

On contrastive stress

Arie Verhagen

[Introductory note: this squib is an elaboration of a specific point made in Verhagen (forthcoming); the abstract of this latter paper, to be presented at the Urbino conference on Pragmatics (July 1979), is added as an appendix.]

I will be concerned here with an analysis of cases of so-called contrastive stress, which essentially involves a pragmatic principle determining the markedness of information structure. My proposal will be based on certain proposals of Blom & Daalder (1977) for Dutch; in fact, it may be regarded as an explicit formulation of those proposals, in terms of a particular "formalism" for markedness.

Before presenting the analysis of Blom & Daalder (1977), it is useful to consider two different recent proposals, namely Höhnle (1979) and Guéron (1979). Both are in the same spirit as Blom & Daalder (1977) and this squib, in that they agree that contrastive stress is essentially not a phonological phenomenon, i.e., not a primitive notion, but the consequence of a somehow "marked" information structure. Thus, Guéron remarks:

It is not the quality of the sound heard which gives rise to an interpretation of contrast, but rather the contrast between what is expected [...] and what is actually heard" (Guéron 1979, 71).

This will also be a point of departure of this squib, but the actual solution will be rather different from Guéron's. It will also be different from Höhnle's, so it may be useful to indicate first, where I find those accounts problematic. To prevent one possible (wrong) conclusion in advance: neither account is incorrect in all respects.

As for Höhnle, then, his definition of 'normal' and 'contrastive' stress is roughly as follows:

- (1) Let P be a set of sentences that differ only in the position of stress. Then a sentence S_i in P is contextually relatively unmarked with respect to stress if it may occur in the greatest number of context-types (i.e., there is no S_j in P, $S_j \neq S_i$, such that S_j may occur in a greater

number of context-types than S_i); all other sentences in P are contextually marked with respect to stress.

I find the following two points problematic. (i): How do we delimit the notion of a context-type? If we cannot, in a principled way, prevent that the number of context-types may be unbound for every sentence, then all sentences will be equally unmarked according to the definition in (1). (ii) (I present this with some reservations, because I have not yet been able to study H \ddot{o} hle's paper closely): As far as I can see, H \ddot{o} hle confines himself to giving an explication of cases of contrastive stress; i.e., he intends to show that cases of contrastive stress differ from cases of normal stress precisely in that the former cannot occur in as many context-types as the latter; but he does not explain why a certain position of stress is normal and another one contrastive, instead of the other way around.

Related to the second point is the fact, that H \ddot{o} hle only considers cases in which the normal stress is somewhere at the end of the sentence. Yet there are cases where sentence stress is initial and still it need not be contrastive at all. Some examples from Dutch and English are in (2) - (6).

- (2) de JUF is ziek
the TEACHER is ill
 - (3) m'n BAND is lek
my TYRE is punctured
 - (4) je KOFFIE wordt koud
your COFFEE becomes cold
("your coffee's getting cold")
 - (5) a MAN appeared
 - (6) the SUN is shining
- } : from Guéron; see also below.

A case like (4) is in opposition to, e.g., (7).

- (7) je KOFFIE is lekker
your COFFEE is nice
("your coffee tastes well")

There is no intonational difference between (4) and (7) at all, and yet (4) is a case of 'normal', (7) one of 'contrastive' stress. In fact, examples of this kind provide very strong arguments in favor of the position, quoted above from Guéron: the very same intonational pattern is sometimes contrastive, sometimes it is not, so that 'contrastiveness' cannot be related directly to intonation and nothing but intonation.

Guéron (1979) accounts for a part of these phenomena by making a semantic distinction between "presentation-sentences" and "predication-sentences". In her proposal, each sentence of English has two logical forms (LF's) associated with it; e.g., a surface structure of the form (8) has LF's of the form (9) for Predication, and (10) for Presentation.

(8) [_S , [_S [_{NP} ·· N ··] [_{VP} v ...]]]

(9) (_S , (_S (NP) (_{VP} v ...) _{VP}) _S) _S , : Predication

(10) (_S , (_S v_i (NP) (_{VP} v_i ...) _{VP}) _S) _S , : Presentation

A Presentation-S is said to predicate the mere appearance of its subject into the world of the discourse, while a Predication-S predicates a property of its subject. Whether one of these interpretations is actually not allowed for a given sentence, is determined at discourse-level.

As a result of the extraction of the verb at the level of LF for Presentation-sentences, the subject-NP follows V in (10), while it does not in (9).

Guéron then defines the final constituent of S in LF as the focus of the sentence. Thus the subject in (10) can become the focus, provided that the VP does not contain verbal complements, at least not in LF.

She assumes, furthermore, that it is unmarked for the focus to bear sentence stress. Therefore, in a Presentation-S (such as (5)), stress is naturally on the subject, but in a Predication-S, it is on the object (at least somewhere final in the VP). Contrastive stress can then be regarded as stress that does not fall on the constituent which is the focus in LF. E.g., stress on the subject of a Predication-S, produces a contrastive interpretation, as does stress on the subject of any sentence containing verbal complements:

(11) JOHN loves Mary

Sentence (5) is a case of a Presentation-S, with (10) as the only LF actually possible; stress may be non-contrastively on the subject: the subject-NP is final in its LF, thus focus.

Thus, Guéron is able to distinguish contrastive from non-contrastive initial stress, by means of the distinction between Presentation- and Predication-sentences. In this respect, this account is clearly superior to the former. Yet I think there are some problems with it.

(i) It involves a systematic semantic ambiguity for all sentences, and one could pose the question if this is really independently motivated, or if the

only motivation is in fact that it provides a suitable input to the discourse-rules filtering out one of the meanings in given contexts. That is: could an account that involved discourse rules assigning a "presentation" interpretation in certain contexts be empirically distinguishable from Guéron's analysis, and if not, would it not be preferable, conceptually?

(ii) The analysis does not cover all cases of non-contrastive initial stress, such as (6), repeated here for convenience.

(6) the SUN is shining

There is a contrastive interpretation of this sentence ("it is the sun that is shining, not the moon"), but this is not necessary, as appears from the discourse in (12) (Guéron's (190)c).

(12) It is a beautiful day. The SUN is shining.

Therefore, Guéron assumes a rule of Focus-shift, which optionally re-analyzes a (semantically) non-focus NP as focus if it bears sentence stress. Then, (6) is not a problem anymore, though it is not a Presentation-S. Two questions that arise immediately, are: why does this rule not apply in (11)? and: it does not appear very satisfactory to have two unrelated processes (Focus-marking on the LF of a Presentation-S, and Focus-shift in discourse) that produce the same kind of output, so should we not look for a generalization?

(iii) As will be clear from the preceding exposition, Guéron releases the bond between focus and sentence stress: the focus is a constituent in a certain position in LF, for which it is unmarked, but not necessary, to contain sentence stress. One may wonder, however, if there is not a generalization lost in this way, a generalization over contrastively and non-contrastively intonated sentences with regard to the partitioning in 'new' and 'old' information, in 'core' and 'background' of the assertion. Apart from contrast, the generalization over (13) and (14) is that it is the stressed NP which constitutes the core of the assertion.

(13) John likes BILL

(14) JOHN likes Bill

That this is indeed a significant generalization is especially clear from the phenomenon of "association with focus" (Jackendoff 1972, ch.6.5), involving the interpretation of elements like even and only, which can be

described uniformly just if we generalize over cases of contrastive and non-contrastive stress. This generalization is captured if focus is supposed to be determined by stress, as was originally assumed by Chomsky (1972).

This added to the problematic rule of Focus-shift, we may legitimately ask, I think, what the content of the notion "focus" is in Guéron (1979); if it is not merely a label, for a set of different positions in certain types of sentences which seem to share some properties; i.e., if it still really explains something.

All in all, there seem to be enough questions to consider the viability of an alternative. Therefore, I now turn to the proposals from Blom & Daalder (1977).

The problem Blom & Daalder consider, is the difference between sentences as the following (Blom & Daalder 1977, 82, 86).

(15) zijn FOOT was begrijpelijk
his ERROR was understandable

(16) de JUF is ziek
the TEACHER is ill

(15) is a case of contrastive intonation, but (16), though having an identical intonational contour, is not. What could be the explanation of this difference? Blom & Daalder start by observing that there is a paraphrase for (15) as in (17).

(17) what was understandable, was his error

I.e., that there is something understandable, is presupposed; what is asserted is that it was his error. So in the information structure of (15), the focus, determined as a constituent containing sentence stress, is followed by presuppositional elements. But (16) cannot be paraphrased by a sentence of the same form as (17) (more precisely: the sentence "the one that is ill, is the teacher" is not a paraphrase of (16) taken non-contrastively; see below). Apparently, we cannot designate elements in (16) as expressing a presupposition. So we might say that the focus in (16) is the sentence itself.

Blom & Daalder propose then, that contrastive sentences are those where the focus is followed by presuppositional elements, i.e., where the focus is not final in the sentence. It follows that a sentence with initial stress is not contrastive, if its information structure does not contain presuppositional

elements; a sentence with final stress will have its focus final, so it will not be contrastive, either. Blom & Daalder note it is a "perceptual strategy" to expect 'old' information to come first (one might, speculatively, wonder if this is perhaps a reflection of the actual order in history: old things by definition precede new things ?); thus this account is essentially pragmatic.

In this way, Blom & Daalder are able to give a unified account of non-contrastive intonation (whether final or initial), in terms of the final or non-final position of the focus. Now, in order for this analysis to be credible, it is necessary to have an idea of why an interpretation of the whole sentence as focus seems to be blocked in the case of (15); if we would not be able to block this, we would in fact still not have explained the difference. Therefore, the question must be considered what it means for a sentence to be taken as a focus in its entirety.

One answer that is often given in the literature is that the sentence must be a possible natural answer to questions of the type "what happened?" or "what's the matter?". In the cases at hand, this gives us the correct results: (18) can hardly be called a consistent, natural discourse, while (19) is.

(18) ?? A: "what's the matter?" ≠ B: "his ERROR is understandable"

(19) A: "what's the matter?" B: "the TEACHER is ill"

Two comments apply to this observation, however. First, we have in fact only established another correlation to the distinction of contrastive and non-contrastive initial stress (besides different paraphrasing possibilities), and not provided something like an explanation. Second, this 'test' must be handled with some care. It seems that all cases of non-contrastive initial stress (cf. (2) - (6)), fit the frame of (19), but not every sentence that fits this frame has to be taken as being a focus in its entirety. Thus, consider the discourse (20), where stress in B's utterance is final, non-contrastively.

(20) A: "what's the matter?" B: "your brother had an ACCIDENT"

It does not seem to be correct to say that (20) does not contain presuppositional elements, or even that it could not contain them in this context. In fact, it would be wrong to construe the 'test' so as to imply this, because the fact that A asks the question "what's the matter?" of course does

not entail at all, that there is no specific knowledge shared by him and his hearer (B), to which B may refer in his answer. E.g., in the case of (20), A's brother may very well be in the 'Pragmatic Universe of Discourse' (for this notion, see Kempson 1975), so that "your brother" in B's answer in (20) is presuppositional, also if he is not mentioned in A's question. So we may stick to the hypothesis that a sentence without presuppositional elements is an appropriate answer to a question of the type "what's the matter?", but not to its converse, i.e., not that any sentence which is an appropriate answer to such a question, does not (in that context) contain presuppositional elements.

This brings us to another point, again. It is important to keep in mind that it is not the actual knowledge shared by a speaker and a hearer that determines completely what must be taken as focus and what as presupposition. It may very well be, of course, that a speaker wrongly presupposes something to be known to the hearer; we would not say that therefore it is in focus if the speaker refers to it. What counts is the presentation of the information in a sentence. Thus, when we say that a certain part of a sentence is the focus and another one is presuppositional, we really mean that some part is presented as focus, another one as presuppositional. So, even if A's brother is in fact not in A's mind at the time of the discourse in (20), it does not follow that therefore the reference to him by B is necessarily not presuppositional. This shows all the more the necessity of different criteria for explicating what it means for a complete sentence to be focus, than the criterion of its being a possible answer to the question "what's the matter?", which is at most a necessary condition.

Blom & Daalder, then, suggest that a sentence may only be taken as a focus in its entirety, if it can be conceived of as an information-unit with more or less self-evident and immediately relevant implications (p.87). Thus, the sentence "your coffee's getting cold" calls for immediate action, "the teacher was ill" immediately explains why a child returns from school shortly after having left, taking away its parents' surprise, and "my tyre is punctured" immediately explains why you will be late for your appointment. In fact, the reason why this should be so, is clear. Sentences that are focus as a whole, do not -by definition- pick out specific items from the Pragmatic Universe of Discourse as the presupposed elements that the assertion is about; so the only thing they can be related to is the entire situ-

ation in which they are uttered; in order to make sense, the implications of the sentence for the situation involved (the way it is supposed to relate to the situation) must be immediately clear from it.

Now, in the case of the sentences mentioned above, it is quite easy for practically any member of the speech community to take them as an information-unit, because there are standard situations and opinions associated with them; therefore, they are not felt to be contrastive. But with (15) ("his ERROR was understandable"), there is no such standard situation or opinion; it is therefore not easy to take the whole of (15) as focus, so it is felt to be contrastive. Note that this explanation is also essentially pragmatic: whether some sentence is actually to be construed as an informative whole, thus actually contrastive or not, is relative to context and shared (general or specific) socio-cultural knowledge of the participants in a conversation. Thus the possibility is left open that sentences such as (2) also have a contrastive 'reading', namely when someone's being ill is presupposed, and this person is specified as the teacher in the speaker's utterance of (2); this is clearly correct. On the other hand, it also leaves open the possibility that sentences like (7) and (15) might be non-contrastive in certain (non-standard) situations, in which the participants share beliefs and knowledge that make it possible to take the sentence involved as an information-unit. It is less clear that this is correct, too, but this might be due to the fact that it is not easy to construct generally credible non-standard situations in vacuo, of course. But the following case is a candidate, I think. Consider (21).

(21) de TAART is lekker
the CAKE is good

At first sight, this is contrastive, like (7). But now imagine a situation where a person at a party, confronted with the question what he would like to have, does not know what to choose from all the delicacies on the table. Someone comes to help and says (21): it would be a non-contrastive case, somehow implicating the intention that the hearer make up his mind for the cake, and without any implication that other things on the table would not be good.

Note that Guéron's cases of "presentation sentences" fit in with this conception very well; they are cases of completely-focus-sentences which do not

even require some particular (standard) situation. Because they simply state a property of, or a change in 'the world', and not so much of a particular entity in the world, they do not have to express any presupposition and they are appropriate in almost any Pragmatic Universe of Discourse, especially at the start of a conversation.

So let us assume that Blom & Daalder are in principle right in analyzing contrastive stress as in fact a contrastive information structure, i.e., the focus being followed by presuppositional elements. This analysis predicts that in many types of sentences, stress is normally final, and contrastive if initial, but in some types not necessarily contrastive if initial. But now Blom & Daalder (p.88) note a problem for their own analysis, namely that it does not explain why final stress makes it practically impossible to take the whole sentence as a focus, i.e., why we practically don't find cases of sentences with final stress, that are naturally conceived of as an information-unit with self-evident and immediately relevant implications. Therefore, they conclude, they cannot claim to have solved the problems completely.

The source of this specific problem is not very hard to find, however. Let us formulate the proposal of Blom & Daalder as a pragmatic convention (embodying the "perceptual strategy" referred to above) specifying the unmarked position of the focus (or: the unmarked information structure), say as (22).

(22) unmarked position of focus = final position

The problem with (22) is that it does explain why initial stress either leads to a contrastive interpretation or to a non-contrastive one where the whole sentence is the focus, and also why final stress is generally non-contrastive, but not why it is unnatural for final stress to be associated with completely-focus-interpretation of the sentence. In other words, we only have (22) and its immediately derivable complement (23),

(23) marked position of focus = non-final position

but it seems that we also need a statement to the effect that it is marked for final stress not to be preceded by presuppositional elements.

Now note that in fact no statements about observable phenomena such as stress, can be derived directly from (22); this only becomes possible if we apply (22) in conjunction with statements about the presence or absence of pre-

suppositional elements. I.e., (22) in itself does not say what the unmarked positions of stress are. However, precisely because sentence stress marks the focus, (24) can be derived from (22), 'as a theorem' so to speak.

(24) unmarked position of stress = final, if the sentence contains presuppositional elements

The particular point of (24), compared to (22), is that the stress convention (24) crucially involves a context (: "in presupposition-containing sentences") Thus, it precisely has the form of a markedness convention as described by Kean (1975). According to Kean, the general form of a markedness convention is as in (25).

(25) $u F \rightarrow \alpha F / X$

In (25), u means "unmarked", F is a feature, α a variable ranging over + and -, and X a specification of features, defining a set of contexts for the convention. In the theory of phonology (the framework of Kean 1975), an example of a markedness convention is (26), stating that it is unmarked for consonants to be non-sonorant.

(26) $[u \text{ son}] \rightarrow [- \text{son}] / [+ \overline{\text{cons}}]$

One of the central elements of Kean's theory of markedness is the Complement Convention, according to which every markedness convention of the form (25) has a set of rules associated with it, which together exhaustively characterize the marked and unmarked specifications of the feature involved (i.e., the one to the left of the arrow). The Complement Convention reads as follows (cf. Kean 1975, 22), with (25) repeated as (27)a here.

(27)a $u F \rightarrow \alpha F / X$

b $m F \rightarrow -\alpha F / X$

c $u F \rightarrow -\alpha F / \overline{X}$

d $m F \rightarrow \alpha F / \overline{X}$

The symbol m stands for "marked", \overline{X} for the complement set of X ("all elements -from the domain involved- that do not belong to the set defined by X"). Thus, (28)b - d are associated with (28)a (= (26)).

(28)a $[u \text{ son}] \rightarrow [- \text{son}] / [+ \overline{\text{cons}}]$

b $[m \text{ son}] \rightarrow [+ \text{son}] / [+ \overline{\text{cons}}]$

c $[u \text{ son}] \rightarrow [+ \text{son}] / [- \overline{\text{cons}}]$

d $[m \text{ son}] \rightarrow [- \text{son}] / [- \overline{\text{cons}}]$

The latter 3 rules mean, respectively, that it is marked for consonants to be sonorant, unmarked for non-consonants to be sonorant, and marked for non-consonants to be non-sonorant.

Note that the Complement Convention does not express a logical necessity; i.e., it is logically conceivable that there would be a rule alongside (26), to the effect that under certain conditions, some particular non-consonants could also be unmarked non-sonorants, but this is impossible under the Complement Convention. Thus we might say that this Convention 'maximizes' the effect of a markedness convention: once you know one markedness specification for a feature, you know all of them.

In phonology, the Complement Convention is well motivated, and it seems natural to suppose that it is in fact an integral part of the notion of markedness in linguistics; thus Van Riemsdijk (1979) argues that the Convention also applies in the domain of syntax. Now that (24) has the form of a markedness convention, we may ask what the application of the Complement Convention to (24) would yield; the results are stated in (29), with (29)a = (24).

- (29)a unmarked position stress = final / sentence contains presupposition
- b marked position stress = non-final / sentence contains presupposition
- c unmarked position stress = non-final / sentence contains no presupposition
- d marked position stress = final / sentence contains no presupposition

(29)b represents the cases of contrastive stress that Blom & Daalder sought to explain in the first place; (29)c are the cases of sentences to be taken as focus in their entirety. And (29)d, finally, is precisely the statement that we seemed to need to complete the account of (non-)contrastiveness of stress by Blom & Daalder: it says that it is marked for final stress to be associated with an interpretation of the whole sentence as focus.

Before considering the question whether there are special cases where final stress may be associated with completely-focus-interpretation, I would like to point out explicitly what causes the difference between the predictions from (22) and those from (24). From (22), only (23) could be derived, by some clearly natural kind of complement convention. But from (24), three other markedness conventions could be derived, in virtue of the fact that (24) specifies a context, which can be made subject to complementation. This is due to the fact that, as noted above, the Complement Convention maximizes the effect of a markedness convention, as it prohibits free choice of markedness specifications if one is fixed (it is a kind of 'disambiguating')

procedure). So from (22) it only follows that initial stress is a unmarked case if the focus exhausts the sentence, but from (24) it follows, given the Complement Convention, that initial stress is the unmarked case under this condition.

We would expect then, that it need not always be completely impossible to associate final stress with completely-focus-interpretation. However, a problem is caused by the fact that there seems to be a principle concerning marked information structures to the effect that they must somehow be 'functional' in order to be acceptable. Thus, it can be shown, along the lines of Verhagen (1979)b, that contrastive initial stress is acceptable if it is contained in the subject, but rather unacceptable if in, e.g., an adverbial modifier. This can be attributed to the fact that the subject is not free (for grammatical reasons) to move to the end of the sentence (the unmarked position for focus); therefore, if the speaker wants to have the subject in focus, he is more or less forced to make stress initial; thus the marked information structure can be called functional. But adverbs are not grammatically limited to the beginning of the sentence, so that there is no need to create a marked information structure to get them in focus: they can in general simply be placed towards the end of the sentence (for more applications of this 'functionality principle', see Verhagen (1979)b, which I hope will be translated into English shortly).

With respect to cases of non-initial sentence stress, the application of the principle would come down to the following: it would be marked to take initial elements as belonging to the focus (by (29)d); therefore, if it is possible, and certainly if it is easy, to take the initial elements as pre-suppositional, they must be interpreted that way (by the functionality principle). It follows that especially initial constituents which can be taken as referring expressions, if not containing sentence stress, will make it virtually impossible to interpret the sentence as a focus in its entirety. And indeed, in all such cases it is practically impossible to construe them as expressing information-units with self-evident and immediately relevant implications. But there are also cases where the subject of the sentence is not a referring expression, but only a quantifying one, i.e., like noone, everyone, someone. Intuitively, it seems correct to describe (30)b as easily interpretable as expressing an information-unit with immediately relevant implications, in contrast to (30)a (both have final stress).

- (30)a de buren willen hun auto opgeven
 "the neighbours want to give up their car"
 b niemand wil zijn auto opgeven
 "noone wants to give up his car"

The second sentence does not state something about some specific entity in the world, but about the world as a whole, i.e., it relates to the complete Pragmatic Universe of Discourse, which is natural under the assumption that it does not express a presupposition. This description is in accordance with the results from Verhagen (1979)b, where it is argued that focal modifiers (= sentence modifiers, which associate with focus in Dutch, as they perhaps do in English, too) normally cannot be initial in S (in \bar{S} , or even $\bar{\bar{S}}$, it is a different matter), but that they can if the subject is a quantifying expression (cf. Koster 1978, 15), the reason being that there should not be presuppositional elements between the focal modifier and the focus. Thus we do not have (31), but we do have (32).

- (31)a ?? dat helaas de buren hun auto willen opgeven
 "that unfortunately the neighbours want to give up their car"
 b ?? dat waarschijnlijk Jan z'n broer haat
 "that probably John hates his brother"
 (32)a dat helaas niemand zijn auto wil opgeven
 "that unfortunately noone wants to give up his car"
 b dat waarschijnlijk iedereen z'n broer haat
 "that probably everyone hates his brother"

Thus it seems that it is not impossible to interpret a sentence in its entirety as focus, but only under the special condition that the subject is a quantifying expression, which is in accordance with the marked character of such cases. That they do not exhibit the same 'contrastiveness' as do cases of marked initial stress, can be attributed to the fact that the underlying pragmatic convention (22) is still satisfied: the focus in (30)b and (32) is not followed by presuppositional elements.

It should be emphasized that the background of (29) still is the convention (22). This means that we get the following picture.

There is a pragmatic principle to the effect that old information is expected to precede new information. The convention that embodies this, (22), is not directly related to formal properties of sentences/utterances. This can be achieved quite simply, however, under the assumption that focus is deter-

mined by sentence stress, and by relating the convention to the question whether a sentence contains presuppositional elements or not. We then arrive at a formulation as in (24), which has the canonical form of a markedness convention and as such it is apparently subject to the Complement Convention: this assumption makes the correct predictions. What this means is that the markedness convention (24) is not a primitive of this analysis. Primitives are the assumption that focus is marked by sentence stress, that old information tends to precede new information, and that under certain conditions, sentences need not always express presuppositions. This suggests that perhaps the whole notion of markedness is not a primitive, at least not of some part of linguistic theory. This suggestion is supported by the fact that the very same kind of mechanism seems to be operative in the areas of phonology, of syntax (as argued by Van Riemsdijk, 1979), and of pragmatics (as has been argued here). Markedness should perhaps be seen as the effect of an interaction of autonomous components of grammar and other, quite general aspects of cognitive competence: the Complement Convention seems to be of a more general nature than a purely linguistic one, for otherwise it would be a mystery, probably for ever unsolvable, why such different phenomena exhibit the same kind of formal properties.

APPENDIX

[abstract of Verhagen (forthcoming), 'Pragmatic Markedness and Syntax: in view of a case study on adverbials']

In this paper I want to review some general properties of the notion of pragmatic markedness as it is arising from work on information structure and its relation to syntax (e.g., Blom & Daalder 1977, Guéron 1979, Verhagen 1979a, b).

There are 2 programmatic points tied up with it. First, the practice of much work in pragmatics is that conversational maxims are applied to sentences, in such a way that the lexical content is crucial to the analysis. There are reasons to question the fruitfulness of this approach. Second, there is a challenge in generative linguistics which is seldomly taken serious by pragmaticians, namely the so-called autonomous systems view, which holds, inter

alia, that the complexities of language cannot be properly explained by the grammar alone, but that it is necessary to regard them as results from the interaction of different systems, among which a pragmatic one.

The present paper results from a case study, starting from the latter view, on the distribution and interpretation of adverbials (esp. sentence modifiers: SM's) in Dutch. These show some features that have several times given rise to problematic syntactic descriptions (cf. Koster 1978, Verhagen 1979a, b). The dilemma is the following: certain ordering restrictions seem to require canonical deep structure positions for different types of adverbials; then movement rules are needed to derive all possible surface orders; but it can be shown that any such analysis always violates otherwise valid conditions on rules of grammar.

A careful re-examination of the data shows that there are exceptions to all the ordering restrictions, and furthermore that there is system in these exceptions. To take a rather important case: a predicate modifier (PM) in general cannot be to the left of a SM, but this does become possible if the PM can function as a 'domain adverb' in the sense of Bellert 1977. This suggests the relevance of the notions of information structure and of markedness. It can be shown that SM's associate with focus (as does negation, cf. Jackendoff 1972) under the condition that the focus must be to the right of the SM. Adverbials are generally not structurally required in a sentence, so it may be supposed that they will in general only be used if the speaker finds them essential for the information he wants to convey. We say then, that it is unmarked for PM's to belong to the core of the assertion, i.e. to the focus (SM's associate with focus). Then it follows that PM's are to the right of SM's in the unmarked case. Thus this need not be stipulated by the base rules, so that any adverb can be directly generated anywhere in a sentence, so that we don't need movement rules, thus avoiding complications in the syntax (cf. Verhagen 1979b for discussion of several of such 'markedness conventions' (MC's) for information structure). Now, the crucial step in such a reasoning can be phrased in Gricean terms; we might say that it follows from, e.g., "Do not say more than is required", that PM's will belong to the focus in the unmarked case. This presupposes a readiness to apply the conversational maxims to classes of structures, abstracting away from a great deal of the lexical content of sentences. This is what I want to propose: by using the maxims to derive pragmatic MC's for information structure, there is a prospect for pragmatics to gain at least some explanatory depth.

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