

Modeling the Neighborhood Hypothesis for syncretisms

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A familiar hypothesis about systematic syncretisms is that they can only extend over neighboring cells in a paradigm (the Neighborhood Hypothesis/NH). Proceeding on the assumption that this hypothesis is empirically valid, work in the nanosyntactic framework has attempted to derive it from intrinsic properties of the lexicalization algorithm. In particular, Caha (2009) offers a demonstration that the NH follows for 1-dimensional paradigms (case-paradigms with number and gender kept constant) in the form of the *ABA-theorem.

The basic tenet of Nanosyntax is that the terminals of syntactic trees stand in a one-to-one relation with syntactic features ordered in a functional sequence. Consequently lexical items (morphemes) are associated with syntactic trees, and a morpheme associated with the tree T can replace any piece of syntactic structure matching a constituent of T, when the lexicalization algorithm is applied at the interface (the Superset Principle) subject to the Elsewhere Condition, which gives precedence to the candidate with the most restricted potential distribution. Caha shows that this excludes ABA-patterns in 1-dimensional paradigms. However, this result really depends only on features being privative and cumulative, not on their corresponding one-to-one with syntactic terminals, and hence not on the idea that the mapping from syntax to morphemes is defined on trees rather than feature-bundles. That is, the empirical validity of *ABA will not provide an argument in favor of the more basic nanosyntactic claim.

The requirement that a structure S lexicalized by M must be a constituent of the tree T associated with M in its lexical entry, creates a problem, when the nanosyntactic account of systematic syncretism is extended to syncretisms crossing paradigmatic dimensions, e.g. when M occurs as a Case-inflection both in the singular or the plural and/or in more than one gender. In recent work by P. Caha and M. Pantcheva a solution involving “pointers” is explored. As it turns out, however, this account predicts deviations from the NH, e.g. ABA-patterns, under very specific conditions. Since these predictions follow from the requirement that M only can lexicalize syntactic structures matching constituents of the tree it is associated with, we now have an argument for defining the syntax to morphemes mapping in terms of trees rather than feature-bundles, if the predictions are borne out.

By contrast, there is an account of cross-dimensional syncretism that essentially defines the syntax to morpheme mapping in terms of bundles of cumulative privative features, and excludes all the deviations from the NH which the system with pointers would allow. Thus, if these deviations do not actually occur (to a statistically significant degree), we are led to conclude that lexical insertion looks at feature-bundles rather than trees. Both the system using pointers and the system that gives up on constituency fail to generate certain syncretism patterns complying with the NH. But the set of NH-compatible paradigms disallowed by the system without pointers is a superset of the set of NH-compatible configurations excluded by the system with pointers. Again, the difference reflects the fact the system with pointers maintains that M can only replace a structure matching a constituent of the tree associated with M. Therefore, we have yet another way of determining on empirical grounds whether lexical insertion is defined on trees or on feature bundles.