

DISTINCTIVE FEATURE CONSTRAINTS ON PHONEME ERRORS OF DIFFERENT TYPES

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The substitution of one phoneme for another in spontaneous speech errors can take the form of (1) the Exchange of two target segments (as in "top shalk" for "shoptalk") or (2) the Substitution of an intrusion segment for a target. Substitutions may be Anticipatory (as in "Rynn rang" for "Lynn rang"), Perservatory (as in "knee neep" for "knee deep") or No-source (as in "Winken, Blinken & Mod" for "Nod").

Most analyses have combined all error types into one consonantal confusion matrix. Yet, various production models in the literature make different predictions about feature constraints on different error types. To test these predictions, a corpus of 820 consonantal errors was divided into separate matrices by error type, and each matrix analyzed by the method of Klatt (1968). For the three dimensions of voicing (2 values), manner (6 values) and place (6 values), the exchange and anticipatory substitution matrices are indistinguishable. In contrast, perseveratory substitutions preserve the place feature and no-source substitutions preserve the manner feature significantly more often. Analyses of a larger corpus, using a number of alternative feature systems, are underway.

Earlier studies have also shown that intrusion and target segments share distinctive features more often than would be predicted by chance. This has been interpreted as support for the claim that distinctive features, rather than phones, move and exchange in errors; details of the exchange error data permit us to refute this claim (Shattuck-Hufnagel & Klatt, 1979).

References

- Klatt, D.H. (1968), "Structure of confusions in short-term memory between English consonants", JASA 44, 401-407.
- Shattuck-Hufnagel, S.R. and Klatt, D.H. (1979), "The Limited Use of Distinctive Features and Markedness in Speech Production: Evidence from Speech Error Data", J. Verb. Learn. Verb. Behav. (in Press).