

ABSTRACTS OF MANUSCRIPTS SUBMITTED FOR PUBLICATION

VARIATION AND INTERACTION IN SPEECH

L.C.W. Pols. Accepted for publication in: Invariance and Variability of Speech Processes, J.S. Perkell and D.H. Klatt (Eds.), Lawrence Erlbaum Associates, Inc., Hillsdale, New Jersey.

ABSTRACT

Speech is a dynamic acoustic signal with many sources of variation. Acoustic cues to phonetic segments are multiple and intertwined. In order to study the importance of specific cues one frequently makes use of manipulated or synthetic, short, utterances. Identification of such isolated utterances is a laboratory task of which the results are sometimes too easily generalized. One complicating factor is disregarding the importance of context. Apart from the linguistic aspects of context, the physical aspects of context are also important in order to create a referential framework for correct interpretation of various attributes.

In this paper a plosive identification experiment with ambiguous sentences is described, in which this aspect of context is strongly emphasized. It will be shown that, in an appropriate context and with a realistic identification task, the amount of information in a vocalic transition about preceding or following plosives can compete with that in the plosive burst itself. There is always interaction between, on the one hand, the variation in speech sounds and, on the other hand, the context which sets the referential framework. If there is no context then the listener's reference is ill-defined. Presentation of isolated chunks of speech for identification provides an ill-defined perceptual set, with consequences that are not totally predictable.