UNIVERSITY OF CALIFORNIA

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PHONOLOGY SHAPED BY PHONETICS: THE CASE OF INTERVOCALIC LENITION

A dissertation submitted in partial satisfaction
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

LINGUISTICS

by

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June 2010

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Abstract

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The goal of this dissertation is to explore the phonetic bases of intervocalic lenition – specifically, voicing and spirantization of intervocalic stops. A traditional understanding of phonological patterns like these is that they involve articulatory effort reduction, in that speakers substitute an easy sound for a hard one. Experiment 1 uses a novel methodology to investigate whether voiced and spirantized productions are truly easier than their unlenited counterparts: the speech of intoxicated subjects is recorded and compared with their speech while sober, on the hypothesis that intoxicated subjects expend less articulatory effort. This experiment thus attempts to observe effort reduction in action in the laboratory. The results of Experiment 1 do *not* provide evidence that voicing and spirantization are effort-reducing; rather, intoxicated subjects exhibit an overall contraction of the articulatory space. Experiments 2 – 4 investigate whether an alternative account of lenition based on perception is viable. Results suggest that attested alternations such as spirantization of voiced stops are preferred on perceptual grounds to unattested alternations such as intervocalic devoicing. Thus, the hypothesis of the P-map (Steriade 2001) can explain the broad strokes of lenition, although differences by place of articulation found in Experiment 3 do not match well with the typology. I conclude with an analysis of intervocalic spirantization couched within Optimality Theory, and particularly Dispersion Theory, using constraints motivated by Experiments 1 – 4. Unlike previous accounts of lenition, this anal-

ysis invokes no constraints that directly favor lenited forms over unlenited ones, since no such constraints were motivated by Experiment 1. The constraints that *are* made available by the experimental results are nevertheless able to account for a sizeable portion of the typology of lenition. I conclude that articulatory factors say less about lenition than traditionally thought, and that perceptual factors say more – and that theories of phonology that are committed to taking phonetics seriously must take notice.

Acknowledgements

I had the good fortune to be advised by a dedicated and intellectually stimulating committee. My advisor, Jaye Padgett, was unfailingly supportive in matters both academic and practical; his dedication to his students, as revealed by his generous sharing of time and intellecual energy, is exemplary. This research would have been far poorer without his guidance. Grant McGuire was an invaluable help in considering questions of experimental design, statistical analysis, and interpretation of complex data. Armin Mester was a model of thoughtful phonological analysis. Keith Johnson generously agreed to be an external member of both my QE and dissertation committees, and his incisive questions have contributed greatly to this project.

The UCSC linguistics department was an excellent environment for developing as a graduate student. The faculty are models of intellectual rigor and humility, and their devotion to teaching benefits undergraduates and graduates alike. Jim McCloskey characteristically went above and beyond the call of duty in advising my syntax QP. The graduate student community is stimulating and supportive; I am especially glad to have overlapped with Paul Willis and Jeremy O'Brien, with their infectious enthusiasm for all things phonological.

My parents have supported my linguistic endeavors from the beginning, despite my teenage rebellion of ceasing to be a prescriptivist. Aaron has been the best husband-linguist anyone could hope for. Graham, of course, is stupendously amazing.

My graduate education was funded by the National Science Foundation (with a Graduate Research Fellowship) and the University of California (with a combi-

nation of fellowships and TAships). I'm very grateful to these institutions – and, by extension, to all US and California taxpayers. Thank you!

Special thanks are due to the following:

- Lev Blumenfeld, whose seminar on the "too-many-solutions" problem inspired Experiment 2, which in turn inspired the rest of the dissertation.

- Everyone who lent practical assistance to the experiments reported here: Ryan Bennett, Judith Fiedler, Victoria González-Pagani, Boris Harizanov, Travis Kephart, Ruth Kramer, Elizabeth Oyarzabal, Hernán Oyarzabal, Kyle Rawlins, Peter Shoun, Dave Teeple, Luís Vicente, Jenn Wyatt, Ulrike Yang, and the linguist house.

- Robert Henderson, for providing pixie music; Mark Norris, for attacking the gelatinous cube; Matt Tucker, for reviving Qillathe; and Oliver Northrup, for breaking her out of the insane asylum.

- Everyone who helped us when we decided it was a good idea to move 700 miles with a four-month-old infant: Mark, Jeremy, Judith, Paul, Astra, Rachel, and the Southside Church of Christ.

Finally, this dissertation is dedicated to the memory of the teacher who showed so many students the joys of language, and who introduced me to linguistics in high school: Dr. Don Houpe, who never met a language he didn't like.