

Competitive and therefore defeasible? On deciding prosodic outcomes

Explanations are inherently competitive, whether theological, teleological, functional, causal or deductive. Explanatory theoretical frameworks may compete with each other or, within a given framework, a theory may be associated with competitive modelling strategies and a procedure for deciding between outcomes, i.e. for defeating all but one outcome.

At the framework level, in the simplest case, an explanation vies with no explanation. In more sophisticated contexts where rationality has its limits, social competition is involved, such as in the explanatio ex auctoritate of a declaration of personal, political or divine will, as in the final decision at a higher level in an institutional hierarchy, in scientific inter-paradigm or inter-framework reviews or disputes, or as in the domestic “Stop that! - Why? - Because!” situation. In standard deductive nomological explanation, an explanation in the form of a predictive description is permanently in competition with potential falsification by honest observation, analysis and comparison.

At the theory level, alternative models may be available for capturing generalisations, for example plurals in English morphosyntax: a description with unordered allmorphs in context vs. an ordered list starting with stem-final sibilant contexts. Competitive orderings of different kinds are used in different theories for outcome selection: preferences in Natural Phonology, constraint ranking in Optimality Theory, overriding in Default Inheritance and Default Logic theories.

Natural Phonology and Optimality Theory being rather well-known, the present contribution concentrates on outcome decisions in a number of cases modelled in a default-based approach applied to a set of phonotactic and prosodic problems which are not typically handled by Natural Phonology or Optimality Theory: lexical prosodies in a Mande language, tone displacement in Kikuyu, markedness of intonation contours, morphological intercalation in Arabic, stress assignment in English, root modification in German inflection.

The point may be demonstrated using the concepts of stress and prominence. Phonetic prominence assignment rules are based on competing abstract stress patterns at different hierarchical ranks (e.g. word, sentence, text, dialogue): at each rank, default assignments at other ranks may be overridden in different ways, even permitting the systematic assignment of prominence to individual segments, as the contrastive contexts in *Did you say 'pig' or 'fig'?* with additional aspiration and lengthening of the onset consonants, or *I said 'bun', not 'bum'.* with [n:] and [m:] as realisations of prominence.

In conclusion, it is claimed that Natural Phonology and Optimality Theory stop short of fully competitive explanations, and that explicit formalisation with a default logic interpreted by a realistic theory of production and perception behaviour would remedy this deficit and permit a unified explanation of such devices as elsewhere condition, markedness, and preferential rule or constraint ordering. A formal theory based on language structure alone is insufficient. Consequently, a realistic grounding of the theory in terms of both phonetic processes functional contexts is proposed.

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