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978-0-521-58704-4 - Information Structure and Sentence Form: Topic, Focus, and the Mental Representations of Discourse Referents

Knud Lambrecht

Excerpt

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1 Introduction

1.1 What is information structure?

There has been and still is disagreement and confusion in linguistic theory about the nature of the component of language referred to in this book as **INFORMATION STRUCTURE** and about the status of this component in the overall system of grammar. The difficulties encountered in the study of information structure are in part due to the fact that grammatical analysis at this level is concerned with the relationship between linguistic form and the mental states of speakers and hearers and that the linguist dealing with information structure must deal simultaneously with formal and communicative aspects of language. Information-structure research neither offers the comfort which many syntacticians find in the idea of studying an autonomous formal object nor provides the possibility enjoyed by sociolinguists of putting aside issues of formal structure for the sake of capturing the function of language in social interaction.

Negative or defeatist views of information-structure research are therefore not uncommon, even among linguists who emphasize the importance of the study of linguistic pragmatics. The following quote concerning the role of topic and focus in linguistic theory illustrates such views: “Terminological profusion and confusion, and underlying conceptual vagueness, plague the relevant literature to a point where little may be salvageable” (Levinson 1983:x). In his own book on pragmatics, Levinson explicitly excludes the analysis of the relationship between pragmatics and sentence form, in particular the analysis of topic-comment structure. Yet interestingly, he contradicts his own negative appraisal later on in his book with this comment:

Perhaps the most interesting [kinds of interaction between conversational structure and syntax] lie in the area subsumed by the (rather unclear) notion of topic, for many of the syntactic processes called *movement rules* seem to have the function of indicating how information

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in the clause relates to what has been talked about before ... Perhaps the great bulk of the derivational machinery in the syntax of natural languages can be functionally explained by reference to the specialized conversational jobs that many sentence structures seem to be designed to perform. (1983:373)

It seems to me that any theoretical research that has even the slightest chance of eventually explaining “the bulk of the syntactic processes called ‘movement rules’” is worth pursuing, however discouraging the present state of our knowledge may be. I hope this book will reduce some of the “confusion and vagueness” which “plague the relevant literature” and thereby help reduce the gap between “formal” and “functional” approaches to the study of language.¹

The difficulties encountered in the analysis of the information-structure component of grammar are reflected in certain problems of terminology. In the nineteenth century, some of the issues described here, in particular the issue of word order and intonation, were discussed in the context of the relationship between grammar and PSYCHOLOGY, as manifested in the difference between “psychological” and “grammatical” subjects and predicates (see e.g. Paul 1909, especially Chapters 6 and 16). Among the labels which have been used by twentieth-century linguists are FUNCTIONAL SENTENCE PERSPECTIVE, used by scholars of the Prague School of linguistics, INFORMATION STRUCTURE or THEME (Halliday 1967), INFORMATION PACKAGING (Chafe 1976), DISCOURSE PRAGMATICS, and most recently INFORMATICS (Valldví 1990b). What unites linguistic research done under one or another of these headings is the idea that certain formal properties of sentences cannot be fully understood without looking at the linguistic and extralinguistic contexts in which the sentences having these properties are embedded. Since discourse involves the USE of sentences in communicative settings, such research is clearly associated with the general area of PRAGMATICS. The general domain of inquiry into the relationship between grammar and discourse is therefore often referred to as “discourse pragmatics.” The reason I have adopted Halliday’s term “information structure” is because in the present book special emphasis is placed on the STRUCTURAL implications of discourse-pragmatic analysis. Occasionally I will also use Chafe’s more vivid “information packaging,” whose partially non-latin character makes it less appropriate for international use.²

What then, is information structure or information packaging? According to Prince (1981a), information packaging has to do with

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the tailoring of an utterance by a sender to meet the particular assumed needs of the intended receiver. That is, information packaging in natural language reflects the sender's hypotheses about the receiver's assumptions and beliefs and strategies. (Prince 1981a:224)

As the word "tailoring" suggests, information structure is concerned with the **FORM** of utterances in relation to assumed mental states of speakers and hearers. An important part of the "hypotheses about the receiver's assumptions" are hypotheses about the statuses of the mental representations of the referents of linguistic expressions in the mind of the receiver at the moment of utterance. About these statuses, Chafe (1976) writes:

The statuses to be discussed here have more to do with how the content is transmitted than with the content itself. Specifically, they all have to do with the speaker's assessment of how the addressee is able to process what he is saying against the background of a particular context. Not only do people's minds contain a large store of knowledge, they are also at any one moment in certain temporary states with relation to that knowledge ... Language functions effectively only if the speaker takes account of such states in the mind of the person he is talking to. (Chafe 1976:27)

Crucial here is the observation that the study of information structure is not concerned with lexical and propositional content in the abstract but with the way such content is transmitted.

An important caveat is in order here. Even though information structure is concerned with such psychological phenomena as the speaker's hypotheses about the hearer's mental states, such phenomena are relevant to the linguist only inasmuch as they are reflected in **GRAMMATICAL STRUCTURE** (morphosyntax, prosody). The importance of this caveat cannot be overemphasized. I take information structure to be a component of **GRAMMAR**, more specifically of **SENTENCE GRAMMAR**, i.e. I take it to be a determining factor in the formal structuring of sentences. Information structure is **NOT** concerned with psychological phenomena which do not have correlates in grammatical form. This important limitation imposed on information structure research is stressed by Prince:

We may now word the basic problem as follows. From the point of view of the speaker/writer, what kinds of assumptions about the hearer/reader have a bearing on the form of the text being produced ... ? From the point of view of the hearer/reader, what inferences will s/he draw on

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the basis of the particular form chosen? We are, therefore, NOT concerned with what one individual may know or hypothesize about another individual's belief-state EXCEPT insofar as that knowledge and those hypotheses affect the forms and understanding of LINGUISTIC productions. (Prince 1981a:233)

This limitation makes it necessary to draw a theoretical distinction between the domain of information structure (or discourse pragmatics) as understood in this book and the general domain of PRAGMATICS, which is often understood to be a subdomain of semantics.³ Indeed since the early seventies, when the work of such language philosophers as Austin and Grice became integrated into mainstream American linguistics, the term "pragmatics" has been intimately associated with the study of MEANING. More particularly, "pragmatics" has been used to refer to the study of those aspects of the meaning of sentences which cannot be captured with the tools of truth-conditional semantics.⁴ Pragmatics in this sense, or "conversational pragmatics" (as one might call it in contradistinction to "discourse pragmatics"), is not so much concerned with grammatical structure as with the INTERPRETATION of sentences in relation to conversational settings. It was in order to account for this relation between interpretation and setting that Grice (1975) developed the concept of CONVERSATIONAL IMPLICATURE.

The concern with meaning in conversational pragmatics is predominant not only in the study of conversational implicatures but also in the study of certain aspects of language use which have more traditionally been referred to as "pragmatic" and which are clearly reflected in linguistic form. What I have in mind is the study of the pragmatic structure of individual lexical items, which for the purpose of the present discussion we may refer to as "lexical pragmatics." A good example is the study of deixis, the domain par excellence in which language structure and language use are inseparably intertwined. The study of the inherent pragmatic properties of deictic expressions is essentially the study of the contributions which these expressions make to the MEANING and INTERPRETATION rather than to the STRUCTURE of the sentences containing them. Nevertheless lexical pragmatics differs from conversational pragmatics—and in this respect is related to information structure—in that the interpretation of sentences containing such expressions is not determined by conversational inferences but by lexical form.

The student of information structure, on the other hand, is not primarily concerned with the interpretation of words or sentences in

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given conversational contexts, but rather with the discourse circumstances under which given pieces of propositional information are expressed via one rather than another possible morphosyntactic or prosodic form. Oversimplifying a little, one could describe the difference between conversational pragmatics and discourse pragmatics as follows: while conversational pragmatics is concerned with the question of why one and the same sentence form may express two or more meanings, discourse pragmatics is concerned with the question of why one and the same meaning may be expressed by two or more sentence forms. In the former there is no necessary relationship between the particular context-dependent interpretation of a proposition and the morphosyntactic or prosodic structure of the sentence expressing it; in the latter the relationship between a given sentence form and the function of the sentence in discourse is directly determined by GRAMMATICAL CONVENTION.⁵

There is thus an important though by no means always clear-cut difference between the two areas of pragmatics, the “conversational” and the “discourse” area. In the former, as Grice has emphasized, the inferences which a hearer draws on the basis of the relationship between the form of a sentence and the particular conversational context in which the sentence is uttered are determined by general principles of goal-oriented behavior, which are applicable to language as well as to other domains of mental activity. In the latter, the pragmatic interpretation triggered via a particular association between a sentence form and a discourse context is determined by rules or principles of grammar, both language-specific and universal. If in this book references to conversational pragmatics are relatively scarce, it is not because I underestimate the importance of Gricean principles of interpretation or the explanatory power of speech-act theory but because I think that information structure relates only indirectly to such principles.

I propose, then, the following definition of “information structure” as understood in this book:

INFORMATION STRUCTURE: That component of sentence grammar in which propositions as conceptual representations of states of affairs are paired with lexicogrammatical structures in accordance with the mental states of interlocutors who use and interpret these structures as units of information in given discourse contexts.

The information structure of a sentence is the formal expression of the pragmatic structuring of a proposition in a discourse. A proposition

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which has undergone pragmatic structuring will be called a **PRAGMATICALLY STRUCTURED PROPOSITION**. The most important categories of information structure are: (i) **PRESUPPOSITION** and **ASSERTION**, which have to do with the structuring of propositions into portions which a speaker assumes an addressee already knows or does not yet know; (ii) **IDENTIFIABILITY** and **ACTIVATION**, which have to do with a speaker's assumptions about the statuses of the mental representations of discourse referents in the addressee's mind at the time of an utterance; and (iii) **TOPIC** and **FOCUS**, which have to do with a speaker's assessment of the relative predictability vs. unpredictability of the relations between propositions and their elements in given discourse situations.

Information structure is formally manifested in aspects of prosody, in special grammatical markers, in the form of syntactic (in particular nominal) constituents, in the position and ordering of such constituents in the sentence, in the form of complex grammatical constructions, and in certain choices between related lexical items. Information structure thus intervenes at all meaning-bearing levels of the grammatical system. Information-structure analysis is centered on the comparison of semantically equivalent but formally and pragmatically divergent sentence pairs, such as active vs. passive, canonical vs. topicalized, canonical vs. clefted or dislocated, subject-accented vs. predicate-accented sentences, etc. Using a term introduced by Daneš (1966), I will refer to such sentence pairs as pairs of **ALLOSENTENCES**. Differences in the information structure of sentences are always understood in terms of contrasts between allosentences, i.e. against the background of available but unused grammatical alternatives for expressing a given proposition.

1.2 The place of information structure in grammar

Linguists who have concerned themselves with information structure and its status within the overall system of grammar have often described it as one of **THREE COMPONENTS (OR LEVELS)** of grammar. For example, in a paper summarizing the approach to grammar taken by linguists of the Prague School (Mathesius, Firbas, Beneš, Vachek, Daneš, and others), Frantisek Daneš (1966) distinguishes the following three levels: (i) the level of the **GRAMMATICAL** structure of sentences, (ii) the level of the **SEMANTIC** structure of sentences, and (iii) the level of the organization of **UTTERANCE**.⁶ Concerning the third level, Daneš writes (quoting Firbas):

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[The level of utterance] “makes it possible to understand how the semantic and the grammatical structures function in the very act of communication, i.e. at the moment they are called upon to convey some extra-linguistic reality reflected by thought and are to appear in an adequate kind of perspective” (Firbas). Further all extra-grammatical means of organizing utterance as the minimal communicative unit are contained at this level as well. Such means are: rhythm, intonation ... , the order of words and of clauses, some lexical devices, etc. (Daneš 1966:227)

In a similar vein, and acknowledging the influence of the Prague School, Halliday (1967) defines what he calls **THEME** as the third of three areas in the domain of the English clause, the two other areas being **TRANSITIVITY** (roughly the study of syntax and semantics) and **MOOD** (roughly the study of illocutionary force):

Theme is concerned with the information structure of the clause; with the status of the elements not as participants in extralinguistic processes but as components of a message; with the relation of what is being said to what has gone before in the discourse, and its internal organization into an act of communication ... Given the clause as domain, transitivity is the grammar of experience, mood is the grammar of speech function, and theme is the grammar of discourse. (Halliday 1967:199)

A threefold division of grammar is also postulated by Dik (1978, 1980), who in his model of “Functional Grammar” distinguishes the three levels of “semantic functions,” “syntactic functions,” and “pragmatic functions” (1980:3). It should be noted that for Daneš, Halliday, and Dik, the formal domain of information structure (functional sentence perspective, theme, pragmatic function) is the **SENTENCE** or the **CLAUSE**. Thus for these linguists, as for the author of the present study, information structure belongs to **SENTENCE GRAMMAR**. It is not concerned with the organization of discourse, but with the organization of the sentence within a discourse.

A somewhat different threefold division of grammar is found in Fillmore 1976. Although Fillmore’s notion of pragmatics is much broader than my notion of information structure, his definition for linguistics of the notions **SYNTAX**, **SEMANTICS**, and **PRAGMATICS** is nevertheless relevant:

Syntax, in short, characterizes the grammatical forms that occur in a language, whereas semantics pairs these forms with their potential communicative functions. Pragmatics is concerned with the three-

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termed relation that unites (i) linguistic form and (ii) the communicative functions that these forms are capable of serving, with (iii) the contexts or settings in which those linguistic forms can have those communicative functions. Diagrammatically,

Syntax	[form]
Semantics	[form, function]
Pragmatics	[form, function, setting] (Fillmore 1976:83)

Fillmore's diagram provides a further explanation for the earlier mentioned difficulties encountered in the study of information structure. Indeed the diagram suggests that pragmatics, since it presupposes the other two levels, is the most complex of the three levels of grammar, hence the most difficult to be clear about. The diagram also suggests an explanation for why syntax, being in a sense the simplest level, has been given such preference in modern as well as traditional linguistics. Although I do not think that in order to engage successfully in discourse-pragmatic research one must first have a complete account of the levels of syntax and semantics, I do believe that such research requires awareness of the intricate relationships between the three levels and of the various ways in which they interact. An illustration of the complex ways in which syntax, semantics, and information structure interact with each other in different languages will be presented in Section 1.3.

If we accept a model of grammar containing a subdivision into different domains along the lines indicated in the above quotes, we may ask ourselves whether these domains are autonomous subsystems or whether they are interdependent. It is well known that in the Chomskyan view the level of syntax is an autonomous level of linguistic structure while semantics is a component which 'interprets' syntactic structure. In generative grammar, the theoretical problem posed by the existence of different "cognitively synonymous" (Chomsky 1965) formal expressions of a given proposition has mostly been addressed in terms of the question of how such different structures are to be generated. Since the business of generative syntax is seen as that of specifying which structures are permitted by a grammar, the fact that such semantically related structures have different communicative functions has received little attention. In particular, one theoretical question is not asked: WHY should grammars provide the means of generating so many different syntactic and prosodic structures for expressing one and the same propositional content?

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One remarkable early exception to the lack of concern among generative linguists for the function of language in discourse is research on the focus–presupposition distinction within the framework of the so-called “Extended Standard Theory” (Chomsky 1970, Jackendoff 1972, Akmajian 1973). Characteristically, most of this research concerns pragmatic distinctions which are marked phonologically only, i.e. which do not involve alternative syntactic structures. The possibility of syntactic structures having specific communicative functions is acknowledged in Chomsky 1975 (p. 58). In more recent work, Chomsky (1980:59ff) suggests that matters of stress and presupposition may fall within “grammatical competence” rather than “pragmatic competence,” both types of competence being part of “the mental state of knowing a language.” The notion of pragmatic competence is left rather vague by Chomsky, but it seems that it is closer to what I have called conversational pragmatics than to discourse pragmatics, leaving open the possibility that information structure is indeed part of grammar.

In the present study, the question of the function of allosentences, i.e. of multiple structures expressing the same proposition, is given primary theoretical importance. The functional linguist’s concern with the diversity of competing grammatical structures is comparable, *mutatis mutandis*, to the ecologist’s concern with the diversity of organisms. To quote the biologist Stephen Jay Gould:

In its more restricted and technical sense, ecology is the study of organic diversity. It focuses on the interaction of organisms and their environments in order to address what may be the most fundamental question in evolutionary biology: “Why are there so many kinds of living things?” (Gould 1977:119)

If ecology focuses on the interaction of organisms and their environments, the study of information structure focuses on the interaction of sentences and their contexts. It addresses the fundamental question of why there are so many kinds of sentence structures.

Reacting to the view of syntax as an autonomous structural component of grammar, contemporary linguists from various schools have proposed models of language in which the level of syntax is not the most basic level and in which syntax is not, or not to the same extent, considered autonomous. The most radical departure from the belief in the autonomy of syntax is found in the various “functionally” oriented approaches to grammar which have been developed in Europe and the United States

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over the past twenty years or so, either in direct reaction to transformational-generative grammar or as continuations of well-established older linguistic trends. Analyses of the relationship between syntax and discourse are often said to be “functional” rather than “formal” insofar as they are primarily concerned with explaining the communicative function of morphosyntactic or intonational structure in discourse rather than with developing formal models of the structure of sentences. A clear statement concerning the importance attributed to functional considerations is the following:

In terms of the well-known distinction between syntax, semantics, and pragmatics, the functional approach to language regards pragmatics as the all-encompassing framework within which semantics and syntax must be studied. It regards semantics as subservient to pragmatics, and syntax as subservient to semantics. Syntax is there in order to allow for the construction of formal structures by means of which complex meanings can be expressed; and complex meanings are there for people to be able to communicate with each other in subtle and differentiated ways. (Dik 1980:2)

The common characteristic of these often heterogeneous approaches is that the syntactic component and the information-structure component of grammar are seen as connected to each other rather than as independent subsystems. Sometimes certain syntactic phenomena whose discourse function cannot be clearly established synchronically are explained in diachronic terms as grammaticizations of erstwhile functional distinctions. In some cases, the difference between form and function has been minimized to an extreme degree, so that the two levels have been interpreted as ultimately identical.⁷

It is in my opinion an unfortunate outcome of certain tendencies in structuralist and post-structuralist linguistics that the so-called formal and functional approaches to grammatical structure are seen as being diametrically opposed rather than as complementing each other. The antagonism of form and function in linguistics is not one of necessity but rather of methodological and often ideological preference. If there exists some level of autonomous structure at which any appeal to such non-structural notions as “communicative function” is excluded, this does not entail the non-existence of another level at which autonomous structure is indeed connected with communicative function, nor does it entail that all of grammatical structure must be equally autonomous. If I use the term “functional” in this book, it is with the understanding that a functional