

Many Plurals: Inflection, Informational Additivity, and Morphological Processes

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Pointing to morphological phenomena that do not involve the addition of a discrete phonological piece – e.g. morphological subtraction or discontinuities – non-morphemic morphological theories (Aronoff 1994, Anderson 1992, Hoeksema and Janda 1988, for example) for a theory based on process, not morphemes. That is, they are concerned with accounting for the kinds of relationships that can exist between and among stems and words, rather than with identifying the pieces of words. The processual view of morphology can be schematized as in 1.

1. [Morphological object type A] → [Morphological object type B]

This paper explores the implications for a processual view of morphology of the idea that inflection is informationally additive, that is, the idea that when the relationship in 1 has to do with inflection, it is also necessarily the case that B is informationally richer than A.

Two assumptions inform the exploration. First, drawing on information-based syntactic theories (like HPSG or LFG) and consistent with the morphological work of Aronoff 1994, I take linguistic objects, whether they involve stems, words, phrases or sentences, to be signs. They involve a phonological part, a semantic part and, crucially for our purposes, a syntactic part.

2. [phonology]
[syntax]
[semantics]

Second, a sign is an articulated attribute/value structure. That is, each of the three parts of the sign in 2 involves a set of features and associated values. Because I will have little to say about the internal structure of the phonological and semantic parts, 3 expands accordingly the syntax of a sign only. Each of the superscripted *F*s stands for an attribute; the lower case letters represent values.

3. [phonology]

$$\left[\begin{array}{l} F^1: a \\ F^2: b \\ F^3: c \end{array} \right]$$
 [semantics]

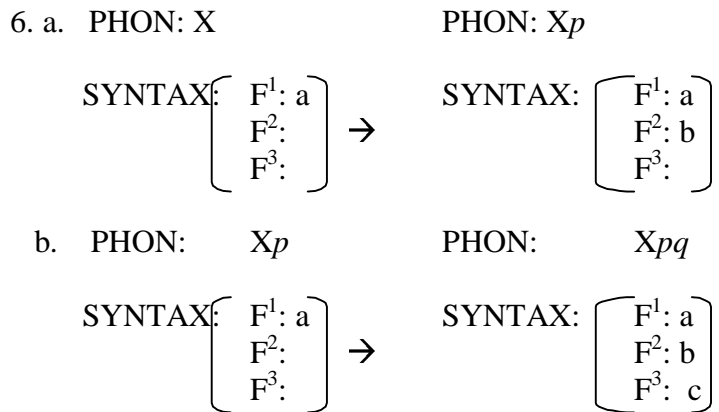
Given these two assumptions, informational additivity and inflection are easily defined. If a word in Language A has the syntactic information represented in 3, a stem offers the informationally reduced set represented in 4.

4.
$$\left[\begin{array}{l} F^1: a \\ F^2: \\ F^3: \end{array} \right]$$

Inflection is that set of operations by which the informationally reduced set of values in 4 becomes the fully specified set of values in 3. (Ex 5 represents this as a single operation, but this is for convenience only.)

5.
$$\left[\begin{array}{l} F^1: a \\ F^2: \\ F^3: \end{array} \right] \rightarrow \left[\begin{array}{l} F^1: a \\ F^2: b \\ F^3: c \end{array} \right]$$

The manipulation of information has not been the hallmark of processual theories of morphology, especially theories of inflection. The reason for this gap is intuitively obvious. Because they allow for the existence of operations pairing a discrete phonological segment and a single piece of information, operations that manipulate information might appear to reopen the door to the morpheme. Suppose, for example, that 5 subsumes two operations, one which adds the value 'b' and another which adds the value 'c'. Each of these operations could also involve the addition of a phonological segment, apparently mimicking the morpheme.

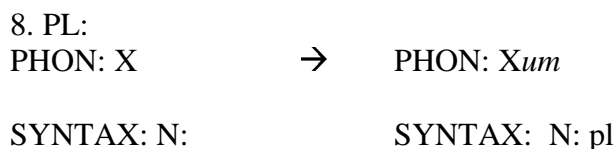


Yet the inadequacy of the morpheme in accounting for many types of morphological alternations was a primary impetus to the rise of processual theories. This paper is concerned, therefore, with demonstrating that, far from sneaking in through the back door the traditional pairing of sound and meaning, the manipulation of information does not undercut the basic insight of processual morphology, and, more critically, a more detailed examination of informational additivity provides dramatic support.

The Luiseño morph 'um', traditionally identified as the 'plural' morpheme, is the heart of the argument.

7. a. hunwut 'bear' b. hunwutum 'bears'

The contrast in 7 might lead to the expectation of an operation like that in 8, where the addition of the phonological piece /um/ is associated with the addition of the information 'pl'.



In fact, no such simple operation exists. Rather, there are multiple operations involving the phonological piece /um/ and multiple operations involving the informational piece 'pl'. But no operation that introduces the information 'pl' also introduces only the phonological piece /um/ and no operation that introduces the phonological piece /um/ introduces only the information 'pl'. All such morphological operations are both phonologically and informationally more complex, but they all are consistent with the fundamental idea of informational additivity.