The Asymmetry of Morphology

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1. Introduction

Typical restrictions on word formation suggest that asymmetry plays a role in the derivation of morphological expressions. This does not come as a surprise, given that syntactic expressions are subject to subject/object, complement/non-complement, and argument/adjunct asymmetries.1 This paper provides evidence to show that asymmetrical relations are part of morphological expressions.2 This further supports the hypothesis that asymmetry is basic to the grammar, as discussed in Di Sciullo 1998, 1999b, on the basis of lexical composition and transitivity alternations. We also provide evidence to show that morphological asymmetries are not isomorphic to syntactic asymmetries. This supports the hypothesis that words and phrases are different types of grammatical objects, as presented in Di Sciullo and Williams 1987, Bach 1996, Di Sciullo and Tenny


1997, and Di Sciullo 1996a, 1996b, 1997a, 1997b, 1999a, 1999c, among others.³
Our proposal is compatible with the Minimalist Program (Chomsky 1995, 1998,
1999, and related works) as well as the Antisymmetry framework (Kayne 1994,
Cinque 1999, and Moro 2001). It differs from these frameworks with respect to
the coverage of asymmetry in the grammar. In our model, asymmetry is a
fundamental property of the primitives, the operations, and the conditions of the
grammar.⁴

The organization of this paper is as follows. In Section 2, we present the main
properties of our model, including the Strict Asymmetry Hypothesis. In Section
3, we consider asymmetry in derivation. In Section 4, we discuss asymmetry in
compounding. In each case, we contrast the facts with syntactic asymmetries. In
the last section, we consider asymmetry in functional constructs.

2. Asymmetry in grammar

The hypothesis that asymmetry is basic to the grammar is supported by the
fact that structural relations play a role in the derivation of syntactic and
morphological expressions in specific ways. One example is the relational
notion of head. In syntax, a head determines the categorial features of its
syntactic constituent. The notion of relativized head (Di Sciullo and Williams
1987) points to the fact that a morphological object may have more than one
head – categorial, semantic, inflectional, etc. Another example is the notion of
Williams 1994, Hale and Keyser 1993). In syntax, a complement is selected by a
head, but the notion of the complement domain of an affixal head (Di Sciullo
1993, 1999b) points to the fact that morphological selection cannot be reduced
to sisterhood. Yet another example is the notion of asymmetrical c-command. In
syntax, this relation was proposed to be part of the analysis of a wide range of
phenomena,⁵ and was also proposed to cover linear order in English compounds
and prefixed forms (Kayne 1994, Keyser and Roeper 1997). The notion of
internal and external prefixes (Di Sciullo 1997a) points to the fact that in

³. Morphological objects differ from syntactic objects formally and semantically.
Among other differences from syntactic objects, morphological objects have a unique
stress, their constituents are not separable, and they are not fully compositional. See Di
⁴. See also Epstein 1995, Frank and Vijayashankar 1995, and Reuland 1997 for
discussion of the asymmetrical property of grammatical relations and their syntactic
derivations.
⁵. We take asymmetrical relations to be basic in the grammar and to determine
binding relations as well as linear order relations (Chomsky 1981, 1995, 1998, Kayne
1984, 1994, Reinhart 1983). We also take c-command to be a derived relation (Epstein
relation in terms of the more elementary sister and contain relations.
morphological expressions, linear order follows from more local asymmetrical relations (Di Sciullo 1999b).

We would like to propose that even though not isomorphic, morphological and syntactic objects share a basic property. We claim that this property is asymmetry, given the following hypothesis:

(1) **Strict Asymmetry Hypothesis**

Grammatical relations are strictly asymmetrical.

The specificity of (1) lies in the assumption that any structural relation, be it primitive or derived, is asymmetrical. We take asymmetry to be a minimally unidirectional relation $r$, given the following definition: $r$ is asymmetrical $\equiv (\forall x)(\forall y)(rxy \supset \neg ryx)$.

Thus the primitive structural relations of precedence and dominance are asymmetrical, as is the case for other structural relations of the grammar, including the “complement of,” “Specifier of,” and “adjunct of” relations, as well as the asymmetrical c-command or sister contain relation.

To illustrate the hypothesis that the elementary and derived structural relations of the grammar are asymmetrical, let us consider the following configurations:

(2) a. w b. x c. w

\[
\begin{array}{c}
\text{(x \ y)} \\
\text{(x \ w)} \\
\text{(w \ y)}
\end{array}
\]

\[
\begin{array}{c}
\text{(x \ z)} \\
\text{(x \ w)} \\
\text{(w \ y)}
\end{array}
\]

d. x e. x f. x

\[
\begin{array}{c}
\text{(x \ y_{compl})} \\
\text{(y_{Spec} \ x)} \\
\text{(y_{adjunct} \ x)} \\
\text{(x \ w_{compl})}
\end{array}
\]

In (2a), that $x$ precedes $y$ does not imply that $y$ precedes $x$; in (2b), that $x$ dominates $y$ and $z$ does not imply that $y$ and $z$ dominate $x$; in (2c), that $x$ asymmetrically c-commands $y$ does not imply that $y$ asymmetrically c-commands $x$; in (2d), that $y$ is the complement of $x$ does not imply that $x$ is the complement of $y$; in (2e), that $y$ is the Specifier of $x$ does not imply that $x$ is the Specifier of $y$; and in (2f), that $y$ is the adjunct of $x$ does not imply that $x$ is the adjunct of $y$.

The Strict Asymmetry Hypothesis precludes symmetrical structural relations. Thus, there is no bare sisterhood relation or symmetrical c-command relation that plays a role in the grammar. In our model, the operations of the grammar derive asymmetrical relations. We define two operations: SHIFT and LINK. The first derives complex categories on the basis of more elementary...
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