Features, categories, and interactions within levels

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Abstract

Consonant and vowel categories, differing in distinctive features, interact into projected syllables. Noun and verb categories, also differing in distinctive (categorial) features, interact into projected phrases. Phrases to categorize (via featural distinctions of the A/A', head/maxP sort) and interact into chains, thus regarded as super-projected structures. What is less obvious is whether these distinctions - cutting across levels of analysis (phonology, phrasal syntax, representations with semantic consequences) - are equivalent. The question is open if such distinctions stem from an underlying algebraic base.

This study explores how fundamental features are correlated variables in Fourier analysis: a narrower localization in time (relevant for consonants) entails a less accurate frequency representation (relevant for vowels direction) - and vice-versa. This simple idea may generalize to subcases involving the projection of lexical characteristics and displacement after that (chains), which can be achieved by taking predicate representations as probability waves associated with the degree to which a given predicate obtains, which creates a formal situation arguably analyzable in Fourier terms.

Then nothing prevents an equivalent move to the realm of chains, where what is linked are portions in a phrase-marker under relevant structural conditions, resulting in distributed representations (chains) that may collapse into observables at the point of phonological (linearized) or semantic (concretized) representations. This approach directly affects the distinction between tokens and occurrences of category types: one can have a distributed (wave-like) or punctual (measurable) representation, not both.

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