A STOCHASTIC OPTIMALITY THEORY APPROACH TO SYNTACTIC CHANGE

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Brady Z. Clark
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I certify that I have read this dissertation and that, in my opinion, it is fully adequate in scope and quality as a dissertation for the degree of Doctor of Philosophy.

Paul Kiparsky
(Principal Co-Advisor)

I certify that I have read this dissertation and that, in my opinion, it is fully adequate in scope and quality as a dissertation for the degree of Doctor of Philosophy.

Elizabeth Traugott
(Principal Co-Advisor)

I certify that I have read this dissertation and that, in my opinion, it is fully adequate in scope and quality as a dissertation for the degree of Doctor of Philosophy.

Joan Bresnan

I certify that I have read this dissertation and that, in my opinion, it is fully adequate in scope and quality as a dissertation for the degree of Doctor of Philosophy.

Peter Sells

Approved for the University Committee on Graduate Studies:

Abstract

This thesis challenges the claim that syntactic change should be modeled in terms of adjustments in the probability distribution of competing grammars (Kroch 1989b; Yang 2000). Building on work of Boersma (1998), Boersma and Hayes (2001), and Bresnan et al. (2001), I propose a novel formal framework for modeling syntactic change that is firmly embedded in the inherent variability tradition (Weinreich et al. 1968). In this approach, grammars are conceived of as constraint rankings on a continuous scale of real numbers. Further, in the process of speaking or hearing (i.e., at any evaluation point) the rank of each constraint is slightly perturbed by adding a random value drawn from a normal distribution. This perturbation of constraint ranking leads to intraspeaker variation and, consequently, defines a probability distribution over outputs from the grammar for a given input, where, roughly speaking, the input is the meaning of an utterance or the speech stream. Given this picture of linguistic competence, syntactic change is reflected by adjustments in constraint strength along a continuous scale of real numbers.

Two case studies on syntactic change in early English form the empirical core of this thesis: the gradual decline of right-headed structures (e.g., OV), and change and variation in the syntax of subjects. These case studies draw on data from secondary sources, as well as novel evidence from the York-Toronto-Helsinki Parsed Corpus of Old English Prose and the Penn-Helsinki Parsed Corpus of Middle English, Second Edition. The analyses proposed capture generalizations about English clause structure change discussed in earlier work, with additional empirical benefits. Certain logically possible but unattested word orders in early English are predicted to be absent. Further, a theory embedded in this framework allows one to give a unified analysis of change and variation in the syntax of different types of subjects in early English, accounting for why subject pronouns gradually adopt the syntax of full noun phrase subjects in Middle English.

Apart from these empirical gains, the case studies highlight several important properties of the grammatical model advocated for in this thesis. First, the grammatical model contains a nondeterministic, noncategorical, and quantitative component that captures intratextual variability displayed by both of the phenomena explored in the case studies. Second, the steady quantitative rise in the rate of use of an innovation is reflected by gradual adjustments of constraint strength. Third, the model accounts directly for the observation that categorical phenomena at one stage of a language show up as statistical preferences at another.

Acknowledgments

The seed of inspiration for this work came from a series of papers by Joan Bresnan and collaborators applying the framework of Stochastic Optimality Theory to problems in syntactic variation. I saw in that work a new grammatical model for syntactic change that overcame some shortcomings of previous approaches, as well as an opportunity to investigate in one work several interests I had been cultivating for years; e.g., the formal foundations of syntactic theory and word order variation in early English. This project began in 2001, progressed in fits and starts, and then gelled into this document in early 2004.

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This thesis is dedicated to Gina, Malachi, and Riley. You are my heart. We don't have much time — let's turn the world into a holiday.

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