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

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1. See Chomsky 1981, Huang 1982, Rizzi 1990, Lasnik and Stowell 1991, Lasnik and Saito 1992, Hornstein 1995, and related works.

2. See Selkirk 1982, Di Sciullo and Williams 1987, Lieber 1992, Borer 1991, 1994, Di Sciullo 1996a, 1996b, Hale and Keyser 1993, Keyser and Roeper 1997, and Di Sciullo 1999a, 1999b for a configurational approach to the properties of morphological expressions.

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 complement (Di Sciullo 1993, 1995, 1997a, 1997b, Law 1997, Roeper 1999, 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

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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 Sciullo and Williams 1987 and Di Sciullo 1996a, 1996b for discussion.

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 1995, Frank and Vijayashankar 1995, Reuland 1997). Chomsky (1999) redefines this 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:
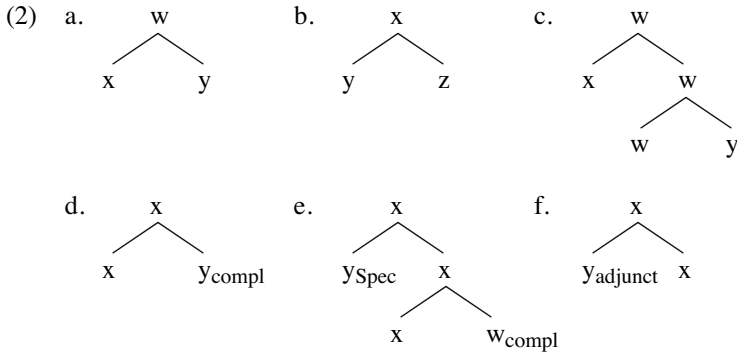
(1) **Strict Asymmetry Hypothesis**
      Grammatical relations are strictly asymmetrical.

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**$=_{df}$ $(\forall x)\,(\forall y)\,(rxy \supset {\sim}ryx)$.

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
          /\   /\   /\
         x   y   y   z   x   w
                                                                /\
                                                               w   y

     d.   x   e.   x   f.   x
          /\   /\   /\
         x   y$_{compl}$ y$_{Spec}$ x   y$_{adjunct}$ x
                                        /\
                                       x   w$_{compl}$

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