The Computation of Movement

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Abstract

A central goal of parsing is to recover linguistic structure for interpretation. One property of language that seems to be prevalent is the so-called *displacement* property. That is, syntactic items commonly appear in places other than where we would normally expect for interpretation. Some examples of phenomena involving displacement include *Wh*-movement, raising, passivization, scrambling, topicalization and focus. As Chomsky (1995) points out, displacement is an irreducible fact about human language that every contemporary theory of language has to address. In the principles-and-parameters framework, it is customary to posit a general movement operation, Move-α, that in concert with conditions on its application serve to link displaced elements with their base positions. In terms of parsing, the task is to decode or unravel the effects of Move-α from the surface order. More specifically, for each element, we have to determine whether that element has been displaced or not, and, if so, determine the original position it was displaced from and reconstruct the path it took — including any intermediate positions or landing sites. In general, each displaced element is said to head a (non-trivial) *chain* with one or more empty categories known as *traces* occupying the positions that it passed through. Note that in such theories, empty categories are not just simple placeholders, but elements with much of the same type and range of syntactic properties displayed by their overt counterparts. For example, empty categories in argument positions, like anaphors and pronouns, participate in binding theory and theta role discharge. Hence, the well-formedness of a given sentence will depend, in general, in recovering both the visible and non-visible parts of syntactic structure.

In this talk, we will describe how PAPPI, a multi-lingual parser for theories in the principles-and-parameters frameworks, deals with the computation of movement chains and empty categories in general. Drawing from implemented examples across a variety of languages, we will discuss the mechanism used to handle standard cases of phrasal movement commonly discussed in the literature such as *Wh*-movement, passivization, raising and verb second (V2) phemomena. We will also describe how this mechanism is adapted to handle instances of argument scrambling in languages like Korean and Japanese. We will also focus our attention on head movement. Here, following Pollock (1989), we will discuss the mechanism used to handle the surface differences in the behaviour of verbal inflection in English and French. Following Pesetsky (1995), we will also discuss the implementation of a theory of double object constructions involving the incorporation of both overt and non-overt prepositions into verbal heads.

Finally, we will describe two recent additions to the movement mechanism in the PAPPI system. Moving towards a theory of goal-driven movement — as opposed to the free movement system implied by Move-α, we will discuss an implementation of Case-driven movement within the VP-shell to handle examples involving focus, backgrounding and topicalization in Turkish. Finally, using examples from English and Turkish, we will discuss the necessity of a mechanism of *reconstruction* that optionally "undoes" or reverses the effects of movement to handle facts involving binding and scope.

References

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