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Material from my article "'Dative Sickness' in Icelandic," *Natural Language and Linguistic Theory* 12 (1994) 675–736, appears in Section 1.2 and scattered throughout Chapter 2.

Contents

1 *Introduction*

1.1 Preliminaries

The study of case has many facets, and the word "case" itself has come to mean many things. This study aims at a better understanding of the way case functions in syntax by providing a new theory of the syntactic functioning of case and other morphosyntactic devices.

Because the focus is on case as it functions in syntax rather than case as a morphological category, I will make certain assumptions which will figure prominently below. First, I will assume that morphological case and syntactic case do not always coincide. Morphological case will simply be the paradigms of affixes which may carry other information as well, e.g. gender and number. For example, the "dative" case as a morphological category is a set of endings. My primary concern is with syntactic case, and here the distinctions are not quite so visible. A syntactic case will be defined by its basic distribution and its interaction with other cases. For instance, if we observe that dative marks the goals of various verbs – what might be termed "indirect objects" – we have a situation very common in the world's languages: I(NOM) gave you(DAT) the book(ACC). But quite often we then notice that the dative marks an NP that is an experiencer in a sentence based on a two-place predicate: I(DAT) like the book(NOM). At this point we have a choice. We can assert that the "I" NP in such a sentence is the "same" in some sense as the "you(DAT)" in the sentence with the three-place predicate. The "sameness" might be identity of "grammatical relation," for example indirect object (or 3 in Relational Grammar). Another ("localist") approach would be to seek some shared semantic characteristics, making them both the endpoint of some motion, either physical or metaphorical. Either way, the appearance of a morphological dative is coextensive with some more abstract category.

The problem becomes more difficult when we find isolated verbs taking this same morphological case, where we expect another case, e.g. accusative: I(NOM) lost the book(DAT). We can try to save the match between dative and our abstract categories like indirect object or experiencer, but only at a price. If we say that such a verb (Icelandic has many such verbs) selects an indirect object, then we are well on our way to reducing indirect object to the category of morphological dative. Saying that dative is assigned to indirect objects approaches being a tautology.

However, if the distinction between case as a morphological category and case as a syntactic category is made, then we have another option, taken in this work. One morphological case can correspond to multiple syntactic cases. This is like saying that we have various "rules" for assigning dative, one for "indirect objects" (or whatever category is appropriate for datives in ditransitives), and one for "experiencers". And verbs can assign dative in their lexical entries, the limiting case of a rule that applies to one item. This distinction is an interesting one to the extent that it leads to the discovery of new phenomena. One of the primary motivations of this study is to show that this is so.

Furthermore, if the definition of syntactic cases involves, as I will argue, a consideration of their basic distributions and effects on the syntax of the clause, then it is proper to consider other morphosyntactic devices as forming similar syntactic categories. It is well-known that agreement and/or a particular position, e.g. sentence-initial position, correlate with what we might want to call subjecthood. That is, NPs that are special in a sense to be described shortly, are often the target of agreement or occur in a special position. For languages that have such behavior, I will treat agreement and word order as syntactic "case" categories which do not correspond to a morphological case. All such syntactic "cases" will be called "linkers." I will use "case" and "linker" interchangeably, except that I will use "linker" as the general term whenever I wish to draw attention to the distinction between case proper and linkers generally. What they all have in common is that they "link" – mediate between in a sense to be described shortly – arguments on the one hand and surface NPs on the other.

Predicting surface form based on the number and type of NP complements a verb selects is not the only goal. I will argue, in the tradition of direct linking (about which more in the next section), that grammatical relations like "subject of" and "object of" can be defined on the order of the verb's complements and the nature of the linking they undergo. To

this end one distinction often made is crucial here. Subjecthood properties come in two varieties, coding and behavioral (Keenan (1976)). Coding properties are nominative case in some languages, preverbal position in some languages, etc. Behavioral subjecthood properties are the ability to participate in certain syntactic constructions in certain ways, for example to be the target of control, to be the antecedent of certain kinds of reflexive pronouns, etc. One of the main claims in the following is that the second type of property, the participation in characteristic constructions, is predictable on the basis of linking, i.e. coding properties. From the argument structure of a verb and from linkers like nominative and dative and their nature, we will be able to derive the grammatical function behavior of the various NPs.

A final goal of the present study is to provide a theory that can begin to account for another type of case behavior, the change of cases over time. Once again, I will focus on changes in linking rather than purely morphological changes in sets of endings. Of course I will not take the history of linking in any language to be synchronically represented as part of any speaker's competence. I will, however, try to show that the theory developed to account for syntactic case behavior has diachronic implications which are supported by a wide range of data.

1.2 Theoretical framework

In the following chapters I will develop a theory of case within a framework based on two traditions, direct linking and the extended categorial framework. Since the second is more widely known, this section will focus on direct linking and on which aspects of it will be adopted below.

1.2.1 What is linking?

Generally speaking, a theory of linking deals with generalizations involving argument structure (possibly including thematic structure), grammatical functions (subject, object, oblique), and morphosyntactic expression (case marking, word order, and agreement). A very simple linking theory for English based on traditional grammar would be as follows:

(1) a. NPs that denote agents bear the grammatical relation subject.
b. NPs that denote patients bear the grammatical relation direct object.

c. NPs that denote beneficiaries or recipients bear the grammatical relation indirect object.

(2) a. Subjects normally occur in preverbal position.
b. Indirect objects occur immediately after the verb.
c. Direct objects occur within the verb phrase.

Latin, on the other hand, being a language with the nominative-dative-accusative system alluded to in the previous section, would share the rules in (1) with English but would have (2′) instead of (2), which would account for the distribution of cases in a ditransitive like (3):

(2′) a. Subjects are marked nominative and the verb agrees with the subject.
b. Direct objects are marked accusative.
c. Indirect objects are marked dative

(3) Magister puerīs librum dat.
teacher(NOM) boys(DAT) book(ACC) gives
'The teacher gives the boys the book.'

The rules in (1) express generalizations about the semantic content of NPs, and the rules in (2) and (2′) state generalizations about the expression of NPs. Notice that mediating between notions like agent and patient on the one hand and morphosyntactic categories like nominative and dative on the other are the grammatical relations. Morphosyntactic expression is assigned to grammatical relations which in turn are correlated with thematic relations.

The above toy theory does of course contain many inadequacies. Under (1), we have two problems. First, the rules are too strong and too weak. It is not true that agents are always subjects: for example, in the passive the patient is the subject and the agent is expressed in a by-phrase, if at all. Nor is it true that subjects are always agents, as shown by sentences like *John died.* So just reversing the direction of the generalizations (Subjects are agents, etc.) above would not work.

The second problem is the nature of the thematic relations themselves. Providing a satisfactory definition of "agent" or "patient" has been very difficult indeed (see Dowty (1991) for a thorough discussion of this problem). At this point we are faced with two choices. One is to use thematic relations provisionally in the hope of discovering an adequate definition

later. The second is to try to do without them. This is the route taken in the following work (see §1.2.3 and Chapter 2 below).

The term "linking" is applied to a theory that deals with generalizations like those in (1) or those in (2). A theory of linking is said to be "direct" in the sense of Kiparsky (1987) if the mapping between arguments (for Kiparsky, thematic roles) and morphosyntactic form is direct rather than mediated, as in (1) and (2), by grammatical functions like subject and object. Rather, the mapping between arguments and morphosyntactic expression is primary, and grammatical relations can be defined as the result or output of the linking itself. Very roughly, mediated and direct linking can be schematized as in (4):[1]

(4) mediated linking: arguments → grammatical functions → morphosyntax
direct linking: arguments → morphosyntax → grammatical functions

In mediated linking, some rule (or the equivalent) assigns grammatical functions to arguments and then case is assigned to grammatical functions. In direct linking, rules assign case and other morphosyntactic categories to arguments directly and grammatical functions can be assigned to the resulting case-marked NP. In fact, as we will see, this assignment is hardly an assignment at all if one defines grammatical functions in terms of the result of the linking (the assignment of morphosyntactic expression to the arguments).

1.2.2 Background to this study: direct linking

The direct linking approach has its antecedents in Pāṇini's theory of *karakas* and, more recently, in Case Grammar (Fillmore (1968)) and in the theory of Ostler (1979). Since I will be using the direct linking framework and since the theory to be proposed shortly is most closely related to that of Kiparsky (1987), I will present the basics of Kiparsky's Linking Theory (henceforth KLT) in this subsection. In the next subsection I will outline which aspects of direct linking will be incorporated into the present work.

Since it is a direct linking theory, KLT assumes that morphosyntactic expression is assigned directly to arguments. In Kiparsky (1987) these arguments are taken to be thematic roles, i.e. arguments with labels that reflect lexical semantic classifications. Arguments are classified into thematic roles by the entailments that the argument is involved in

(Ladusaw and Dowty (1987), Dowty (1989)). Thus an argument is an experiencer if a positive sentence with the verb entails that the entity corresponding to that argument is sentient and aware of something. Leaving aside for now the problem that such definitions pose, the resulting thematic roles are then organized into a hierarchy (many versions exist; Jackendoff (1972) is an especially famous one). KLT assumes the partial hierarchy in (5):

(5) ⟨ agent/source ⟨ goal ⟨ instrument ⟨ theme ⟨ locative ⟨ verb ⟩⟩⟩⟩⟩⟩

The argument structures of individual verbs will be a list of thematic roles obeying the order in (5), i.e. the argument structure of a given verb is a portion of this hierarchy. For example the verb *kick* will have the argument structure in (6):

(6) ⟨ agent ⟨ theme ⟨ kick ⟩⟩⟩

Roles lower on the hierarchy are closer to the verb (combine with the verb last), as indicated by the complex bracketing in (5). Thus in (6), the claim is that the theme is more closely related to the verb than the agent. Kiparsky (1987) claims support for this view from (i) unmarked word order and (ii) interpretational dependencies. First, if the thematic hierarchy defines the order in which arguments are semantically combined with their predicates (Kiparsky (1987: 34)), then the "unmarked" word order should be determined by the hierarchy. The idea is that the order that reflects the combining of the arguments with the verb will show up on the surface, provided that no grammatical constraints or extra-grammatical factors intervene. Language-specific grammatical factors do indeed intervene in strict word-order languages like English, but the hypothesis seems to be supported in some well-known languages like German and Japanese. However, the proviso concerning grammatical or extra-grammatical factors is a major one, making it very unclear whether there is a cross-linguistic unmarked word order, as Kiparsky (1987: 34) admits.

The second piece of evidence for the thematic hierarchy is from interpretational dependencies between the arguments of a verb. The claim is that the interpretation of higher thematic roles often depends on the result of composing the predicate with lower roles but not vice versa. Take the verb *keep* as an example. When the agent is combined, the presence or absence of a source (e.g. *from Bill*) determines whether the agent is entailed to "possess" the theme or not. So in *John kept the*

money, John is entailed to have the money, whereas in *John kept the money from Bill*, John is not entailed to have the money.

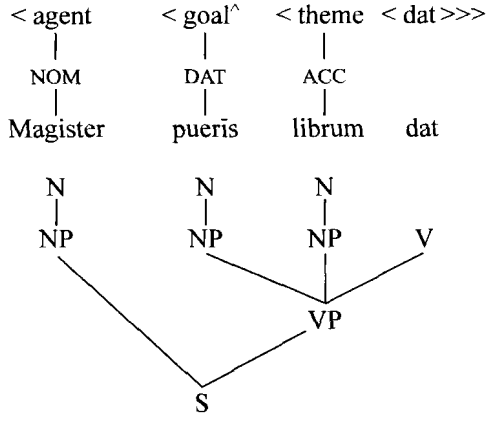
A related piece of evidence for the hierarchy comes from idioms. Marantz (1984) argued for a logical subject/logical object asymmetry on the basis of the greater frequency of object idioms (idioms with a "frozen" object, e.g. *kick the bucket*) relative to the frequency of subject idioms (idioms with a "frozen" subject, e.g. *the devil take . . .*). Kiparsky (1987: 35f.) makes the stronger claim that frequency of idiom type correlates with how far down the thematic hierarchy the idiom type's "frozen" thematic role is. So we should expect most verb-locative idioms (*throw X to the wolves*, etc.) and fewest verb-agent idioms. This is difficult to show, even for one language, and the list in Kiparsky (1987: 36) shows that verb-locative, verb-theme and verb-locative-theme idioms are common, while verb-theme-goal, verb-goal, verb-agent, etc. are scarce. This is a first step, but all this really shows is a major divide between locative and theme on the one hand and goal and agent on the other. The evidence from idioms is suggestive, but it cannot be taken as a justification of distinctions as fine-grained as those of even the partial thematic hierarchy above.

Regardless of whether one accepts the thematic roles approach to argument structure, KLT is a theory of linking and so covers argument relations and morphosyntactic expression but does not extend to Wh-Movement. This makes sense in terms of Government and Binding Theory (GB) (Chomsky (1981)) as well, since Wh-Movement is never movement to get Case. Rather, linking is concerned with what in GB would be handled through the lexicon, Theta Theory, and Case Theory. Since KLT deals with "NP-Movement" phenomena in a very different way from the GB treatment (KLT has no NP-Movement, as we will see), and Wh-Movement falls outside the area of linking, Kiparsky (1987) adopts the lexical structure of Hale (1983) as the locus of linking (lexical structure is similar to NP-Structure of Riemsdijk and Williams (1981)). Lexical structure consists of trees, and (like NP-Structure in Riemsdijk and Williams (1981)) it corresponds to what in GB would be the structure *after NP-Movement and before Wh-Movement* (this is not a level in conventional GB: it would be an intermediate stage of the derivation from D-Structure to S-Structure). Since Kiparsky makes these assumptions, his definition of linking is:

(7) Linking is a three-place relation between a θ-role, an argument (at lexical structure), and a morphosyntactic linker.

A linker is a morphosyntactic device such as a case, a word-order position or an agreement marker, i.e. a "syntactic case," as described in the last section. Linking rules will establish relations of the type in (7). So for instance, the rule "goal gets dative" will establish that an NP argument at lexical structure marked dative will be associated with the goal θ-role of the verb of the clause:

(8)



This is the result of linking for the Latin clause in (3) above. Note that the morphologically dative argument at lexical structure is linked via the dative morphosyntactic category (the dative linker) to the goal at thematic structure. Note further the caret sign next to the goal. This denotes "demoted," i.e. syntactically oblique.[2] All this means is that the indirect object in Latin is a syntactical oblique, i.e. it does not show any of the behavioral subjecthood or objecthood properties mentioned in the last section and examined more closely in the next chapter. To get this complete result though, two other linkings (for the agent and theme) had to be completed. To get (8) it will be necessary to go into more detail about linking in KLT.

Kiparsky (1987: 37), following Ostler (1979), distinguishes two kinds of linking, grammatical and semantic:

(9) a. Grammatical linking: agreement morphology, "grammatical" cases or adpositions, case, or position under verb government. Grammatical linking operates on the projection of (non-

demoted) roles in the θ-structure. Grammatical linking is of two types, unrestricted and semantically restricted (i.e. limited to a given θ-role).

b. Semantic linking: role assigners such as semantic ("oblique," "adverbial") cases or adpositions, and serial verbs. Any θ-role is eligible for semantic linking.

Roughly speaking, the distinction between grammatical and semantic linking corresponds to the term/non-term distinction in Relational Grammar, since the significance of the grammatical/semantic linking distinction lies in the definition of grammatical functions, which, it should be recalled, are defined on the result of linking. The definitions are as follows:

(10) a. Term: any grammatically linked argument[3]
b. Oblique: any non-term
c. Subject: highest term of a predicate [4]
d. Object: non-subject term of a predicate

Thus in the Latin in (8) above, the NP *magister* 'teacher' is linked by a grammatical linker, verb agreement, so this NP is said to be grammatically linked. It is the thematically highest grammatically linked NP and so, since it is the highest non-oblique, it is by definition the subject. An oblique like the dative NP in (8) is linked to a demoted role. Since the role is demoted, only semantic linking is possible. And, since the NP is semantically rather than grammatically linked, it is an oblique rather than a term.

The significance of the definitions is even clearer in the passive. KLT, like many current theories (including GB and the Lexical Mapping Theory of recent Lexical Functional Grammar (Bresnan and Kanerva (1989)), takes passive to result from the demotion of the "logical subject," i.e. the thematically highest argument. For the verb *dō* 'give' in (3) and (8) above, that argument is the agent. For the passive in (11), the passive rule in (12) is used to derive the argument structure in (13):

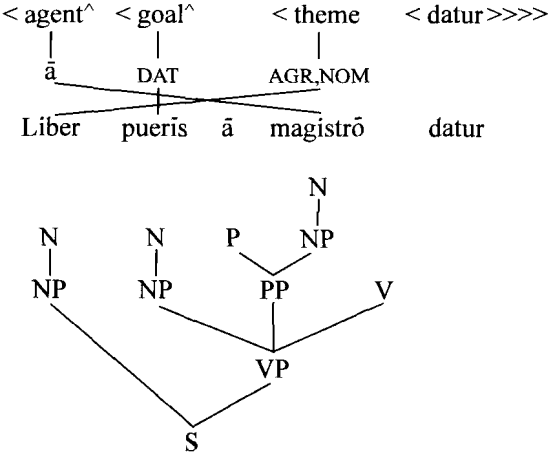
(11) Liber puerīs ā magistrō datur.
book(NOM) boys(DAT) by teacher is-given
'The book is given to the students by the teacher.'

(12) ⟨θ ...⟩ → ⟨θ^ ...⟩

(13) ⟨agent^ ⟨goal^ ⟨theme ⟨ datur ⟩⟩⟩⟩

Again, the caret sign denotes "demoted," i.e. unavailable for grammatical linking (oblique). Thus if the passive verb is the basis for linking, we cannot use any grammatical linker, including verb agreement, to link the agent as we did in the active version above. The demoted agent will be available only for semantic linking, by the preposition meaning 'by':

(14)



Note that the goal, if it had been grammatically linked, would have been the new subject, and, for example, in English where the goal is non-oblique, it could be the subject (*The students were given the books*). In Latin, though, the goal is demoted, so that the highest role available for grammatical linking in the passive is the theme. It is linked by agreement, a grammatical linker, and so is the thematically highest grammatically linked θ-role, i.e. the subject. Thus in both active and passive subjecthood falls out of the linking itself.

So far we have not been explicit about how the linking is done, i.e. which NP arguments and morphosyntactic devices to match up with which arguments. This will be the major topic of this book, and, although our conclusions will differ significantly from those of Kiparsky (1987), it will be useful to spell out the positions taken in Kiparsky (1987) beforehand. First of all, linking is subject to several constraints, which are the rough analogues in Kiparsky (1987: 37) of the Case Theory and Theta Theory of GB:

(15) a. One-to-one: Every linker must link a unique argument to at most one unique θ-role.

b. Obligatoriness: (i) Lexically realized arguments must be linked.
(ii) Terms must be linked (parametric).
c. Priority clause: (i) Grammatical linking has priority over semantic linking.
(ii) Inner θ-roles have priority over outer θ-roles.

The condition in (15a) disallows one NP expressing more than one θ-role and disallows a θ-role's being expressed by more than one NP (cf. the *Biuniqueness Condition in GB*). *The Obligatoriness Condition Part (i)* disallows unlinked NPs, i.e. linking is a precondition on the occurrence of an NP at the surface. This is similar in effect to the Case Theory of GB which disallows phonetically realized NPs from being Caseless. The Priority Clause deals with the relative priority of the linking of certain θ-roles over other θ-roles (ii) and some linkers over other linkers (i). In other words, if a given θ-role is eligible for both a grammatical linker and a semantic linker, the θ-role must be grammatically linked. We have already seen a case where this clause operates: in the active clause in (8) above, the logical subject, since it is not demoted, is eligible for the *grammatical agreement linker and, since it is an agent, it is always eligible* for the preposition *ā* 'by' (this is a semantic linker for agents). In this case the agreement linker has priority by (15c)(i). In the passive, however, the agent is demoted and so is available only for semantic linking.

Finally, in any direct linking theory, the inventory of linkers and the conditions on their distribution are paramount. Since the proposals of Kiparsky (1987) will be taken as a starting point for developing an alternative, I begin with Kiparsky's (1987, 1989) analysis of English. "Grammatical relations," whether primitive or derived, correlate with word-order position in English. This effect can be achieved in direct linking by means of the rules he proposes for English:

(16) Grammatical Linkers (Kiparsky (1989))
a. Agreement and $\_V''$: unrestricted
b. $V\_$: unrestricted
c. $V'\_$: Theme

(17) Semantic Linkers (Partial List, Kiparsky (1987: 14))
a. by_ : highest θ-role[5]
b. to_ : Goal, Allative