep-seated desire for problem resolution and happy endings.

Activity 11.5

Does the following discourse feel incomplete to you? Why?

I was in the garden. I saw a bumble bee heading straight at me. I ducked as low as I could. The bee kept on coming.

If you felt that the discourse in Activity 11.5 was incomplete, it's probably because you wanted to know how things finally turned out in terms of the bee problem. Figure 11.4 outlines one possible way in which the bee story might be constructed to provide a satisfactory resolution. Notice that it is possible to have a Problem-Solution pattern embedded within a Problem-Solution pattern. This is yet another example of **recursion** in language, this time at the level of discourse.

Situation:	<i>I was in the garden.</i>
Problem:	<i>I saw a bumble bee heading straight at me.</i>
Response:	<i>I ducked as low as I could.</i>
Inner Problem:	<i>The bee kept on coming.</i>
Inner Response:	<i>I took my shawl off, and flung it at the bee.</i>
Inner Evaluation:	<i>That did the trick.</i>
Inner Basis of Evaluation:	<i>The bee flew away.</i>
Result:	<i>I avoided getting stung.</i>

Figure 11.4. Recursion in discourse

Activity 11.6

Many product advertisements tend to be organised in terms of the Problem-Solution discourse pattern. Find a print advertisement for any product, and see if you can analyse it in terms of the Problem-Solution discourse pattern discussed above.

As you encounter other examples of discourse, be it a news report, a lecture, or a magazine feature article, we invite you to try and explain why the text feels coherent or incoherent, complete or incomplete, using the constructs discussed in this chapter. We looked at examples of sequence clause relations, like cause-consequence and instrument-achievement, and how these form larger discourse patterns like the Problem-Solution pattern. There is, of course, a lot more room for exploration here. Hoey (1983) himself suggests that the Problem-Solution pattern can be categorised into different kinds, depending on whether or not the response to a problem is evaluated positively or negatively. For instance, a response might work but create its own set of new problems in what Hoey (1983) calls a chained Problem-Solution pattern, common in nursery songs and sitcoms. Equally, a problem may be so complex that it can only be solved using a progressive Problem-Solution pattern, with each response representing only a partial solution, as is the case with many of the global problems we face like poverty, hunger, and war. Closer to everyday life, there's the spiral pattern, where we try different responses, when the first doesn't work, moving closer and closer, we hope, to a viable solution. Besides these variations of the Problem-Solution pattern, you may also want to explore discourse patterns such as Generalisation-Example and Preview-Detail built using matching clause relations (compatibility and contrast). For more on these patterns, we would refer you to Hoey (1983) as an excellent starting point.

Food for thought

“Language is not merely a set of unrelated sounds, clauses, rules, and meanings; it is a total coherent system of these integrating with each other, and with behavior, context, universe of discourse, and observer perspective.”

Kenneth L. Pike (1982). *Linguistic concepts*.
Lincoln: University of Nebraska Press, p. 44.

“The emergence, or conventionalization, of linguistic structure is related to the frequency with which speakers use expressions in discourse.”

Joanne Scheibman (2002). *Point of view and grammar*.
Amsterdam: John Benjamins (from the book abstract).

“Where wise actions are the fruit of life, wise discourse is the pollination.”

Bryant H. McGill

Further reading

- Cook, Guy (1992). Chapter 1. What is discourse? In *Discourse*. Oxford: Oxford University Press, pp. 3-13.
- Hoey, Michael (1983). Chapter 1. Some questions about discourse. In *On the surface of Discourse*. London: George Allen & Unwin, pp. 1-16.
- Yule, George (1996). Chapter 13. Discourse analysis. In *The study of language* (2nd edition) Cambridge: Cambridge University Press, pp. 139-150.

References

- Grice, H. Paul (1975). Logic and conversation. In Peter Cole and Jerry L. Morgan (eds.). *Syntax and semantics 3: Speech acts*. New York: Academic Press, pp. 41-58.
- Halliday, Michael A. K. and Hasan, Ruqaiya (1976). *Cohesion in English*. London: Longman.
- Hoey, Michael P. (1983). *On the surface of discourse*. London: George Allen & Unwin.
- Hoey, Michael P. and Winter, Eugene O. (1986). Clause relations and the writer's communicative task. In Barbara Couture (ed.). *Functional approaches to writing: Research perspectives*. London: Frances Pinter, pp. 120-141.

12

Language and speakers

Chapter Preview

Who is a native speaker?

Who is a multilingual?

Are there universal stages of language development?

What are language loss and language death, and why do they happen?

12.1 Introduction

We started this book attempting to define what we mean by language. We highlighted two notions of language, language as a universal human faculty (captured in the French word *langage*) and language as a social phenomenon comprising the range of languages spoken by human beings around the globe (corresponding to the French word *langue*). Having discussed issues pertaining to different languages, language structure, meaning and use, we conclude our exploration of the nature of language by considering the users of language, and the seemingly trivial issue of what to call them. In the process, we address the issue of linguistic **taboo** in an area where it might be least expected: the language of language itself.

12.2 The natives

To be considered a *native* of a country, all you need is to be born in that country. The question here is: what does it take to be considered a **native speaker** of a language? The problem with the definition of the compound word *native speaker* lies in its modifier: how exactly does the stem *native* modify the head *speaker*? Judging by the flurry of literature addressing the definition of *native speaker*, there is no simple answer to this puzzle.

Take one example. Due to perceived racist connotations of the term *Indian*, North-American Indians are currently called *Native Americans*, a label that appears to suggest that people of non-Indian ethnicity who are born in the United States are not native Americans. In its current use, upper-cased *Native American* is in fact a hyponym of the superordinate term *American*, which includes both native-born Americans (only some of whom are Native Americans) as well as naturalised citizens.

In some cases, the definition of native speaker appears straightforward: a Briton who is born and bred in Britain, and is a monolingual speaker of English, is a native speaker of English. But what are we to make of the following situation? Born in France to monolingual French parents, Mathilde lived in France until the age of seven, then settled with her parents in a monolingual English-speaking country, where she attends school in English and has no contact with French except through her parents. Based on her interaction with her peers and teachers at school and in the playground, Mathilde acquires a mastery of English that is indistinguishable from that of her “native” schoolmates. Her French in turn is restricted to interaction with her parents.

Is Mathilde still a native speaker of French, even though her command of the language may not be native-*like*? Is Mathilde now a native speaker of English, since her command of the language is native-*like*? The answer to these questions holds a clue to the definition of *native* speaker. This can be summed up in the adage, once a native speaker, always a native speaker. In other words, being a native speaker has more to do with birth-right than linguistic proficiency. You are either a native speaker or you are not. You can neither become a native speaker, nor stop being one, as evidenced by the strangeness of formulations like *I became a native speaker of English at the age of seven* or *I stopped being a native speaker of French in my teens*.

To return to Mathilde’s situation, we could describe her as a native speaker of French and a *multilingual speaker of English*. We use the term **multilingual** to designate users of more than one language, thus including **bilinguals**, trilinguals, and so on. But this label does not entirely capture her native(-like) command of English. This is especially so given the fact that the labels *bilingual/multilingual* are often used synonymously with *semilingual*, as we shall see in section 12.3 below.

12.2.1 Language acquisition

All children acquire the language(s) that are spoken in their environment, and all children acquire language in the same way and at the same pace. At all stages of typical language development, universal patterns can be found. For

example, all children start by producing sequences like [gugugu], which give its name to the so-called **cooing stage**. Sequences like [bababa], [dadada], or [dididi] follow, in the **babbling stage**, but not sequences like *[faefæfæ]. Child preference for sequences like [babab] and [dada] is what explains the prevalence, in many different languages, of words constituted by a reduplicated sequence of [+stop +labial] or [+stop +coronal], followed by an open vowel, to designate *mummy* and *daddy*. Since time immemorial, parents all over the world have been eager to assign meaning to their children's productions, and preferably meanings that involve themselves as referents.

All children's babbling reflects uses of **pitch**, as well as other core components of any human utterance, in sequences of rises vs. falls, stressed vs. unstressed syllables or high-pitched vs. low-pitched syllables. These essential components of language are in fact the first ones used by children to communicate meanings, such as feelings, demands or queries, in the absence of words.

After the babbling stage comes the **one-word stage**, where children's utterances consist of single words only, all of which are lexical words. Common one-word utterances among English-speaking children include *Doggy*, *Ball*, *Drink* – closely followed, of course, by *No!*

Activity 12.1

In the speech of some English-speaking children, the following pronunciations are found:

sat	[tæt]	team	[tim]
tar	[ta]	Sue	[tu]
Sam	[tæm]	see	[ti]

Do these pronunciations match what you now know about child speech?
Why?

The **two-word stage** then follows, signalling the beginning of syntax. Collocations in child speech are as significant as in adult speech: child utterances like *Dolly give* and *Give dolly* mean different things.

As their linguistic development continues, all children go through stages where they apparently make mistakes like saying *drinked* and *comed* for *drank* and *came*. In fact, such mistakes signal the emergence of morphological **rules** in child speech. That is to say, mistakes such as the ones above suggest that the child has acquired the rule for regular past tense formation in English, but overgeneralises it to irregular verbs. **Overgeneralisation**, or *overextension*, is

apparent in other areas like word meanings, where a word like *moon* can be used to designate a full moon, a waxing crescent, a banana or a lemon wedge, on the basis of perceived similarities in form shared by all these referents.

Instances of overgeneralisation in child speech in fact constitute solid evidence against the popular view that children learn language through simple imitation of adult speech: the overgeneralised child forms do not occur in adult speech and cannot therefore be imitated. Rather, what children appear to do is to filter the speech they hear around them according to patterns that they progressively uncover. Child strategies to acquire command over the system behind adult uses of language are in this sense no different from those used by a code-breaker assigned the task of cracking a code. The difference between the two tasks is that children don't need to figure it out all by themselves. Adult and other older language users guide the child by means of **motherese**, the language that nurtures the development of language. Motherese (also known as **child-directed speech**, a euphemism that avoids the female denotation of the original word) mirrors the linguistic abilities that are perceived in the child, and progressively expands these. At the two-word stage, one example of an exchange involving motherese is shown below. The mother, who is trying to get the child to nap, pops a toy dog snugly into the child's bed and pats it:

Mother. *Shhh, the doggy is asleep!*
Child. *Doggy sleep?*
Mother. *That's right darling, the doggy is asleep. Very tired! You want to sleep too?*
Child. *Baby sleep!*
Mother. *That's right, baby can sleep too! Come, mummy helps.*

Motherese contains many imperatives and questions, uses of language that require active involvement of the listener in the exchange. Other typical characteristics of motherese include high-pitched voice and profuse repetition.

The apparent idle play of children has a crucial role in language acquisition too. To give but one example, children who suddenly discover the thrills of playing a game like *peekaboo*, which demonstrates the permanence of an object or a face despite concealment, are well on their way to understanding features of language such as **arbitrariness** (referents are independent of their names, or different languages have different names for the same referent) and **displacement** (we can talk about things that are not present).

Activity 12.2

Children's first words refer to people, objects and happenings in their immediate surroundings, e.g. *spoon, bath, sleep, bottle, give, nappy*, and, of course, *mummy* and *daddy*.

Can you find reasons why this should be so?

Insight into the process of language acquisition, or **ontogenesis**, gained through intensive research since the mid 1950s, has renewed interest into the question of **phylogenesis**, or the origin of language itself. The question is whether ontogenesis can be said to replicate phylogenesis, and thereby help shed light into the age-old question of how human beings came to develop language. Parallels that can be drawn between the patterns of early child speech and the most common patterns found in known languages appear promising. For example, early babble consists of repetitions of syllables of the form CV, or consonant followed by vowel, before children go on to tackle CVC, VC or other syllable shapes. Many languages have CV-shaped syllables only, and most languages that have other types of syllables have CV syllables too: a **CV-syllable** appears then to constitute a primeval component of words.

12.2.2 Language loss

The term **language loss** is usually associated with the waning or dissolution of language that concerns an individual speaker. Language loss can be caused by social factors like lack of prestige of a particular language, or language variety, due to value judgements associated with those languages, or to deliberate governmental policies. One example is the typical loss of the native language of second-generation immigrants, through pressure from peer or official environments where use of the native language is seen as refusal to conform to, or assimilate with, the mainstream or dominant culture.

Language loss can also be caused by factors such as disease or trauma. The term for language disorders stemming from brain damage caused by physical injury or disease is **aphasia**. In the 1940s, Roman Jakobson (1941/1968) proposed that the patterns in aphasic loss of speech sounds mirror, in reverse order, those found in the typical development of language in children. That is, the first speech sounds to be acquired are the last ones to go. For example, **plosives** are among the first sounds to be acquired by children, and among the last to persevere in aphasia. Jakobson's interpretation of these

observations as universal traits in language emergence and dissolution continues to raise controversy today.

Patterns in language pathology contribute insight to our understanding of human language in two chief ways. First, different modes of linguistic disruption test the robustness of the rules proposed to account for observed linguistic patterns, much like computer glitches test the robustness of a programme devised to perform a particular function. For example, if pathological conditions are found to result in the inability to use verbs, or inflected words, or [+ stop] sounds, then there is reason to believe that the word class *verb*, as well as the concepts of *inflection* and *stop* indeed constitute relevant theoretical constructs.

Second, disruption allows the setting up of hypotheses correlating particular types of **linguistic impairment** with specific locations of **brain** lesions. In the second half of the 19th century, two areas in the left hemisphere of the brain were found to play role in the production and in the comprehension of speech, respectively. The areas are named **Broca's area** and **Wernicke's area** (see Figure 12.1 below), after the researchers who first established that damage to these areas appear to result in particular types of speech impairment. Aphasics with injury to Wernicke's area, for example, produce fluent, grammatical speech whose lexical content is nonsensical. They also have difficulty understanding speech. In contrast, individuals with Broca's aphasia may have laboured speech, unusual word orders, and difficulties with function words such as *to* and *if*. Findings such as these suggest that grammatical and lexical processing of speech proceed along independent neural paths, and have spawned a flurry of current research into neural networks with the help of techniques such as functional neuroimaging.

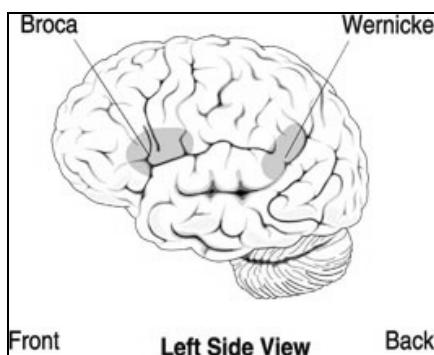


Figure 12.1. Approximate locations of Broca's and Wernicke's areas
(With permission, from <http://www.nidcd.nih.gov/health/voice/aphasia.asp>)

Activity 12.3

Here's one example of aphasic speech (from Goodglass and Geschwind, 1976).

Well this is... mother is away here working her work out of here to get her better, but when she's looking in the other part.

Would you say that this is more likely to be an example of Broca's or Wernicke's type of aphasia? Why?

12.2.3 Language death

Whereas language loss concerns individual speakers, the term **language death** is reserved for the extinction of a language affecting a community of speakers. Like language loss, language death can be caused by different socio-political factors. Regulating the use of language within national boundaries continues to be an effective means of controlling ideological dissent or access to power, on the well-founded premise that a language encapsulates the culture and values of its speakers. As the Portuguese poet Fernando Pessoa once said, "My motherland is my language".

Policies of linguistic subjugation (or "unification", or "planning", depending on one's point of view) are what banned the use of Catalonian and Basque in General Franco's Spain, and what lies behind debates that regularly flare up in multilingual countries like Canada and Belgium. **Minority languages**, or otherwise non-standard languages, are the usual targets of such policies. For example, banning the use of one minority language in schools effectively results in forcing its speakers to adopt the mainstream language, along with *its* culture and values. Monolingual speakers of the minority language are thereby barred from positions of power, for which official educational credentials are required. In practice, continued enforcement of such policies may result in the eradication of the targeted language from the country in question. If that language is not spoken elsewhere and, therefore, no new generation acquires it, the language effectively dies. Latin is often mentioned as the classic example of a **dead language** in that it is no longer transmitted across generations of speakers.

The global use of certain languages may also result in language death, this time because of suicide: speakers may voluntarily decide to stop using a language that they view as a hindrance to participation in a global community that uses another language. Linguistic globalisation therefore raises the parallel

issue of **language endangerment**. The reason why so much attention is currently paid to the preservation, or at least recording, of endangered languages is similar to that behind efforts to preserve and map the rainforest. Endangered languages are often spoken in remote parts of the world, where they remain untouched by global linguistic trends. Just as with the rainforest, there may be something there that tells us something we need to know, in that any language may provide us with invaluable insight about the nature of language itself.

Monolingual speakers of the three current **global languages**, English, Mandarin and Spanish, may count themselves lucky. By the happy accidents of birthplace or upbringing, these speakers have been raised to the enviable position of users of prestige languages. They need not worry about learning another language in order to be able to partake of the global cake. And, for the time being at least, the fate of Latin, a one-time global language too, need not worry them either.

Activity 12.4

See if you can find out which factors contributed to the death of Latin. Is there a cautionary tale here for today's global languages?

12.3 The multilinguals

As mentioned above, we use the term **multilingual** to refer to uses and users of more than one language, regardless of the number of languages involved in multilingualism. We do this on the assumption that there may be a difference between the use of just one language (monolingualism) and the use of more than one, but not between the use of two languages (bilingualism) and the use of more than two (multilingualism). In the literature, bilingualism is generally treated as being *essentially* different from monolingualism. To put it another way, the difference between monolingualism and bilingualism is seen as a difference in kind, whereas the difference between bilingualism and multilingualism is taken as a matter of degree.

One reason for this assumption may lie in the nebulous definition of **multilingualism** itself, and therefore of a multilingual. The term *multilingual* is used to label individual speakers as well as countries, individuals or groups of people that acquire several languages from birth, as well as those who learn a new language through schooling, or through settling in a different country. Clearly, each one of these is a different "multilingual", although findings about each multilingual type tend to be generalised to multilinguals as a

whole, by the use of the same word to label all users of more than one language. One added complication to the controversial definition of multilingualism is that there seems to be a reluctance to accept a multilingual as a **native speaker** of more than one language.

Definitions of a multilingual speaker range between extremes like ‘a multilingual knows several languages’ and ‘a multilingual is able to use several languages equally fluently in all circumstances’, both stumbling on the problem of how to quantify variables like “knowing” or “being fluent”, in order to draw comparisons. In addition, the latter definition begs the question: why would multilinguals need several languages, if they can do exactly the same thing with all of them?

We may want to start asking questions the other way around, in order to try to understand multilingualism. For example, why is a monolingual monolingual? Any monolingual will answer that they speak one language because they don’t need to speak more. The parallel with multilinguals and multilingualism then becomes clear – and perhaps not so odd, after all. People speak exactly the number of languages that they need to speak, in different settings, to different people, and for different purposes.

Activity 12.5

Work out a “map” of your own multilingual uses of language. Which language(s) do you use to whom, when, where and why?

Discuss your map with a partner/partners, and compare your findings.

Are all of you multilingual in the same way?

The fact that multilinguals have several languages at their disposal results in a sort of “buffet-effect” in their speech production, usually termed **mixes**. A mix concerns the occurrence of features that are ascribable to several languages in one utterance, and may involve any linguistic unit, from sounds through words to phrases. Just as a guest facing a rich gastronomic choice may want to sample the salad intended for the fish with a meat course, so multilinguals draw on the whole array of linguistic choices available to them in order to get their message through. Multilinguals do mix, but in exchanges with other multilinguals whom they know or suspect to share the same languages. In exchanges with monolinguals, multilinguals obviously recognise implicitly that mixes will result in disruption. Mixes do *not*, therefore, define multilinguals: they are simply the one feature of multilingual speech that

arouses the curiosity of researchers, because it is not found in the speech of monolinguals.

Multilingual mixes are often discussed as evidence of poor command of language. Consequently, mixers are sometimes viewed as **semilingual**. One reason for assigning this special linguistic status to multilingualism lies in the fact that many linguists are monolinguals and/or subscribe to theoretical frameworks that were devised to account for monolingual uses of language. Needless to say, trying to account for multilingualism from a monolingual perspective is rather like trying to understand siblinghood on the basis of one's experiences as an only child. Moreover, in terms of sheer number of speakers, multilinguals outnumber monolinguals, given that the majority of the world's population makes regular use of more than one language.

The view of mixing as a deficient use of language has deep historical roots that grow back at least to Ancient Greek thought, where language impurity was equated with mixing and change (anyone whose speech was unintelligible to monolingual educated Greeks was considered a “barbarian”). Here lies perhaps another explanation behind monolingual production being treated as the linguistic norm: the *one language* of monolinguals is treated as a language in its pure, unadulterated state, and therefore a true reflection of the human capacity for *language*. In view of our discussion, in section 1.1, concerning the ambiguity of the word “language” in the current language of science, English, such mix-ups (pun intended) are perhaps unsurprising. More importantly, they are reflected in virtually all the literature on mixing, where one language is taken as the core language of an utterance, upon which the other language(s) in the mixed utterance intrude(s). In this view, one language is seen to be disrupted by the other(s). If, on the other hand, we take mixed utterances as evidence of the use of **language** and not of the use of several **languages**, we may reach a different conclusion. Speech that, from a monolingual's perspective, is taken as mixed, may reflect instead the result of exploration of the accidental limits within which each particular language happens to vary, an exploration that is sanctioned by the open-ended nature of the language capacity itself.

An example may help clarify what we mean. The Malay word *malu* roughly means ‘bashful’. In Singlish, a colloquial language variety in Singapore, utterances like *Very maluating* and *Very maluated* are attested to mean, roughly, ‘very embarrassing’ and ‘very embarrassed’. Speakers of Malay may cringe at this defacing of a word in “their” language: the original *malu* has not only been converted from an adjective to a verb, but has also been suffixed with foreign inflections. Speakers of English may in turn cringe at the intrusion of what clearly is a foreign verb stem, whose meaning they may not understand, into “their” language. For these speakers, the Singlish utterances above are

mixed, neither Malay nor English, because they fail to follow the rules of Malay and of English. But *language* has no nationality, and therefore no owners, and its rules need not coincide with the rules of any individual language. If inflections of a particular kind are found useful in one language, why not overgeneralise them to another language where they happen not to exist? The plural of the “English” word *pizza* is *pizzas*, with an English inflectional suffix -s, not *pizze* as in the original Italian. Is the plural word *pizzas* a mix, then? From this perspective, it may well turn out that multilinguals do not mix at all. Rather, they are putting to communicative use the open-ended resources of *language* that are available to them.

Activity 12.6

Find examples of mixes in your own speech, and in the speech of other multilinguals around you. Try to classify these mixes into categories like:

- (a) Phonetic mixes: do you pronounce the words of one language with the accent and/or the intonation of another language?
- (b) Lexical mixes: which lexical words do you find handier to mix into another language?
- (c) Morphological mixes: do you add morphemes of one language to stems of another language?
- (d) Syntactic mixes: do you use the words of one language with the syntax of another language?

Discuss any patterns that you find with a partner/partners.

12.4 The others

The vagueness of the word “others” in this section is deliberate, and a form of self-inflicted linguistic **taboo**. All cultures have taboos, social bans restricting or prohibiting certain behaviours, which, if ignored, can result in social sanctions of various kinds.

The term itself is of Polynesian origin, and was first noted by Captain James Cook during his visit to Tonga in 1771. The Maori word *tapu* denotes the prohibition of an action or of the use of an object based on ritualistic distinctions between the sacred or consecrated, on the one hand, and the dangerous, unclean, and accursed, on the other. These social taboos often include linguistic taboos prohibiting the mention of certain events or entities considered either sacred (e.g. gods, religion, birth and death) or profane

(certain bodily functions). Given the ban on words considered offensive in polite company, new words come to stand in for the tabooed ones, resulting in the occurrence of **euphemism** in all languages. Euphemistic words start off lacking the negative connotations associated with the tabooed words that they replace. But, because speakers know that euphemisms are stand-ins for tabooed expressions, over time the euphemisms themselves become negatively loaded and in need of replacement by new euphemisms.

The label “the others” is an instance of euphemism operating in the language of language. In what follows, we use it to refer to ‘non-native’ users of language. There are several reasons for avoiding the label *non-native*, one of them being that if there is no agreement on what a native is, then obviously there can be no agreement on what a non-native is either. The label **non-native speaker** generally refers to speakers who acquire a language either as a so-called second language, usually a language spoken in the country where the learner lives (for example, Malay in Singapore), or as a foreign language, where the language is not spoken in the country of the learner (for example, Japanese in Singapore). The term “second language”, confusingly, applies even to cases where that language may be the learner’s third, or fourth, and so on. Both second language and foreign language learning situations typically involve traditional methods of language teaching usually in a school setting. A distinction is sometimes made between **language learning**, through schooling, as mentioned above, and **language acquisition**, through parent-child interaction.

A second reason for avoiding the label *non-native* is that, as we have observed in this chapter, where matters of language description encroach upon touchy human matters of culture and national policies, scientific labels may undergo the same fate as euphemisms, becoming loaded words instead. The fact is that both the word *native* and its presumed opposite *non-native* have acquired connotations that complicate their definition in any scientifically useful way. A molecule or a prefix won’t feel affronted by being called *molecule* and *prefix*, whereas human beings can and do take offence at being called *non-native*. In much current research, both words are simply replaced by euphemistic acronyms, *NS* for ‘native speakers’ and *NNS* for ‘non-native speakers’, with no attempt at defining these. Alternative labels include *first-language learner* vs. *second-language learner*, or *L₁ user* vs. *L₂ user*, none of which have been usefully defined either.

For example, should people who speak, from birth, a language that was once imported to their country be labelled native speakers of that language? This is the situation faced by many speakers of English in India and most speakers of Portuguese in Brazil. But the language situation in these two countries is quite different. In terms of official language policy, Brazil is a

“monolingual” country, because it has one official language, whereas India is not a monolingual country, because it has more than one official language.

Another example of a touchy issue concerns the current debate about whether Spanish should be recognised as an official language in the United States, given the increasing weight of the language in the country. Granting official status to a language means of course that its speakers, including monolinguals, are to be treated on equal footing with speakers of other official languages, for all purposes and in all circumstances. This is where language, ideology and power become enmeshed. There is a huge difference between labelling Spanish speakers as non-native speakers of the official language of their country and labelling them as native speakers of one of the official languages of their country. The former labels them as outsiders (*the others* of our section heading) whereas the latter empowers them as insiders.

Activity 12.7

Re-read the last two sentences above, repeated here for convenience:

*‘There is a huge difference between labelling Spanish speakers as non-native speakers of the official language of their country and labelling them as native speakers of one of the official languages of their country. The former labels them as outsiders (*the others* of our section heading) whereas the latter empowers them as insiders.’*

Do you agree that the difference we are talking about here is “huge”, whether for Spanish speakers in the United States or for other speakers in a similar situation? Why?

In what way are insiders “empowered” through the use of one language?

In much of the literature, non-native uses of language are described as instances of **multilingualism**, in the way suggested in section 12.1, particularly where use of the dominant language of a country by immigrant populations is concerned. Whatever the definition of multilingualism, it clearly concerns **language contact**, including in its pidgin and creole forms, as pointed out in section 2.4.1. As was also remarked there, contact uses of language provide valuable insight into language in the making. For example, multilingual children and pidgin speakers often use the grammatical constructions of one of their languages with the lexical words of the other(s), pointing to separate neural processing of the two levels of linguistic

structuring. The same separation was noted in instances of language dissolution, in section 12.2.2.

In addition, instances of multilingualism constitute strong factors of **language change**, in that the users, having access to more than one language, are at greater freedom to explore the creativity of language itself. Multilingual exploration may proceed through **overgeneralisation** of perceived rules, mirroring the common process in language acquisition mentioned in section 12.2.1. Children's use of language constitutes another important factor of language change. Drawing on the morphological pattern of words like *cooker* and *blender*, monolingual children as well as multilinguals of all ages may produce forms like *clipper* for 'scissors' or *pumper* for 'pump', usefully compositional forms which may be "wrong" from the perspective of common uses of English but are certainly "right" from the perspective of possible uses of the language. Any word or construction that is current in a language must obviously have been introduced sometime in the history of that language in precisely this novel way, and thereafter gained use through acceptance of its usefulness by other language users (see the discussion of language change in section 2.4).

Activity 12.8

The following sentence was said by a non-native speaker of English. The underlined word in the sentence is not a standard word of English.

We have been looking for those weapons, but the search has been resultless so far.

Can you explain how the speaker created this novel word?

Can you explain why the meaning of the word is clear to speakers of English?

Unexpected uses of language such as these raise the matter of **intelligibility**. In linguistic exchanges involving one language, the common assumption among speakers seems to be that if we speak the same language, then we do it in the same way. Recall, from section 1.1, that sender and receiver must share the ability to decode each other's message, so that communication can take place. "One language" is thus taken to mean 'the same code'. In actual fact, the situation is quite different. Take the case of communication in English. Its status as a global **lingua franca** means that most of the exchanges in English around the world take place among native speakers of other languages. A Portuguese businessman attempting a deal with a Japanese counterpart will in

all likelihood speak the English that he learned in school, in a Portuguese classroom, from native speakers of Portuguese, and with the help of Portuguese glosses and paraphrases to clarify obscure uses of English. That is, he will have learnt English not as a language in itself but as some “variant” of Portuguese. The same is true of the Japanese speaker of English, both speakers being unaware that they are in fact speaking different Englishes, and that disruption may therefore arise in their uses of their “shared” language.

Here’s one example that one of the authors of this book witnessed at an international conference. An Asian participant gently reminded the Scandinavian presenter that she had exceeded her allotted twenty minutes, and asked if he could please ask some questions on her very interesting paper. The presenter checked her watch, apparently baffled by her miscalculation. Turning to the Asian gentleman, she cried “It’s not true!”, a literal translation of a Scandinavian apology rendered into English. The reaction of the Asian gentleman, and of most of the remaining audience, was to leave the room. The Scandinavian speaker had unwittingly insulted her audience by implying that they were liars. The irony is that the conference was on the topic of teaching English as a second language.

Proficiency differences between first and second/foreign languages, ranging from accent to pragmatic uses, have fed the much-debated issue of the so-called “**critical period hypothesis**” – the belief that the human capacity for learning language is limited to a critical age-range, variously set between early childhood and the late teens, beyond which the acquisition of a new language is either impossible or severely impaired. As evidence, researchers point to the failure of non-native speakers to reach native-like linguistic proficiency, a goal that is in itself questionable: which native variety should learners strive to emulate, and for what purposes? But the main issue is that supporters of a “critical period” fail to take into account the ways in which the new language is learnt. In traditional school settings, for example, learners are force-fed vocabulary lists and rules of “grammar” instead of being given the chance to use the language naturally in a variety of settings. Expecting these learners to achieve full linguistic proficiency is like giving aspiring bike-riders a description of the component parts and mechanics of a bicycle, and expecting them to be able to ride it. Fluent command of language arises from natural interaction among speakers, the one form of learning to which second and foreign language users generally have little or no access. In addition, keeping in mind that motivation, not age, is the prime mover of human achievement, including language acquisition, the assumption of a “critical learning period” is in fact a non-issue.

Matters of intelligibility arise not only across languages, but also within languages. Users of different language varieties might be perceived as non-

native speakers by those who speak a different variety of the same language. In Chapter 2, we highlighted the twin phenomena of linguistic **convergence** and **divergence**. In linguistic convergence, speakers adapt their speech patterns at the level of word, grammar and/or intonational choices to speak more like their conversational partners, thereby narrowing the sociolinguistic differences between themselves and their partners. We can see convergence at work in the way adults accommodate their speech when addressing young children, in order to match the child's linguistic proficiency. Similarly, when speaking to someone perceived to be of lower status than ourselves, we converge towards their speech patterns in order to reduce social distance through speech. Conversely, speakers may choose linguistic divergence to highlight the social differences between themselves and their conversational partners.

Activity 12.9

Find patterns of convergence and divergence in your own uses of language. Try also to work out the reasons for your choices of language use when you converge with, or diverge from, your interlocutors' use of language.

In terms of speakers of different varieties of the same language, the question that arises is: do non-natives want to speak like natives and, if so, which natives? Research into these matters reveals apparently paradoxical findings, to the effect that a British accent, say, is evaluated by non-British listeners as correlating with higher levels of intelligence, education and politeness compared to other accents of English, while the same listeners state that they would at all costs avoid the use of such an accent because they don't want to sound "posh" or "pretentious" (recall the Lette quotation in the Food for thought section of Chapter 2). Faced with linguistic dilemmas such as these, speakers often settle for what can be usefully viewed as another form of multilingualism, where international-like and local-like varieties of the same language are used in distinct situations. Examples of these choices are the uses to which Singaporean speakers put varieties like Singapore Educated English and Singapore Colloquial English (*Singlish*), or the uses of Standard German and Swiss German (*Schweizerdeutsch/Schwyzerdütsch*) in German-speaking parts of Switzerland.

In our discussion of dialects in section 2.5.1, we highlighted that a dialect is a regional language variety which characterises a speech community, whose members *choose to see themselves* as speakers of the same language. In other

words, whether or not some variety is a language or a dialect is as much a socio-political question as it is a linguistic one. The same comment can be made about intelligibility. Whether two speakers find themselves mutually intelligible has to do with the relationship among them. Intelligibility concerns *whom* we are communicating with, whether *we* really want *them* to understand us, and whether *they* really want to understand *us*. Local uses of a language, from accent through syntax to pragmatics, can effectively screen off uninitiated speakers, and therefore be used as a weapon in demarcating one's territory, or linguistic identity. As one Hong Kong native once put it, in response to an Englishman's baffled query about whether it was really English that people were speaking to him, "Everybody speaks English in Hong Kong, but nobody understands what you say."

12.5 Several speakers, one language

Our investigation of human language and its users throughout this book may at first sight suggest that human beings all over the world are talking at cross-purposes from within the well-protected codes of their individual languages. A closer look, however, reveals the opposite trend. The recurrent and fruitful application of constructs like *lexical word*, *constituent*, *phoneme*, *distribution*, *intonation*, *register*, to forms and uses of language across different languages and speakers compels us to realise that we all speak the same language. This is no different from saying that I am similar to a gecko or a lion in terms of my anatomical structure in that all three of us can be usefully described by a label like *vertebrate*, which distinguishes us from invertebrates like jellyfish and snails.

The lexicon of linguistics, dreaded by generations of budding linguists, is no different either from the lexicon of any other language, technical or otherwise. In the same way that it is easier to use a word like *cat* for the complex being designated by the term *cat*, it is also more economical to use shorthand like *suffix* for 'a bound morpheme that attaches to the right of a stem' and *homophones* for 'words that sound the same but are spelt differently'. Learning technical terminology is like learning a foreign language, at times more puzzling because the words of that language may be the same as those of familiar languages, only with new meanings. The language of language, by the very nature of its object and its users, encapsulates a culture, too, with associated taboos, ambiguities and deliberate vagueness, and with a choice of labels that, expectedly, reflects human interaction and human forms of social organisation. *Natural classes*, *contexts* and *alternations* mirror peer-groups, favourite hangouts and variant ways of behaving in different settings in

everyday life. Similarly, linguistic *heads*, *sisters* and *adjuncts* behave in similar ways to the human beings in the relationships described by these labels.

Linguistics provides us with the tools that crack the code of our common language. Giving you a first glimpse into the unifying nature of the language of language has been the purpose of this book.

Food for thought

Emir (age 4): “I can speak Hebrew and English.”

Danielle (age 5): “What’s English?”

Quoted in Jill G. de Villiers and Peter A. de Villiers (1978).
Language acquisition. Cambridge MA: Harvard University Press.

“And what should they know of English who only English know?”

Adapted from Rudyard Kipling (1891/1949). *The English Flag*.
In *Rudyard Kipling's Verse*. London: Hodder and Stoughton.

Browse through this book and through the readings suggested in each chapter, this time from the perspective of linguistic forms and uses that you’re familiar with from languages other than English, the language from which most of our examples were drawn. In doing so, make it clear to yourself why the shared patterns found in different languages indeed support a view of spoken language as a cohesive whole.

Further reading

- Aitchison, Jean (2001). Chapter 10. The reason why: Sociolinguistic causes of change. In *Language change: Progress or decay?* (3rd ed.). Cambridge: Cambridge University Press, pp. 133-152.
- Gleason, Jean Berko (2005). Chapter 1. The development of language: An overview and a preview. In Jean Berko Gleason (ed.), *The development of language* (6th ed.). Boston: Allyn and Bacon, pp. 1-38.
- Kachru, Braj B. (ed.) (1992). *The other tongue: English across cultures* (2nd ed.). Urbana: University of Illinois Press.

Obler, Loraine K. (2005). Chapter 11. Developments in the adult years. In Jean Berko Gleason (ed.), *The development of language* (6th ed.). Boston: Allyn and Bacon, pp. 444-475.

References

- Goodglass, Harold and Geschwind, Norman (1976). Language disorders. Aphasia. In Edward Carterette and Morton P. Friedman (eds.), *Handbook of perception: Language and speech (vol. 7)*. New York: Academic Press.
- Jakobson, Roman (1941/1968). *Child language, aphasia, and phonological universals*. The Hague: Mouton.

Technical notation and terms

Below is a summary of the notation conventions used in this book, followed by a table of technical terms. The table shows the different forms that each term can take, to help you select the appropriate one for your purposes.

Summary of notation conventions

X __ Z represents the distribution frame of a linguistic unit. The blank represents the relevant unit. X and Z represent the linguistic units immediately before and after the relevant unit, e.g.

Det __ N represents the distribution frame of Adj

Det __ represents the distribution frame of N

{ } Curly brackets are used in morphology to enclose morphemes, e.g.

the word *unhappiness* comprises the morphemes {*un*-}, {*happy*}, and {-*ness*}

the word *challenging* comprises the morphemes {*challenge*} and {-*ing*}

{ } Curly brackets (or braces) are also used in syntax, in phrase structure (PS) rules, to denote alternative constituents, e.g.

$$\text{NP} \rightarrow \left\{ \begin{array}{c} \text{Det} (\text{Adj})^* \text{ N} \\ \text{Pr} \end{array} \right\}$$

[] Phonetic symbols appear within square brackets, e.g. [f], [b], [m]

Phonetic transcriptions appear within square brackets.

Allophones appear within square brackets.

/ / Phonemes appear within slashes, e.g. /f/, /b/, /m/

Phonemic representations appear within slashes.

- Used in PS rules to mean ‘expands into’, ‘is constituted by’, ‘is rewritten as’
- () Used in PS rules to denote optional constituents
- * An asterisk before an example indicates that the use of language in the example is ungrammatical (syntactically unacceptable or non-occurring)
- * An asterisk after a linguistic unit indicates one or more of that unit
- # before an example, indicates that the use of language in the example is semantically odd or unacceptable.

Technical terms and how to use them appropriately

Noun use	Verb use	Adjective use	Adverb use	Agent use
active	-	active	actively	-
adjective	adjectivise	adjectival	adjectivally	-
adjunct	adjoin	adjunct	-	-
adverb	-	adverbial	adverbially	-
affix affixation	affix	affixed (word)	-	-
agreement	agree	-	-	-
ambiguity	-	ambiguous	ambiguously	-
anaphora	anaphorise	anaphoric	anaphorically	-
articulation	articulate	articulated	-	articulator
compound	compound	compounded	-	-
conjunction	conjoin	conjunctional	conjunctionally	-
conversion	convert	converted	-	-
coordination	coordinate	coordinate(d)	coordinately	coordinator
derivation	derive	derived (word) derivational (affix)	derivationally	-
diagram	diagram	diagrammatic	diagrammatically	-
grammar	grammaticise	grammatical	grammatically	grammarian

Technical notation and terms

Noun use	Verb use	Adjective use	Adverb use	Agent use
head	head	headed	-	-
inflection	inflect	inflected (word) inflectional (affix)	inflectionally	-
lexicon	lexicalise	lexical	lexically	lexicologist
linguistics	-	linguistic	linguistically	linguist
morphology	-	morphological	morphologically	morphologist
noun	nominalise	nominal	nominally	-
object	-	object	-	-
passive	passivise	passive	passively	-
phonetics	-	phonetic	phonetically	phonetician
phonology	-	phonological	phonologically	phonologist
phoneme	-	phonemic	phonemically	
phrase	phrase	phrasal	-	-
plural	pluralize	plural	-	-
preposition	-	prepositional	prepositionally	-
pronoun	pronominalise	pronominal	pronominally	-
science	-	scientific	scientifically	scientist
semantics	-	semantic	semantically	semantician semanticist
singular	-	singular	-	-
subject	-	subject	-	-
subordination	subordinate	subordinate(d)	subordinately	subordinator
syntax	-	syntactic	syntactically	syntactician
verb	verbalise	verbal	verbally	-

Commentary on Activities

Chapter 1. Language and linguistics

Activity 1.1

There is no right or wrong answer here. The purpose of this task is twofold: to make you aware that the same word can have different meanings for different people; and to give you practice in observing emerging trends. In comparing different people's ideas of what the term *grammar* means, did you notice any clear patterns emerging? For instance, did most people think of grammar as the "right" or "proper" way to speak or write? This is what linguists mean by prescriptive (as opposed to descriptive) grammar. For more on the two kinds of grammars, keep reading section 1.2.

Activity 1.2

Statement (a) *Multilinguals should avoid mixing their languages when they speak* is prescriptive. Statement (b) *Mixing languages is common in multilingual speech* is descriptive. This is because statement (b) tells us what happens in multilingual speech. It asserts what **is** the case, not what ought to be. Statement (a) is prescriptive because it tells us how multilinguals ought to speak, rather than describing how they actually do speak.

Activity 1.4

Most people would interpret the *No durians* sign to mean roughly the same as the *No bicycles* sign, rather than the *No bananas* sign, i.e. to express a prohibition. This is because buses and trains are not the usual venues for buying fruit. In other words, we are combining our knowledge of the world (places where fruit can be bought and sold) and our linguistic knowledge to infer that the *No durians* sign must be saying that durians are forbidden on the bus or train, rather than that they are unavailable for purchase on the bus or train.

Chapter 2. Language and languages

Activity 2.1

You may or may not use the same word in other languages to render the meaning of ‘badness’ that is conveyed by the English word *bad*. If you do, then the concept of ‘badness’ is similar in English and in those languages. If you don’t, then there are different concepts of ‘badness’ for English and for languages that use different words to render the English meaning. The point of this Activity is to highlight the ways in which language meanings may or may not differ across languages, according to how concepts are encapsulated in words of the language. Coffee, girls/boys, moods, etc. can be “bad” in the same way or in different ways across different languages, by using the same word or different words, respectively, to qualify them.

Activity 2.2

Given the title of the book from which the quotation is taken, *On Translation*, it is likely that R. Jakobson wanted to make at least two points here. One, languages differ because they serve different purposes for different people in different places. Two, despite the idiosyncrasies of each particular language, the languages themselves offer ways of bridging those idiosyncrasies across languages. What matters is the meanings that languages convey, not the specific words or the specific grammar through which meanings are expressed. If this were not so, there would be no translations and no translators – and non-speakers of English, for example, would be unable to enjoy reading Shakespeare!

Activity 2.3

You, and the vendor, are likely to end up using a kind of pidgin to make yourselves understood to each other: single words from your respective languages, simply put together with no grammatical frills. The bottom line seems to be that if human beings want to communicate, they will use speech. Where there are no common languages, we will create one on the spot, to serve the purposes of the moment. This is how pidgins arise.

Activity 2.4

By the given definition, Hokkien and Mandarin are two different languages. Portuguese and Spanish are dialects, and so are Swedish, Norwegian and Danish. But dialects of *which* language?

The central word here is probably “national”. A sovereign country will have one national language (sometimes more), regardless of whether its citizens and citizens of other sovereign countries understand each other. A

national language is part of a country's identity that *chooses*, as we say in section 2.5.1, *to see itself* as speaking the same language.

Other examples are Hindi and Urdu, or Serbian and Croatian, which were once the "same" language and currently are different ones. In short, what defines a language, as opposed to a dialect, is often based on political reasons/motivations rather than linguistic ones.

Activity 2.5

It is likely that males and females use language in different ways, ranging from choice of words to tone of voice. Males and females will probably have at least passive knowledge of typical ways of speaking for the opposite sex, within the "same" language. The same holds for children and adults, for example.

Activity 2.6

This Activity will show that you (and your partners) speak differently in different situations and to different people, including familiar people, strangers, etc. It will also show you that you expect different ways of speaking from different people in different situations, making clear the adaptability of language to the purposes of communication and to interlocutors in different communicative exchanges.

Activity 2.8

International communication through the same language would eventually break down if standards of expression in that language were not enforced across users of that language in different countries. A lingua franca must serve all its users in a global way.

We saw in this chapter that language use varies with geography, social class, etc. This means that people will use the same language differently. Local, social, individual uses of one language will not serve the purposes of international communication. For a language to gain international usefulness, a standard, or set of standards, must be agreed upon among all users of that language, so that all users can understand the language and make themselves understood in it.

Standardised versions of languages are in this sense not much different from standardised versions of computer software, rock music or fashion trends that are meant to appeal to international users.

Chapter 3. The grammar of words: words and word parts

Activity 3.1

Your spelling and rhythmical intuitions will probably make you count 9 words in sentence (a) and 7 words in sentence (b), regardless of whether *blackbird* and *greenhouse* contain two “words” each in (b).

Activity 3.2

Both forms (computer) *mice* and (computer) *mouses* are attested among speakers of English. The form *mouses* shows our tendency to regularise the forms of new words in a language.

Activity 3.3

1. Yes. Count nouns follow *many* and mass nouns follow *much*.
2. much _____

Activity 3.4

- (a) am: auxiliary, finite.
doing: main, non-finite.
- (b) am: main, finite.
- (c) have: auxiliary, finite.
been: auxiliary, non-finite.
- (d) have: auxiliary, finite.
- (e) did: main, finite.

Activity 3.5

Speaker A uses *time* as N (cp. “the time”) and *flies* as V.

Speaker B’s line takes *time* as V, as if A’s line were a command, and *flies* as N (cp. “the flies”).

Activity 3.6

The adverb *sadly* modifies the whole sentence.

Activity 3.7

Yes. The data show that if *all*, *my* and/or *three* occur in the same phrase, they must appear in a certain order, *all* before *my* – and both before *three*. Since the distribution of each of these determiners is different, they must be different types of determiner.

That is, distribution helps us decide not only about word classes, but also about subclasses, or subtypes, within word classes.

Activity 3.8

1. That: Det, because it precedes N, *man*.
2. that: Pr, because it can replace Det + N, e.g. *that problem*.
3. his: Pr, because it can replace Det + N, e.g. *his plate*.
4. his: Det, because it precedes N, *choice*.

Activity 3.10

Findings will be that the number of repeated grammatical words is much larger than the number of repeated lexical words. That is, the total number of grammatical word tokens is much larger than the total number of lexical word tokens.

This means that the text will have many more lexical word types than grammatical word types, confirming our understanding of lexical word classes as “open classes” and grammatical word classes as “closed classes”.

Activity 3.12

This definition builds on the sound represented by *-ee*. This is here taken as the morpheme *-ee* found in other English words like *addressee*, *interviewee*, with the same meaning of “someone to whom something is done”.

Activity 3.13

rubbish: simple, one free morpheme.

shoulder: simple, one free morpheme.

girlish: complex, one free morpheme *girl*, one bound *-ish*.

friendship: complex, one free morpheme *friend*, one bound *-ship*.

party-goer: complex, two free morphemes *party* and *go*, one bound *-er*.

harness: simple, one free morpheme.

Activity 3.15

1. *a cat, an essay, an understatement, a salad, an armchair, an opportunity, a van, a necklace*.
2. Our hypothesis is confirmed.

Activity 3.17

The word *armies* is taken as comprising three morphemes, *arm -y/-ie* and *-s* (cp. doggies, horsies). That is, the word is taken as a form of the word *arm*, not as the plural of *army*. The word *sleeries* is then built using the same “morphemes” *-y/-ie* and *-s*, added to *sleeve*.

Chapter 4. The grammar of words: word building

Activity 4.1

The morpheme *un-* appears together with a noun, *fun*. Although this is possible in English, e.g. *unrest*, *unbelief*, *un-* usually appears together with adjectives. The word *unfun* is a novel word of English, in this advertisement.

Activity 4.2

Stems: room, happy, dark, song, bird.

Affixes: *-s*, *un-*, *-ment*.

The words *rooms*, *unhappy*, *darkrooms*, and *songbird* are well-formed because they comprise affixes that attach to stems, or stems that attach to stems.

The form **unments* is ill-formed because it contains only affixes.

Activity 4.3

No, because *able* is a stem in *unable*, not an affix. Compare:

Small children are quite able to keep still for long periods of time.

Activity 4.4

Two, *grace* and *disgrace*. The affix *dis-* first attaches to the stem *grace* to form *disgrace*, a new stem to which *-ful* then attaches to form *disgraceful*.

Activity 4.6

Four verbal inflections: *bakes*, *baked*, (have/has) *baked*, *baking*.

Two nominal inflections: *cats*, *cat's*.

Two adjectival inflections: *sharper*, *sharpest*.

Activity 4.7

unhappy: *un-* + Adj → Adj, ‘not Adj’

Examples: unfair, unfriendly, unreliable.

commitment: V + *-ment* → N, ‘the result of Ving’

Examples: embarrassment, statement, engagement.

Activity 4.8

In compounds, the stems attach to each other. This is not the case for the two stems in the word *disgraceful*. This word is derived.

Activity 4.9

The play assumes that the meaning relationship between the stems in *olive oil* and *baby oil* is the same. Paraphrase shows that this is not so:

olive oil: oil made of olives;

baby oil: oil for babies.

Activity 4.10

All can be ambiguous, due to different parsing.

busy family schedule: [busy] [family schedule], where the schedule is busy, vs. [busy family] [schedule], where the family is busy.

toy car factory: [toy] [car factory], meaning a factory that is a toy, vs. [toy car] [factory], meaning a factory that produces cars which are toys.

wooden door latch: [wooden] [door latch], where the latch is made of wood, vs. [wooden door] [latch], meaning a latch (of any material) for a door made of wood.

Activity 4.11

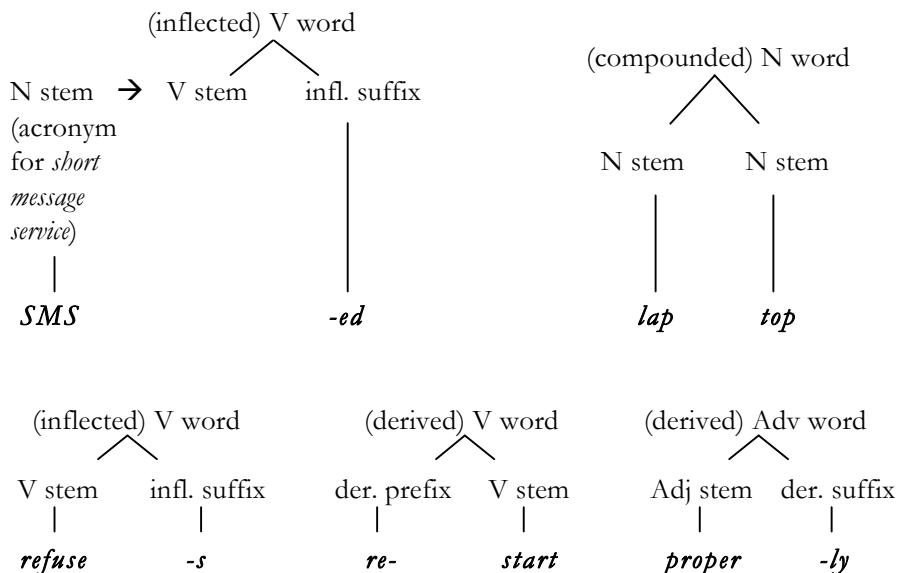
The word *shorts* is clipped from *short-circuits*, which an electrician can “remove”. The play then concerns another clipping, *shorts* from *short-legged garments*.

Activity 4.12

1. The initialisms/acronyms are formed from the initial letters in the first two syllables of the first word (e.g. BK for *Bukit*), plus the initial letter of the word *expressway*.
2. Central Expressway: CTE
Tampines Expressway: TPE

Activity 4.14

As in the examples in section 4.5.2, we use the abbreviations *der.* and *infl.* for *derivational* and *inflectional*, and an arrow to indicate conversion.



Chapter 5. Speech sounds

Activity 5.2

All of these sounds are nasal: when your nasal cavities are blocked, you can't pronounce them. What you pronounce are the oral counterparts of these sounds.

Activity 5.3

The sound in *oh* is the vowel, produced with a smooth airflow.

The sound in *sh!* is a consonant, produced with a turbulent airflow that indicates major obstruction in the vocal tract. This obstruction, in the case of *sh!*, results in friction.

Activity 5.4

Word	Transcription	Word	Transcription
fang	[fæŋ]	goof	[guf]
moose	[mus]	piece	[pis]
scarf	[skɑf]	snack	[snæk]
speak	[spik]	tax	[tæks]

Activity 5.5

- (a) plosives: [-son +stop]
- (b) nasals: [+son +stop]
- (c) fricatives: [-son -stop]
- (d) vowels: [+son -stop]

Activity 5.6

With ✓ for circling:

1. (a) [+high] ⇒ [-low] ✓
(b) [-low] ⇒ [+high]
(c) [+stop] ⇒ [-son]
(d) [+voice] ⇒ [+son]
(e) [+son +stop] ⇒ [+nasal] ✓
(f) [+cor] ⇒ [-dent]

2. (a) [+dental +coronal]
(b) [+front +back] ✓
(c) [-front -back]
(d) [+sonorant +stop]
(e) [+nasal -stop]
(f) [+cor +lab]

Chapter 6. The grammar of sounds

Activity 6.2

1. (a) [bæt] bat; [but] boot; [bæd] bad; [bæŋ] bang.
(b) vowels: /i, æ, u/; consonants: /t, d, ɳ/. These sounds all form new words when replaced by one another in the same contexts.

2. None. [vin] is a possible English word, but it doesn't exist in the language, so we can't know its meaning. And *[vɳn] is not a possible word of English.

Activity 6.3

Answers will vary. The words form a minimal pair only for those who pronounce them [ləd] and [laʃ], respectively.

Activity 6.4

1. Vowels are long before voiced consonants.
2. Allophones, because they are in complementary distribution, and are exactly the same in terms of their articulatory features except for their length.

Activity 6.5

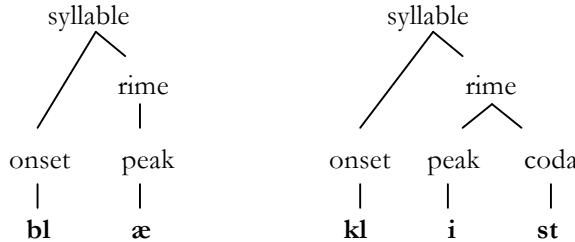
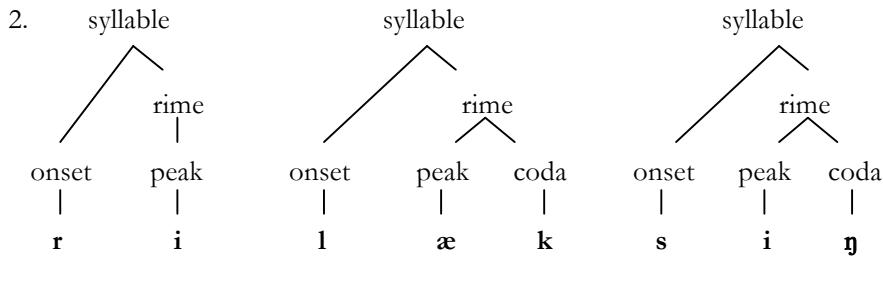
1. /-iz/, /-s/ and /-z/.
2. /-iz/ after /s/ and /z/.
/-s/ after any other voiceless sounds.
/-z/ after any other voiced sounds.
3. /gæŋz/, /binz/, /kruz/, /kæps/, /flisiz/, /tægz/.

Activity 6.6

- a. 2; b. 1; c. 2; d. 1; e. 1.

Activity 6.7

1. /ri.læk.sinj/, /blæ.klist/, /mɑ.skiŋ/, /buk.mɑ(r)k/



Activity 6.8

After each syllable in Su.ni.ta and Ma.da.le.na, add one extra syllable that keeps the peak/rime of the original syllable and replaces its onset by [p].

Activity 6.9

The construct that is NOT required is *coda*.

Recap: Syllable → (onset) rime

A syllable comprises an optional onset and a rime.

Given this syllable structure rule, the phonological rule for the answers in *Pink Stink* might be articulated as follows:

Repeat the syllable, changing just the onset.

OR

Repeat the syllable, keeping the rime constant.

Chapter 7. The grammar of sentences: slots and phrases

Activity 7.1

The sequences in (a), (d) and (e) form one constituent.

The sequence the park last week is not a single constituent because *last week* can be moved independently of *the park*.

The sequence Our neighbour saw is not a single constituent because *our neighbour* can be replaced with *she* or *he* independently of *saw*.

Activity 7.2

1. AdjP / Adjective phrase.
2. Substitution shows that the constituent can be replaced by one of its words, *dark*, but not the other. The word *dark* must therefore be the head of the phrase, and since this word is Adj, we label the phrase AdjP.

Activity 7.3

- (a) Internet businesses: NP comprising just a head (compound N).
Profitable gold mines: NP comprising head *gold mines* (compound N) and modifier *profitable* (Adj).
- (b) really tall: AdjP comprising head *tall* (Adj) and modifier *really* (Adv). *tall* is the head because *really* is optional, but *tall* is not.
- (c) extremely well: AdvP comprising head *well* (Adv) and modifier *extremely* (Adv). *well* is the head because *extremely* is optional, but *well* is not.

Activity 7.4

All but *a fashion model*, which has Det + N + N, obey the rule.

If *fashion model* is seen as a compound N, then it too obeys the rule.

Note! behaving like a scientist/linguist:

If a phrase doesn't obey a PS-rule, yet is a well-formed phrase, then we need to modify our rule, since it does not capture well-formed possibilities.

If a phrase obeys a PS-rule but is considered ill-formed by speakers of a language (variety), then the rule yields incorrect predictions, and also needs to be modified.

Activity 7.5

No. NP is the label for a constituent, i.e. for a syntactic slot. The literature often takes it as shorthand for 'N modifiers + noun', instead. If Pr "replaces" the constituent, then the constituent is no longer there. Pr cannot therefore be said to be the head of a non-existing NP.

What Pr can replace is the N and its modifiers within an NP.

Activity 7.6

$NP \rightarrow (\{Adj, N\}) N$

You may want to revisit this Activity after you've worked through section 7.5.1.

Activity 7.7

1. AdvP/adverb phrase. The constituent is in fact a coordinated AdvP, i.e. an AdvP consisting of two coordinated AdvP.
2. Substitution shows that the constituent can be replaced by one Adv only (e.g. *slowly, awfully*), so Adv must be the head of the phrase, and the phrase is labelled accordingly.

Chapter 8. The grammar of sentences: slots and functions

Activity 8.1

Adverb is a word class, *adjunct* is a syntactic function.

Adverbs generally function as adjuncts, but not all adjuncts are adverbs. The data show the following constituents as adjuncts:

- (a) PP; (b) Adv; (c) NP; (d) S.

Activity 8.2

No. The subject is the NP *That fat cat* (the whole sequence can be replaced by a pronoun): subjects, objects, etc. are functions played by phrases, not heads of phrases.

Activity 8.3

Play on a (compound) noun vs. subject + verb (both simple words) taken as object of V *see*.

A's line has one sentence, so *see* takes NP as object, whereas B's version makes *see* take S as object, parsing A's line as 2 sentences. Both uses of *see* are grammatical, the play is in switching from one to the other in mid-dialogue.

In case you've noticed, this type of language play doesn't work well in print, since you have to spell *star* and *fish* in two different ways. In speech, it may not work for some speakers either, since compounds may have different stress patterns from subject + V phrases.

Activity 8.4

Paraphrases:

- (a) I can make a star for your son.
- (b) I can turn you son into a star.

In meaning (a), *a star* is direct object. In (b), it's object complement.

Chapter 9. The meaning of meaning

Activity 9.1

The purpose of this activity is to make you aware of the similarities and differences in the pronoun systems of different languages, and of the fact that these differences are not random. Malay, for instance, marks a distinction between first, second and third person as well as a distinction in number. But there are at least three key ways in which Malay differs from English.

First, Malay does not mark distinctions of sex in the third person singular, as English does. Malay has *dia* for both male and female referents. Second, Malay has two first person plural pronouns. *Kita* includes the addressee, whereas *kami* does not. English has only one first person plural pronoun (*we*), and addressees have to work out from the co-text and context whether or not they are included in this *we*. Compare the two sets of sentences below:

Set A: *My mother and I went to Japan last month. We had a great time.*

Set B: *It was great seeing you today. We should meet up again soon.*

We in Set A includes only the speaker and the speaker's mother, i.e. it excludes the addressee. In contrast, *we* in Set B refers to the speaker and the addressee, i.e. it includes the addressee.

Finally, unlike English, but like French and Hindi, Malay makes a polite-familiar distinction in both its second (*anda/ kamu*) and third person (*belian/ dia*) pronouns.

Activity 9.2

We can infer that the person being addressed in the first conversation does not live where the speaker is, while the person being addressed in the second conversation does. This is because *going* and *coming* have contrasting spatial deictic meanings: *going* implies movement away from the speaker, whereas *coming* entails movement towards the speaker.

Activity 9.3

The customers would have got excited at the prospect of a free meal the next day, because they would initially have interpreted the adverb *tomorrow* as referring to the day immediately following today. But, because the sign does not bear today's date, or any date at all, *tomorrow* will never come, because the referent of the temporal deictic *tomorrow* can only be determined in relation to the specific day/date that it follows.

Activity 9.5

The first step in doing this activity involves figuring out the meanings of the three English idioms given. All three, in fact, are roughly synonymous in that they share a common theme – letting go of the past and moving on. For example, English speakers use the idiom *water under the bridge* to refer to past conflicts, the memory of which they have decided to let go of, in the same way that we lose sight of water which has passed under the bridge. The same idea is expressed a little differently in the idiomatic expression *let bygones be bygones*. Like water which has flown under a bridge, a *bygone* is anything that has gone by. We say *let bygones be bygones* when we've had a disagreement with someone, and we want to move on, leaving the disagreement in the past. Similarly, the third idiom *let sleeping dogs lie* encourages one to avoid looking for trouble by revisiting or restarting past feuds, just as it's a bad idea to wake a sleeping dog. These English idioms draw upon animal (*dog*) and nature (*water*) images to convey the idea of leaving the past behind and not stirring up new trouble. What expressions do the languages you speak use to convey these meanings?

Activity 9.6

Deciding whether to describe the jug as *half-full* or *half-empty* has to do with focus, i.e. which part of the jug you would like to attend to. If you describe the jug as *half-full*, you're focusing on what is there, the part of the jug with water in it. In contrast, if you describe the jug as *half-empty*, you're focusing on what is not there, the part of the jug without water. What this activity highlights is the difference between denotation and connotation. In terms of denotation, both descriptions are accurate in that a *half-full* jug and a *half-empty*

jug have the same amount of water. In terms of connotation, however, *half-full* and *half-empty* create different perceptions of the same entity, given the positive connotations of *fullness* as opposed to the negative associations of *emptiness*. The same point is made in the joke about the difference between optimists and pessimists – one sees the doughnut, the other sees only the hole.

Activity 9.7

Some people would argue that this is an example of doublespeak. Think back to Activity 1.5 and Juliet's assertion that *a rose by any other name would smell as sweet*. In other words, the entity referred to as a *rose* would remain as sweet-smelling no matter what we choose to call it. According to this view, changing the label used to refer to a certain group of people is not going to affect the way in which that group is generally perceived. Within this view, constantly replacing labels would be considered an example of political correctness, not calling a spade a spade for fear of the political backlash. As pointed out in Activity 9.6, however, language not only helps us convey our perceptions of reality, it represents a powerful tool for shaping perception. Think of the focus of the words *handicapped*, *disabled* and *physically-challenged*. Is being *disabled* the same as being *physically challenged*? Think about the difference between calling something a *problem* as opposed to a *challenge* – challenges are meant to be overcome, whereas problems may or may not get resolved.

Moving to the second list of words, do *blind*, *visually impaired*, *visually challenged*, and *visually limited* mean the same thing? Is *blind* an offensive word with negative or derogatory connotations or a neutral term meaning 'someone who cannot see'? Does *visually-limited* mean the same thing as *blind*, or does it refer to someone with limited sight (cf. *partially sighted*) as opposed to someone with no sight at all? Finally, between, *visually impaired* and *visually challenged*, which one seems more optimistic, keeping in mind that the first focuses on the nature of the impairment, whereas the second focuses on the nature of the challenge to be overcome?

Activity 9.8

The word play in the passage focuses on the difference between homophones and homographs. Every sentence in the passage contains a pair of homographs.

Activity 9.9

School is listed as a noun and a verb, in its polysemous and homonymous meanings. As a polyseme, *school* is listed in the *Times-Chambers Combined Dictionary Thesaurus*, for instance, as having seven related noun meanings, and

three verb meanings. Interestingly, these related meanings of *school* are traced back to the Greek word *schole*, meaning ‘leisure’ and ‘lecture place’. Not surprisingly, all the noun meanings of *school* as a polyseme relate to the place where education is received or offered, the people (teachers and students) associated with this place, and the activities going on there. The verb meanings, similarly, focus on the process of educating, giving training or disciplining. As a homonym, the noun meaning of *school* refers to a large number of fish or aquatic animals of one kind swimming together. The *Merriam-Webster Online Dictionary*, for instance, gives the etymology of this meaning of *school* as Middle Dutch *schole*, akin to Old English *scolu* meaning ‘multitude’.

Activity 9.10

Sentences (2) to (4) are ambiguous, whether spoken or written. Sentence (1) is ambiguous only if it appears in writing, as opposed to speech.

- (1) *We drove along a windy road.*

Meaning (a): We drove along a breezy road.

Meaning (b): We drove along a winding road.

Source of ambiguity: lexical – *windy* is a homograph.

- (2) *The students are revolting.*

Meaning (a): The students are disgusting.

Meaning (b): The students are rebelling.

Source of ambiguity: lexical and structural.

Lexical ambiguity – *revolting* is a homonym.

Structural ambiguity – in meaning (a), *revolting* is an Adj; in meaning (b), it's the main verb.

- (3) *Jack hid the unwrapped gift.*

Meaning (a): Jack hid the gift that had yet to be wrapped.

Meaning (b): Jack hid the gift whose wrapping had been removed.

Source of ambiguity: structural (at the level of morphology)

It's possible to draw two different word-trees for the complex word *unwrapped*.

In meaning (a), the derivational prefix *un-* attaches to the converted Adj stem *wrapped*.

In meaning (b), the derivational prefix *un-* attaches to the V *wrap*.

- (4) *Racing cars can be dangerous.*

Meaning (a): Cars that race can be dangerous.

Meaning (b): It can be dangerous for us to race cars.

Source of ambiguity: structural.

In meaning (a), *cars* is the subject of the verb *race*. In meaning (b), *cars* is the object of this verb.

Activity 9.11

We were unable to generate any sentences where *begin* is acceptable and *start* is not. Based on this discovery and the data in (9.5) and (9.6), it would seem that *start* can be used in all contexts where *begin* is acceptable, but not vice versa. That is, *start* can replace *begin*, but *begin* cannot always replace *start*. What this activity highlights once again is that there is no such thing as perfect synonymy.

Activity 9.12

No, *sent* is not the converse of *received*. If I sent you something, it does not entail that you received it. Compare: *I sent John a birthday card, but he did not receive it.*

Activity 9.13

The presuppositions are:

- (a) Mehmet has already had at least one cup of tea.
- (b) Janice has a laptop.
- (c) Sarah is a genius.
- (d) I have a husband.

Chapter 10. Meaning in action

Activity 10.1

Part of acquiring language is acquiring ways of using it properly in (situational) context. This includes accepting different uses of language from different people, and in turn offering different uses to different people. Just like children accept “labels” like *sweetie*, *darling*, *little one*, etc. (plus their own name, probably in different versions too!) to refer to themselves without loss of their own identity, they learn that other people can be successfully addressed in similar ways. In our example, each label for the child’s father is spoken by different people, in different situations. The fact that the father responds to all of them gives the child evidence that each label is appropriate in its context of use.

Activity 10.2

Did you have six groupings, as follows?

- (a) Miss Jaya is a teacher.
- (c) Jennifer plays the piano.
- (h) I declare this exhibition open.
- (j) You’re fired!

- (d) Miss Jaya is a highly effective teacher.
- (g) Jennifer plays the piano poorly.
- (f) I'm sorry I took your notes.
- (k) I'm delighted the thief has been caught.
- (i) I promise not to touch your things in future.
- (l) I won't be coming back here again.
- (b) Please take this note to the principal.
- (e) Could you lend me your notes, please?

Activity 10.3

The child is already able to communicate successfully, from a strictly grammatical point of view. She understands requests/commands, and responds competently by performing what is requested. But the child's overall performance is also what shows that she has not acquired full communicative competence yet: she simply responded to the locution in the verbal instruction, not being yet able to realise that her mother's illocution in fact contains three instructions:

*Go ask something to your uncle
Wait for his reply about what he wants to drink
Come back to me with his answer*

The child's perlocution remained bound to the request's locution.

Learners of English as a foreign language may similarly fail to understand that what sounds like a comment, e.g. *It's hot in here, don't you think?* may in fact mean a request to open a window or turn on the air-conditioner. Like with Speaker B in our example (10.7), failure to understand illocution makes it clear that children and foreign learners need to acquire communicative competence, besides linguistic competence, in their new languages.

Activity 10.4

Did you answer, "To be polite"? If so, what this activity underscores is that Grice's maxims are not sufficient to explain why people behave as they do when communicating with one another. In short, Grice's Cooperative Principle helps us explain conversational organisation, but only partially.

Chapter 11. Language in use

Activity 11.1

The data show examples of agentless passives. We are not told who found the miners, (tailor-)made the cruises, or speaks English, because this information is not relevant to the messages in question. The way to emphasise the patients, not the agents, in messages like these, is by slotting them as topic. One way of doing this is through the use of passive constructions without expressed agents.

Activity 11.2

Most people read sentences (a) and (b) as expressing different information in terms of the ordering of events. In sentence (a), the order seems to be that Jane and Harry got married and then had a baby, whereas in (b) the opposite order is inferred. This suggests that the coordinating conjunction *and* has a temporal meaning, such that the events described in the first clause are seen as happening prior to those in the second clause. In other words, the story is assumed to be being told in chronological order, with *and* having the meaning ‘and then’.

Activity 11.3

Sentence (d) seems odd. This is because one usually locks the door and then leaves the building. If you’ve already left the building, how do you lock the door, since *left* implies not being in the building, or being at a distance from the building? One needs to be in, or by, the building in order to lock the door, unless we’re talking about a locking system that works by remote. In other words, in terms of temporal sequence, locking the door usually precedes leaving the building, just as unlocking the door precedes entering the building. Once again, we see that the coordinating conjunction *and* has a temporal meaning.

Chapter 12. Language and speakers

Activity 12.1

Yes. Children prefer plosives to fricatives, and all fricatives in the data are replaced by plosives (keeping to the same alveolar/[+coronal] place of articulation).

Activity 12.2

Language, like everything else around small children, is new to them. Children need to realise that words/language serve both to organise their experience and to talk about it. They start by sorting out their immediate world, because this is the “world” that is available to them. Once words/language are understood as stand-ins for referents and/or concepts, children are ready to start generalising the use of words/language to people, objects and happenings outside of their physical control.

Adults do exactly the same when investigating people, objects and happenings that are new to them. For example, we start by talking about the features and performance of the first cell phone that we ever owned, before generalising these features to other similar gadgets.

Activity 12.3

This is analysed in the literature as Wernicke’s type of aphasia. The patient’s grammar is intact, speech is fluent, but it makes little lexical sense.

Activity 12.4

Several factors can be discussed here, political, cultural and linguistic. For example, the interest in vernacular languages during the 18th century European Romantic period played a decisive role in decreasing the use of Latin for “educated” communication. We may think of this as paralleled by the current interest in endangered languages and in languages which, although not endangered, have not been described yet.

There may be a cautionary tale in the fact that Latin “split” into several (Romance) languages. Linguists today talk about *Englishes*, rather than *English*, to refer to different varieties of the language worldwide. Perhaps we are witnessing a “split” in English too?

Activity 12.7

Opinions may vary here. The point is that the use of an officially sanctioned language gives access to social institutions, and often privileges, that cannot be shared by non-users of that language.

Activity 12.8

The speaker used a rule of English that adds a suffix *-less* to nouns to derive adjectives meaning ‘with no N’. Examples of actual words of English following this rule are *pointless*, *fruitless*, *childless*, etc.

The use of this rule is what makes the novel word intelligible to speakers of English.

Readings and resources

Below is the set of references from which readings are suggested for each chapter. In addition to them, the following sources of information on language, languages, linguistics and linguists may prove useful.

Book

Crystal, David (2010). *The Cambridge encyclopedia of language*. (3rd ed.). Cambridge: Cambridge University Press.

Websites

The Linguist List

<http://linguistlist.org/>

This is the most comprehensive website on linguistics, with links to who, what, where, when, how and why within the discipline. It includes an online consultation service, *Ask-a-Linguist*, provided by professional linguists.

You can search or browse past questions and answers to *Ask-a-Linguist*, or submit your own questions, from <http://linguistlist.org/ask-ling/index.cfm>

The Linguistic Society of America (LSA)

<http://www.lsadc.org>

This page has links to summaries of several areas of linguistic study.

Linguistic Olympics

<http://webscript.princeton.edu/~ahesterb/puzzles.php>

<http://www.philol.msu.ru/~otipl/new/main/mol/samples-2003-en.php>

Try your hand at solving language puzzles?

Chapter readings

- Aitchison, Jean (2001). *Language change: Progress or decay?* (3rd ed.). Cambridge, Cambridge University Press.
- Chapter 1. The ever-whirling wheel, pp. 3-18.
- Chapter 2. Collecting up clues: piecing together evidence, pp. 19-37.
- Chapter 10. The reason why: Sociolinguistic causes of change, pp. 133-152.
- Chapter 15. Language birth, pp. 217-234.
- Chapter 16. Language death, pp. 235-248.
- Brinton, Laurel J. (2000). *The structure of modern English: A linguistic introduction*. Amsterdam: John Benjamins.
- Chapter 1. The nature of language and linguistics, pp. 3-11.
- Chapter 6. Lexical semantics, pp. 129-138.
- Collins, Beverley and Mees, Inger M. (2003). How we produce speech. In *Practical Phonetics and Phonology: A Resource Book for Students*. London/New York; Routledge, pp. 25-39. (This book includes a CD with sound files to listen to and practise with.)
- Cook, Guy (1992). Chapter 1. What is discourse? In *Discourse*. Oxford: Oxford University Press, pp. 3-13.
- Crystal, David (1986). Chapter 2. What Linguistics is. In *What is Linguistics?* (4th ed.). London: Edward Arnold, pp. 24-54.
- Deterding, David H. and Poedjosoedarmo, Gloria R. (1998). *The sounds of English. Phonetics and phonology for English teachers in Southeast Asia*. Singapore: Prentice Hall.
- Chapter 2. Speech production, pp. 9-13.
- Chapter 9. Phonemes and allophones, pp. 77-85.
- Deterding, David H. and Poedjosoedarmo, Gloria R. (2001). *The grammar of English. Morphology and syntax for English teachers in Southeast Asia*. Singapore: Prentice Hall.
- Chapter 2. Morphology, pp. 6-17.
- Chapter 3. Word classes, pp. 18-35.
- Chapter 6. Phrases, pp. 65-71.
- Chapter 7. Objects and complements, pp. 73-82.
- Gleason, Jean Berko (2005). Chapter 1. The development of language: An overview and a preview. In Jean Berko Gleason (ed.), *The Development of language* (6th ed.). Boston: Allyn and Bacon, pp. 1-38.

- Hoey, Michael (1983). Chapter 1. Some questions about discourse. In *On the surface of discourse*. London: George Allen & Unwin, pp. 1-16.
- Hudson, Grover (2000). *Essential introductory linguistics*. Oxford: Blackwell.
Chapter 4. Morphemes, pp. 57-68.
Chapter 6. Sentences and syntax, pp. 88-99.
Chapter 15. Six ways to get new words, pp. 239-251.
Chapter 19. Pragmatics: inferring meaning in context, pp. 312-326.
- Kachru, Braj B. (ed.) (1992). *The other tongue: English across cultures* (2nd ed.). Urbana: University of Illinois Press.
- Leech, Geoffrey N. (1983). *Principles of Pragmatics*. London: Longman.
- Napoli, Donna Jo (2003). Part 1. Language: The human ability. In *language matters: A guide to everyday thinking about language*. New York: Oxford University Press, pp. 3-97.
- Obler, Loraine K. (2005). Chapter 11. Developments in the adult years. In Jean Berko Gleason (ed.), *The Development of Language* (6th ed.) Boston: Allyn and Bacon, pp. 444-475.
- Roach, Peter (1991). *English phonetics and phonology. A practical course* (2nd ed.). Cambridge: Cambridge University Press.
Chapter 2. The production of speech sounds, pp. 8-17.
Chapter 5. The phoneme, pp. 36-46.
Chapter 15. Intonation 1, pp. 133-143.
- Yule, George (1996). *The study of language* (2nd ed.). Cambridge: Cambridge University Press.
Chapter 11. Semantics, pp. 114-126.
Chapter 12. Pragmatics, pp. 127-138.
Chapter 13. Discourse analysis, pp. 139-150.

Index

Authors

- Austin, John L., 211, 213, 224
Brown, Penelope, 219, 220, 225
Chomsky, Noam, 43, 149
Collins, Beverley, 120
Crystal, David, 41
Deterding, David H., 142
Geschwind, Norman, 251
Gleason, Jean Berko, 19
Glucksberg, Sam, 192
Goodglass, Harold, 251
Grice, H. Paul, 218, 224, 230, 234, 235
Halliday, Michael A.K., 233, 234
Hasan, Ruqaiya, 233, 234
Hoey, Michael P., 174, 177
Humboldt, Wilhelm von, 8
Jakobson, Roman, 28, 249
Labov, William, 20, 37, 40
Lakoff, Robin, 160
Levinson, Stephen C., 160, 161, 164
Liberman, Mark, 20
Malinowski, Bronislaw, 28
Mees, Inger M., 120
Pike, Kenneth L., 89
Poedjosoedarmo, Gloria R., 142
Popper, Karl, 132
Roach, Peter, 142
Sapir, Edward, 39
Saussure, Ferdinand de, 1, 7, 15
Searle, John R., 154, 155, 156, 164
Wierzbicka, Anna, 3
Winter, Eugene O., 174

Subjects

- accent, 27, 93
acceptable, *see also* grammatical, 149
accuracy, 11
acronyms, 91
active (in syntax), 172, 232
active articulators. *See* articulator
actual word. *See* word
adjacency, 222
adjacency pairs, 221
adjective, 57
adjunct, 169
adverb, 58
affix, 77
 class-changing, 82
 class-maintaining, 82
affixation, 79, 80
agentless passive. *See* passive (in syntax)
agreement, 171
allo-form, *see also* -eme unit, 135, 137
allomorphs, 137
allophones, 126, 136
alternation, 137
alveolar, 106
alveolar ridge, 104
ambiguity
 lexical, 195
 structural, 195
ambiguous, 88
amelioration. *See* semantic upgrading
analysis (in science), 15
anaphora, 234

- antonyms, 200
complementary, 200
gradable, 200
relational, 201
aphasia, 249
appropriateness, 6, 223
arbitrariness, 9, 10, 248
argumentation (in science), 16
articulator, 101
active, 101
passive, 101
auxiliary. *See* verb
- babbling stage. *See* stage in acquisition
back vowel. *See* vowel
backformation, 90
(bi)labial. *See* labial
bilingual/bilingualism. *See* multilingual/multilingualism
blend, 93
block. *See* constituent, phrase
borrowings, 75
bottom-up analysis, 94, 157
bound form, 66
brain, 250
branch, *see also* tree diagram, 94, 156
broadening. *See* semantic broadening
Broca's area, 250
- cataphora, 234
child-directed speech. *See* motherese
class-changing. *See* affix
class-maintaining. *See* affix
clause, 162, 229
clause relations, 236
matching, 237
sequential, 237
clipping, 91
close vowel. *See* vowel
closed classes, *see also* (grammatical) word, 60
- closed meanings. *See* meaning
co-text. *See* (linguistic) context
cocktail-party effect, 130
coda, 140
code, 2
coherence, 233, 235
cohesion, 233, 235
collocation, 200
comment, 229, 231
commisives, 216
common nouns. *See* noun
communicative competence, *see also* grammatical competence, 6
comparative, 58
complement, 173, 174, 176
object, 175
subject, 175
complementary antonyms. *See* antonyms
complementary distribution. *See* distribution
complex (linguistic unit), 66, 162
complex sentence. *See* sentence
complex transitive. *See* verb
complex word. *See* word
compositionality, 10, 65, 79, 147, 156, 190
compound
headed, 87, 153
long, 87
non-headed, 87
compounding, 79, 85
concept, 183
concord. *See* agreement
conjunction, 62, 160
coordinating, 160
subordinating, 161
connotation, *see also* (metaphorical) meaning, 187
consonant, 104, 105
constituency, 146, 147, 150, 169

- constituent, 146, 149
constraint (in science), 134
construct (in science). *See* theoretical construct
content words. *See* (lexical) word
context, 8
 linguistic, 50, 183, 209, 227
 situational, 7, 38, 183, 209, 227
contrastive, 128
contrastive distribution. *See* distribution
convergence, 35, 40, 260
converging evidence. *See* independent corroboration
conversation, *see also* maxim, 221
converseness. *See* (relational) antonyms
conversion, 79, 89
cooking stage. *See* stage in acquisition
Cooperative Principle, *see also* maxim, 218, 230
coordinating conjunction. *See* conjunction
coordination, 160
copular. *See* verb
count nouns. *See* noun
counterevidence, 134
counterexample, 48, 52
cranberry morphemes, 72
creativity, 11, 159
creoles, 33
creolisation, 33
critical period hypothesis, 259
culture, 189, 190, 218, 220, 251
CV-syllable, *see also* syllable, 141, 249

data analysis, 132
daughter, 156, 161
dead language, 251
declarations, 214
degree, 50

deixis, 184, 235
 personal, 184
 spatial, 185
 temporal, 186
demonstrative pronouns. *See* pronoun
denotation, *see also* (literal) meaning, 187
derivation, 82
derivational, 81
description (vs. prescription), 4
descriptive grammar. *See* grammar
determiner, 60
DF (Distinctive Feature), 110, 113
diagram. *See* tree diagram
dialect, 35
direct object. *See* object
directives, 216
discourse, 225, 227
 hierarchical organisation of, 239
 linear organisation of, 239
discourse analysis, 228
discourse patterns, 239
discreteness, 10
displacement, 248
distinctive, 128
distinctive feature. *See* DF
distribution, 51, 147, 166, 200
 complementary, 136
 contrastive, 128
distributional frame, 51
distributional properties, 52
ditransitive. *See* verb
divergence, 35, 40, 260
diversity (vs. uniformity), 41
dominance, *see also* tree diagram, 156
doublespeak. *See* euphemism
downgrading. *See* semantic downgrading
duality, 146

- eme unit, *see also allo-form*, 137
- empirical method, *see also* method (in science), 14
- endophoric reference. *See* reference Englishes, 36 entailment, 203 etymology, 90 euphemism, 193, 256 evidence. *See* converging evidence exophoric reference. *See* reference explicit (in science), 135 expressives, 215
- face
 - negative, 219
 - positive, 219
- face-threatening acts, 220
- fact (vs. opinion), 15
- fall/falling tone, 120
- finite form. *See* verb
- first person. *See* person
- flouting maxims, *see also* maxim, 218
- form, 2, 9, 165
- formulaic speech, 131, 221, 224
- free form, 66
- fricative, 105
- front vowel. *See* vowel
- function, 2, 165, 166
- function words. *See* (grammatical) word
- gap, 130
- general (in science), 132, 134
- generalisation (in science), 48
- generality (in science), 17, 133
- generate, 155
- given information. *See* information
- global language, 34, 252
- gradable antonyms. *See* antonyms
- grammar, 3, 13, 41, 44, 132, 146
 - descriptive, 6
- prescriptive, 5
- XP, 153
- grammatical competence, *see also* communicative competence, 6
- grammatical words. *See* word
- grammatical, *see also* acceptable, 149
- hard palate, 103
- head, 87, 152
- headed compounds. *See* compound
- headedness, 153
- hierarchical order, *see also* linear order, 12
- hierarchy, 79
- high vowel. *See* vowel
- homographs, 195
- homonyms, 196
- homophones, 195
- hyponyms, 202
- hypothesis (in science), 16
- ideal speaker, 43
- idiolect, 39
- idiom, 190
- idiomatic meaning. *See* meaning
- ill-formed/ill-formedness, 146
- illocution, 212
- independent corroboration, 18
- indirect object. *See* object
- Indo-European, 30
- inflection, 82
- inflectional, 81
- information
 - given, 229
 - new, 229
- initialisms, *see also* acronyms, 92
- insertion sequence, 222
- intelligibility, 258
- internal consistency (in science), 18
- International Phonetic Alphabet. *See* IPA

- International Phonetic Association.
 See IPA
- intonation, 118, 119, 129, 166, 232
- intonation languages, 121
- intransitive. *See verb*
- introspection, 20
- IPA, 109, 110, 112
- labial/bilabial, 106
- language
- acquisition, 246, 256
 - change, 258
 - contact, 257
 - death, 251
 - disorder, 249
 - diversity, 41
 - endangerment, 252
 - families, 28
 - learning, 256
 - loss, 249
 - reconstruction, 29
 - spread, 34
 - standard, 41
 - universals, 44, 145
 - variation, 11, 26, 36
- language vs. languages 1, 22, 254
- languages, *see also* minority languages, 22
- larynx, 101, 119
- Law of Least Effort/Law of Maximal Economy, 34
- lexical ambiguity. *See ambiguity*
- lexical words. *See word*
- lexicon, 11, 26
- linear order, *see also* hierarchical order, 12
- lingua franca, *see also* global language, 34, 258
- linguist, 4
- linguistic context. *See context*
- linguistic impairment, 250
- linguistic repertoire, 39
- linguistic sign, 10
- linguistics, 13, 262
- link verb. *See verb*
- literal meaning. *See meaning*
- locution, 212
- long compounds. *See compound*
- low vowel. *See vowel*
- main verb. *See verb*
- manner of articulation, 105
- marker, 160
- mass nouns. *See noun*
- matching relations. *See clause relations*
- maxim, *see also* conversation, flouting
 maxims, 218
- meaning, 9, 65, 127, 182
- closed, 120
 - idiomatic, 190
 - literal, 189
 - metaphorical, 189
 - opaque, 80
 - open, 120
 - transparent, 79
- meaning compositionality. *See compositionality*
- meronyms, 202
- metaphor, 189, 191
- metaphorical meaning. *See meaning*
- method (in science), *see also* empirical method, 15
- minimal pair, 128
- minority languages, 251
- mixes, *see also* multilingualism, 253
- modifier, 87, 152
- monomorphemic, *see also* (simple) word, 89
- morph, 67
- morpheme, 64, 66, 127
- morphology, 48, 125
- mother, 156

- mother-daughter relationship, 156, 161
motherese, 248
movement, 151, 169, 173
multilingual/multilingualism, 27, 32, 246, 252, 257
- narrowing. *See* semantic narrowing
nasal, 103
native speaker, 20, 245, 253
nativisation, 32
natural class, 136
negative face. *See* face
negative politeness strategies. *See* politeness
new information. *See* information
node, *see also* tree diagram, 94, 156
non-finite form. *See* verb
non-headed compounds. *See* compound
non-native speaker, 256
noun, 53
 common, 55
 count, 54
 mass, 54
 proper, 55
 noun phrase, 152
- object (in science), 15
object (in syntax), 171, 172
 direct, 173
 indirect, 173
object complement. *See* complement
objectivity (in science), 17
observation, 15, 19
Occam's Razor, 17
one-word stage. *See* stage in acquisition
onset, 140
ontogenesis, 249
opaque meaning. *See* meaning
- open classes, *see also* (lexical) word, 53
open meanings. *See* meaning
open vowel. *See* vowel
opinion (vs. fact), 15
oral, 103
overgeneralisation, 247, 258
- paraphrase, 70, 84, 93, 203
passive (in syntax), 172, 232, 233
passive articulators. *See* articulator
peak, 140
pejoration. *See* semantic downgrading
perlocution, 212
person
 first, 61
 second, 61
 third, 61
personal deixis. *See* deixis
personal pronouns. *See* pronoun
perspective, 28
phone, 130, 135
phoneme, 126, 127, 128, 135
phonemic system, 128
phonetic alphabets, 109
phonetic similarity, 136
phonetic symbols, 109
phonetic transcription, 109
phonetics, 99
phonological system. *See* phonemic system
phonology, 100, 126, 128
phrase, 147, 151
phrase structure. *See* PS
phylogenesis, 249
pidginisation, 32
pidgins, 32
pitch, 247
place of articulation, 105
plosive, 105, 249

- politeness, 219
 negative strategies, 220
 positive strategies, 220
- polyglot, 4
- polymorphemic, *see also* complex word, 89
- polyseme/polysemy, 196
- positive face. *See* face
- positive politeness strategies. *See* politeness
- possessive pronouns. *See* pronoun
- possible word. *See* word
- pragmatics, 181, 206, 209
- predicate, 176
- prefix, 80
- preposition, 62
- prescription (vs. description), 4
- prescriptive grammar. *See* grammar
- presupposition, 205
- productivity, 79
- proform, 230
- pronoun, 60
 demonstrative, 61
 personal, 61
 possessive, 61
- proper nouns. *See* noun
- proposition, 203
- PS (phrase structure), 154, 165
- purpose (in science), 16, 21
- question, 166
- recursion, 87, 159, 163, 222, 241
- redundancy, 117, 130
- reference/referent, 10, 53, 182
 endophoric reference, 234
 exophoric reference, 234
- register, 38
- relational antonyms. *See* antonyms
- representation, 154
- representative (in science), 47, 132
- representatives, 213
- rhythm, 139
- rime, 140
- rise/rising tone, 120
- root, *see also* stem, 78
- rounded vowel. *See* vowel
- rule, 3, 133, 146, 247
- rule notation, 84, 154
- rule-governedness, 12, 145
- science, 14
- second person. *See* person
- semantic broadening, 192
- semantic downgrading, 193
- semantic narrowing, 192
- semantic shift, 192
- semantic upgrading, 193
- semantics, 181
- semilingual, 254
- sense, 183
- sentence, 151, 158
 complex, 162
 simple, 162
- sentence structure, 149, 158, 165
- sequencing in adjacency pairs, 223
- sequential relations. *See* clause relation
- simple (in science), 17, 116, 132, 133
- simple (linguistic unit), 66, 162
- simple sentence. *See* sentence
- (simple) transitive. *See* verb
- simple word. *See* word
- sister, 156, 160
- situational context. *See* context
- slot. *See* syntactic position
- social relations, 210
- social roles, 210
- sociolect, 36
- soft palate, 103
- sound, 99, 130
- sound quality, 99

- sound tokens. *See* allophone, phone
sound types. *See* phoneme
spatial deixis. *See* deixis
speech, 71
Speech Act Theory, 211
speech acts, 213
speech sounds, 99
spelling, *see also* written language, 65, 71, 96
spoken language, 40, 96
stage in acquisition
 babbling, 247
 cooing, 247
 one-word, 247
 two-word, 247
standard. *See* language
statement, 166
stem, 77
structural ambiguity. *See* ambiguity
subcategorisation. *See* verb
 subcategorisation
subcategorisation frames, 177
subject, 170
subject complement. *See* complement
subordinating conjunction. *See* conjunction
subordination, 161, 178, 238
substitution, 63, 150, 162, 173
suffix, 80
superlative, 58
superordinate, 202
syllabification, 140
syllable, *see also* CV-syllable, 139
synonyms, 199
syntactic function, 159
syntactic position, 147, 149
syntax, 145

taboo, 193, 245, 255
temporal deixis. *See* deixis
theoretical construct, 15

third person. *See* person
tone, 118, 121, 129
tone languages, 121
tongue, 107
 body, 107
 tip, 107
top-down analysis, 94, 157
topic, 229, 231
transcription. *See* phonetic transcription
transitive / (simple) transitive. *See* verb
transparent meaning. *See* meaning
tree diagram, 94, 156
turn taking, 221
two-word stage. *See* stage in acquisition

uniformity (vs. diversity), 41
universal grammar, 44
universals. *See* language
unrounded vowel. *See* vowel
upgrading. *See* semantic upgrading

velar, 106
velum. *See* soft palate
verb, 56, 168, 176, 177, 179
 auxiliary, 56
 complex transitive, 178
 copular, 178
 ditransitive, 178
 finite form of, 56
 intransitive, 178
 link, 178
 main, 56
 non-finite form of, 57
 transitive/simple transitive, 178
verb phrase, 152, 176, 177
verb subcategorisation, 176, 177
verdictives, 215
vocal cords, 102, 119
vocal tract, 101

Index

- voice, 102
 - voiced, 102
 - voiceless, 102
 - voices (individual), 131
 - vowel, 104, 107
 - back, 108
 - close, 107
 - front, 108
 - high, 107
 - low, 107
 - open, 107
 - rounded, 108
 - unrounded, 108
 - vowel quadrilateral, 113
 - well-formed/well-formedness, 6, 79, 146
 - Wernicke's area, 250
 - word, 48, 49, 127, 147, 149, 151
 - actual, 13
 - complex, 66, 93
 - grammatical, 52, 59
 - lexical, 52, 53
 - possible, 13
 - simple, 66
 - word class, 52, 147
 - word formation, 76, 79, 90
 - word order, 166
 - world language. *See* lingua franca
 - writing systems, 40
 - written language, *see also* spelling, 40
- XP grammars. *See* grammar

If you've ever wondered why we need concepts like noun and verb or word and phrase when discussing language, this book is for you. Deliberately selective in its approach and assuming no prior knowledge of linguistics, *The Language of Language* explores the nature of language and linguists' agreed-upon ways of talking about the object of their inquiry. Our focus is on modes of thinking rather than content knowledge. Our goal is to encourage informed thinking about language matters and why language matters, so that you can continue puzzling about language issues long after you've worked your way through this book and its companion website.

I find the approach taken by the authors quite refreshing. It is different from other introductory textbooks because the aim of the book, as stated in the preface, is not to be comprehensive but to encourage "informed thinking about issues relating to language and structure ... and the kinds of activities that linguists busy themselves with". The authors have presented the chapter on semantics, for instance, in an interesting and entertaining way that is at once quite challenging to the linguistics student.

Dr Hajar Abdul Rahim
Universiti Sains Malaya

Informative, current, thought-provoking, and reader-friendly. I would encourage my students to buy this book as the language is accessible, and difficult concepts are clearly explained and exemplified. The chapter on discourse is much more comprehensive than in other books as it takes into account current ideas in the study of discourse. It also attempts to establish the important link between real-world knowledge and linguistic knowledge.

Dr Shakila Manan
Universiti Sains Malaya

The book's main strengths are its attempts to avoid unnecessary detail and provide only what the authors consider essential, without filling up the book with more advanced information. I very much like the book's use of discovery as a method for teaching phonetics. It's what most of us try to do in class, but I've almost never seen an introductory linguistics book that makes the pedagogy explicit.

Associate Professor John M. Levis
Iowa State University

Madalena Cruz-Ferreira hails from Portugal, and received her PhD from the University of Manchester, UK. She is an independent scholar, with authored and edited publications on multilingualism, child language, phonology, intonation and the language of science. Her blog, *Being Multilingual*, is featured at AILA (International Association of Applied Linguistics), ASHA (American Speech-Language-Hearing Association), The Linguist List, OEP (Observatoire Européen du Plurilinguisme), Teaching English (British Council-BBC), TES (Times Educational Supplement) and TESOL (Teachers of English to Speakers of Other Languages).

Sunita Anne Abraham was born in Penang, Malaysia, and holds a PhD from the University of Birmingham, UK. She is an Associate Professor at the National University of Singapore, a Fellow of the NUS Teaching Academy, and the proud recipient of a dozen teaching awards, including two *Outstanding University Educator* awards. She serves on several international editorial boards, including the *Journal of Second Language Writing* and the *International Journal for the Scholarship of Teaching and Learning*. Her research and teaching interests include genre analysis, discourse structure, the language of persuasion, and the relationship between reading, writing and thinking.