PhD Dissertation

Epidemiology of Representations:
An Empirical Approach
—original title may change—

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4.1   Introduction

In this chapter, we aim to take a broader view on what would be necessary to achieve a fuller understanding of the processes at work in cultural change at the linguistic level. So far we have adopted wholesale the paradigm put forward by Cultural Attraction Theory, by seeking to identify and elucidate situations where linguistic representations are transformed as they are transmitted, and assessing, on one side, the extent to which the empirical evolution of content agrees with what is expected under CAT, and on the other side, the extent to which CAT provides productive guiding questions in understanding what is at work in the situations studied. This has led us to identify a number of behaviours which are consistent with Cultural Attraction Theory: studying word substitutions in online quotations first, and more general transformations in controlled transmission chains of short utterances second, we showed that the low-level lexical features of words evolve in a systematic manner to make utterances easier to produce, and that the direction of the evolution is consistent with the attraction pattern that can be observed in the individual step of word replacements. Further modeling the process, we showed that utterance transformations can be clearly described as chunks of word insertions and deletions which loosely correspond to each other, interspersed with individual word replacements. We determined the prevalence of each of these operations, described their dependencies both between each other and with respect to the utterance they appear in, and generally argued that such an approach can serve as a middle-ground description between low-level accounts of lexical features and high-level accounts of the aggregated evolution of content along chains. However, none of these approaches has brought us any closer to understanding the semantic changes that utterances undergo when they are transformed, be it online or in controlled transmission chains.

We now wish to discuss the reasons for this limitation, as they are both crucial for further progress and closely linked to the ongoing debate about the nature of cognition and representations. To do so we will take a closer look at the problems involved in tackling the semantics, and more broadly the meaning, of utterances. We begin by discussing detailed examples of the role of semantics in our transmission chain experiment, to show how the lack of an account of utterance meaning renders the empirical question of attractors in this case under-specified. This limitation finds its root in what is known in philosophy of mind as the "hard problem of content", which we then expose more precisely. We continue to discuss two important approaches to studying the meaning of utterances:

Relevance Theory, and the Enactive approach. The first is better developed and integrated with linguistics, but must face some version of the hard problem of content in order to provide an operational account of meaning. The second starts from a simpler endogenous notion of meaning which avoids the problem of content, but has yet to prove its viability and usefulness for the study of language. We further show that the debate between these two approaches is closely linked to the overall construal of cultural evolution, as critiques of the cultural attraction framework have shown. Finally, we present possibilities for refining and advancing the debate through empirical investigation.

4.2   Empirical epidemiology of linguistic representations

4.2.1   Synthesis of results

path taken

- initial question: empirical attractors in language
- approaches taken: MT, Gistr
- trade-offs in the process: simplification, engineering, no context
- results: consistent with convergence, detailed model providing first bridge between lower and higher levels

4.2.2   Challenges

what limits progress, from examples blending into theory

- no grip on meaning
- examples of meaning change in Gistr
- example on twitter
- under-specified convergence problem
- divides into: content problem, context problem, dynamics problem

4.3   No theory of content

The problems of meaning: hard problem of content

- no clear definition of meaning (beyond word meaning)
- varies with history, situation, attention
- many levels
- obviously comes from continuous interactions, but bears value, and the value can also be recognised and repeated

4.3.1   Approaches to utterance meaning

expose the theoretical problem, and contenders: RT/Millikan and enactivism

- inside the representational approach, the problem is 1) the content of representations (Millikan), 2) how communication infers the content (RT)

  • inside enactivism, you start with some content, but you need a way to arrive to structure communication and fleshing out the details

4.3.2 Outside the linguistic domain

show it's not limited to linguistics (ingold critique)

  • three layers
  • three degrees of critique, relating to NCT/DST

4.4 Baby and bathwater: From theory to empirical study

ways to move forward

  • further determine if they compete for the exact same space
  • it's a productive contradiction to build from (without falling into scholasticism), which can inspire experiments

Chapter 5

Conclusion

Chapter 6

References