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Seminar on Ambiguity and Language Design

ABSTRACT

It is a common observation that natural languages are ambiguous, namely, that linguistic utterances or parts of linguistic utterances can potentially be assigned more than one interpretation, whereby receivers need to resort to supplementary information (i.e., the communicative context) to choose among the available interpretations. Indeed, one of the traditional tasks of grammar is to illustrate ambiguity, which may be lexical, structural or relative to the scope of quantifiers, as well as to determine how apparently ambiguous utterances are disambiguated at the relevant levels of representation.

The objective of this seminar is twofold. Firstly, we shall provide a relatively extensive review of ambiguity within grammar. We shall discuss several lexical, syntactic, phonological and semantic aspects involved in ambiguity and we shall argue for the thesis that ambiguity appears at the externalization branch of language. In brief, our claim is that ambiguity appears because phonetic forms dispense with part of the information that is present in semantic representations. Secondly, we shall provide a theoretical investigation of why natural languages are ambiguous.

We shall devote most of our attention to the second question above mentioned, which can be viewed as a particular exploration of Chomsky's Strongest Minimalist Thesis (Chomsky 2000): is the property of ambiguity an imperfection of language, a fingerprint of the poor design of language for communication (Chomsky 2008)?

We shall propose that ambiguity is an unavoidable property given certain general efficiency considerations in natural communication systems (Fortuny & Corominas 2013). More precisely, we shall develop the intuition that there must be a compromise in the coding and decoding complexities: on one hand, the coder tends to define a code as vague as possible, and on the other, the decoder pushes the code to be as specific as possible (Zipf 1949). After introducing certain general concepts such as Landauer's logical irreversibility (Landauer 1961) and Turing's computing machine (Turing 1936), we shall express this compromise in terms of a symmetry equation that introduces a balance between the complexities of the coding and decoding machines.

Finally we shall also comment on other factors that may favour the existence of ambiguity (Wasow 2015; Wasow et al. 2005), especially Piantadosi et al. (2012)'s proposal that "ambiguity is a desirable feature of any communicative system when context is informative about meaning".

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