

On the Grammar and Semantics of Sentence Accents

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Preface

The present volume could not have been produced without a two-year grant from the Research Pool of the University of Nijmegen and without the excellent services of Hans Verhulst, who took over my teaching duties during the period covered by the grant. I thank the staff of the Department of Linguistics of the University of Edinburgh, above all Gill Brown, for providing me with everything a research student can want during the first year of the project: an office, laboratory facilities, access to courses, guidance, and such light teaching duties as make even someone whose research does not progress feel tolerably useful. I thank Bob Ladd for the stimulating coffee-room conversations during the 1981 PILEI Linguistic Institute at Cornell, and for the encouragement and help he has given me ever since. I thank all my colleagues at the Instituut Engels-Amerikaans for their support and help in various ways, and for treading softly on my teaching duties when the grant had run out, as well as those in the University of Nijmegen who kindly offered their expert help when I called on them. I thank Theo van den Heuvel and Frans van der Heijden for their patience with my problems to get the text-editing program to do what I wanted it to do, and the student assistants Ineke Brus, Margo van Eyck, Cis van Heertum and Annemoon van Hest for their help at various stages of the work.

Most of the articles in this volume appeared or will appear elsewhere: the first in *Journal of Linguistics* 1983, pp 377-417, the third in *Intonation in Discourse*, a volume edited by C. Johns-Lewis (London, Croom Helm, 1984), the fourth in *Language and Speech* 1983, pp 61-80, the seventh in *Journal of Semantics* 1983, pp 186-204, and the eighth in *Linguistics* 1983, pp 303-339. The second is a translation of a Dutch article that appeared in *GLOT* 1983, pp 131-155, while the sixth was distributed by the Indiana University Linguistics Club in 1983. The ninth article will also appear in *Linguistics*. These articles are here published in their original form. Only minor editorial changes have been made, while references have been updated. I thank all those involved for permission to publish copyright material here. The fifth article was written specially for this volume.

Introduction

The nine papers collected in this volume are concerned with three central issues in the prosody of English and Dutch. The first is that of the location of sentence accents, the second that of their realisation, and the third that of stress shift.

In the case of the first two issues, the subject is approached in the awareness that (1) intonational data should be seen as autonomous in the sense that dependence on segmental linguistic structure (syntax/lexis and segmental phonology) should have no place in the description, and (2) the descriptive task is not defined by the complex of situational and textual factors that must be assumed to account for the occurrence of intonational phenomena in utterances, but by the relation between linguistic options and surface forms. By linguistic option I mean any semantic contrast that is encoded in linguistic form (where linguistic form naturally includes prosodic form).

Of these two points of departure, the first is primarily inspired by the bankruptcy of syntax-dependent descriptions of intonation, by now widely recognised (cf Cutler & Isard 1980), and most forcefully expressed in Bolinger (1972). This is not to deny that there are many occasions on which statements can be made that couple the occurrence of a form in the segmental system with one in the prosodic system, either probabilistically or absolutely. For example, subjects and objects are more likely to be accented than predicates in both Dutch and English. Or, English tag questions never have a fall-rise tone. Or, if a main clause/relative clause combination has a downstepped contour, a relative pronoun who/which can always be replaced with that (i.e. the relative clause is always restrictive). However, I believe that such apparent 'dependencies' should be seen as interactions between syntax and prosody. On the one hand, the two systems are sometimes impinged upon by the same linguistic options. On the other, conditions may obtain so as to motivate speakers to simultaneously employ two different options, one in the segmental component and the other in the prosodic component, causing particular prosodic and segmental surface facts frequently to go hand in hand. It remains the case, however, that what should be accounted for is what effects linguistic options have on surface

forms. Any interactions should then proceed from such an account as a matter of course.

The second point of departure was chosen in the realisation that prosodic structure is in fact rule-governed, comparable, indeed, to the way the segmental surface structure is. Sentence accents are where they are and their realisation is what it is because the linguistic options that are expressed in such aspects of surface form were addressed the way they were. Clearly, Schmerling (1976) was referring to a theory that accounts for the motivation for employing particular linguistic options, when she observed that no current theory is up to the task of clarifying why speakers may on occasion accent man in This is the man I was telling you about and on other occasions telling, for a linguistic theory can easily be constructed: one that says that in one case 'the man' is [+focus] and in the other 'was telling about'. The triviality of the relation between abstract option and concrete surface form in this particular case should not deceive us. In other cases the relation appears to be a lot less trivial (in the case of the difference between an 'eventive sentence' and a 'contingency sentence', say). Yet, again, we achieve no more than stating a relation between abstract options and surface forms, i.e. a statement of linguistic structure.

In dealing with the three issues mentioned at the beginning of this introduction, a variety of research methods has been used. Like many researchers, linguistic researchers can go in for two things: devising theories (i.e. linguistic descriptions) and testing them. With respect to the first activity, it can be observed that it is some time since linguists believed that inductive methods could be developed for discovering the structure of language. The notion went out of fashion with the demise in the late fifties of the discovery procedures for setting up phoneme systems proposed by American structuralist and Prague School linguists. In practice, exploratory research - which includes inventory-oriented description, exploratory investigations carried out with the help of instrumental procedures, as well as cogitation - is what the modern researcher takes recourse to. Clearly, choice of methodology is a non-issue here. The only thing that counts is the resultant theory and the way it stands up to the facts of life. In particular, there can be no argument that an experimental approach is in any way inherently preferable to what some might refer to as 'armchair linguistics'. Of course, this latter activity is not without its problems. As Schils has it, it creates a situation where 'the selfsame person is often the source of both theory and data', with the result that devising the theory becomes entangled with testing it: inspection of the data for the purpose of getting ideas

about them may no longer be distinguishable from testing the ideas against the data (1983: 10). Although this might in practice mean no more than that the progress of science can be very fast indeed, there is of course a genuine danger here, which is that of building one's theory on 'streamlined' (or possibly even partly imaginary) data. I have tried to guard against this potential methodological degeneration by seeing to it that most of the examples on which the arguments centre are real-life utterances. In addition, the theoretical treatment is backed up by an exhaustive analysis of a 14,000-word corpus. While we may thus hope to have built our description on fact rather than on fancy, the second activity, that of testing the description, remains to be exercised. Opinions may differ as to what constitutes a valid test in the case of linguistic descriptions. Some prefer to apply theory-internal principles like evaluation measures, in combination with a demonstration of the theory's explanatory power, others may feel that in addition experimental evidence needs to be provided that corroborates the concepts and structures postulated. While the choice between these two approaches will in general be determined by the nature of the descriptive task, in the area of prosodic research, where intuitions about linguistic structure seem less accessible and where as a result erroneous opinion may more easily masquerade as insight, it would seem prudent to take the second approach. For this reason, I have opted to resort to the methodology of the behavioural sciences at a number of points at which non-trivial, testable hypotheses could be formulated. These concern, first, a prediction made by the model for sentence accent assignment, second, the structure of the nuclear-tone paradigm, and, third, the rule of Rhetorical Retraction, a Dutch stress shift rule which was hypothesised to be sensitive to speech style. The first two experiments, in particular, show that conventional behavioural methodology can be fruitfully applied to issues of linguistic theory. In addition, we have been able to apply this methodology in a very simple way to shed light on an issue about which considerable confusion existed in the introspective literature, that of the question of the 'nucleus' or 'tonic' of intonation contours. It is in this sense that this volume provides an integration of different methods of linguistic research.¹

In the first two papers, *Focus, mode and the nucleus* and *From focus to sentence accent: A rule for the assignment of sentence accents in Dutch*, the linguistic options that underlie the occurrence and location of sentence accents are presented. In addition to the traditional concept of 'newness' or 'focus', the options [\pm eventive] and [\pm definitional] are identified, leading to the three sentence types 'eventive sentence', 'contingency sentence' and 'definitional sentence'. These data alone would be sufficient to demonstrate the untenability

of the proposition that prosodic structure can be derived from syntactic structure, since the former is unambiguously seen to depend on linguistic options in their own right, which only in some cases have an effect on syntactic surface forms. As is shown in these papers, the relevant data in both English and Dutch can be accounted for by a very simple rule (the Sentence Accent Assignment Rule, or SAAR), together with the constraint on focus domain formation in the case of [-eventive] sentences. The rule thus very elegantly explains the fact that neither speakers of English nor speakers of Dutch experience any problems in assigning sentence accents in the sentences covered by the rule when speaking each other's languages. A further option, [\pm counterassertive], which in the literature had been shown to be relevant for the surface forms of a number of languages, appears to be of crucial importance for the position of sentence accents in polarity-focus sentences in English and Dutch. These data, together with the data discussed in the fifth paper, *Idiomatcity in sentence accent location in English and Dutch*, leave no doubt that accent-assignment is indeed rule-governed. Here, equivalent specifications of the linguistic options concerned lead to different accent locations in the two languages. Therefore, any theory of accent assignment which couches the significance of sentence accents in terms of the salience of the words they occur on must founder in the face of these data.

The rule-governed nature of sentence accent assignment is highlighted in a different way in the fourth paper, *Testing the reality of focus domains*, in which a prediction made by SAAR is put to the test. Since SAAR puts no condition on the order of the constituents in a focus domain, it predicts that a single accent is present (on the second Argument) in both He kissed Mary and its Dutch equivalent Hij heeft Marietje gekust, if only the subject is kept outside the focus. Equally, it predicts that both sentences could also figure in contexts in which also the Predicate is left outside the focus (i.e. where Mary/Marietje has a contrastive accent, in pre-theoretical parlance). While this prediction is readily testable by means of a thought experiment in the case of Dutch (where the Predicate comes after the Argument), in the case of English this is not so easy, because the accent on the Argument makes it difficult to establish the prosodic status of the word before it, as testified by the disagreement in the literature on this point. The results of the context-switching experiment show quite clearly that SAAR passes this test, and that therefore discussions about how sentences like He kissed Mary are pronounced differently depending on whether the new information is Mary or kissed Mary, appear to lack a factual basis. There is another important consequence, and that is that the members of pairs

like I kissed Mary and I kissed no one have different prosodic surface forms, if everything except the subject is included in the focus. This is because a non-lexical Argument like no one fails to form a focus-domain with a Predicate, and both kissed and no one are assigned an accent. This finding is particularly relevant at a time when a new type of syntax-derived prosodic structure, this time at the phonological phrase level, is being proposed, as in Selkirk (1980). The experiment demonstrates yet again the point made above: sentence accents are assigned by rule, but it is not syntactic structure that those rules take as input.

One of the constituents that SAAR refers to is the Condition. More so than the other two semantic constituents (Argument and Predicate), Conditions seem uncomfortably gelatinous when attempts are made to capture them in a definition. In general, they express the conditions under which the semantic function of the Predicate holds good for its Argument(s). The problem is that not all conditions count as Conditions for the purposes of SAAR: there are many that remain unaccented even when introduced for the first time. In the third paper, *The intonation of 'George and Mildred': post-nuclear generalisations*, an attempt is made to categorise such statutorily [-focus] expressions on the basis of corpus data. This analysis, which confirms to a large extent the findings of Firbas (1979), makes it clear that such expressions largely refer to what might be called the default parameters of any conversational setting: time, place, the relation between speaker and hearer, and certain relations holding within texts. In addition to contributing to a clearer definition of the constituents SAAR refers to, the analysis has yielded two important by-products. First, it renders it extremely implausible that there exists in English a compound fall-plus-rise tone, that curiously resistant strain of linguistic unit in the British tradition of intonation analysis, as the postulation of such tones, which are claimed to mark two syllables as accented, prevents the generalisations concerned from being made. Second, it makes it possible to refute Bing's (1979) claim that there are separate tonal paradigms serving two kinds of domain, with one kind of domain being served by accent-lending tones and the other by boundary tones. This refutation is based mainly on the consideration that the restrictions that would have to be stated on permissible sequences of tones from different paradigms would be precisely those that are captured by a single-tone/single-domain analysis.

The autonomous approach to intonational data and the concomitant requirement that these data should be described as forming part of the structure of language

rather than in terms of the extra-linguistic circumstances that cause them to be there, is carried through in the analysis of the manifestations of sentence accents, i.e. the analysis of the melodic patterns that are encountered in sentence accent positions. While the conventionality of the relationship between linguistic options and surface forms has already become clear in the area of the location of sentence accents, it is - in view of the confusing array of approaches to the problem of the meaning of intonation contours - these melodic patterns that provide the more challenging testing-ground for our approach. The position has been graphically phrased by Ladd (1980: 144): '[...] neither writers like Pike and Liberman, nor critics of the abstract meaning approach, have ever really considered what seems to me to be the simplest hypothesis: that intonational meaning is like segmental meaning' (emphasis Ladd's). What this means is that the things sentence accents are made of are morphemes, and that since morphemes have a phonological form as well as a meaning, the task at hand is to define those forms and describe those meanings.

The important contributions in the sixth paper, *A semantic analysis of the nuclear tones of English*, are, first, the demonstration that a consistent relation between linguistic form and meaning exists in the case of nuclear tones as it does in the case of segmental morphemes, and, second, that the semantic framework is paralleled by a formal framework such that there is a straightforward relationship between semantic complexity and linguistic complexity. The plausibility of the analysis rests on two noteworthy features. One is its simplicity. While simplicity in linguistic description may on occasion raise justifiable doubts when the data described are complex, I have often had the reverse sensation when reading descriptions of intonation. In comparison with syntax, intonation appears to be a push-over in language acquisition (Crystal 1975), and we should expect this relative ease to be reflected in the structure of the data. The second feature is the predictive character of the analysis. While other analyses have confined themselves to listing the most frequently observed nuclear tones and imposing (part-)structure on them, our analysis postulates cross-cutting parameters, with the result that on the one hand tones that were treated as 'the same' in the literature could be revealed to consist of demonstrably different linguistic constructs, and on the other hand tones have been 'discovered' that may be extremely rare, but are nevertheless perfectly decodable by the native speaker. Clearly, this latter point provides strong evidence that the analysis captures the language user's competence.

In view of the premisses of the theory of autosegmental phonology, it is not surprising that this theory can be successfully applied to intonation. By lodging the analysis in an autosegmental framework, I believe that a contribution has also been made to phonological theory.

In the seventh paper, *A three-dimensional scaling of nine English tones*, an attempt is made to provide experimental evidence for the analysis of nuclear tones. If, as the analysis predicts, nuclear tones are in fact organised like cells in a matrix, then that structure should be derivable from suitably elicited informant reactions to the tones. In the experiment, the arrangement of nine tones was put to the test, representing the incidences of three tonal modifications with three tone categories. Although in broad terms, the hypothetical structure and the obtained structure turned out to be suggestively similar, there were certain unexpected differences. It can be maintained, however, that the results confirm our analysis, since the deviations can be explained as an artefact of the phonetic similarity of certain (linguistically non-similar) tones. The difficulty with the experiment would appear to have been that it did not succeed in tapping the judges' knowledge of the semantic attributes of the tones to the complete exclusion of their appreciation of the phonetic attributes, causing a 'phonetic' artefact to be present in the scores.

Stress shift is dealt with in two papers, number 8, *Stress shift and the nucleus*, and number 9, *Stress shift in Dutch as a rhetorical device*. Both are mainly about Dutch. In the former paper, it is shown that Dutch has four stress shift rules that operate above the word level. One of these, *Non-nuclear Retraction*, is of particular interest for the subject of sentence accents, by virtue of the fact that (a) it is obligatory and (b) its domain spans a unit that would appear to be identical with the tone group of British descriptions. As a result, the application of the rule in any of the words that are subject to it, serves as an unambiguous indication that that particular word does not carry the last accent of the tone group, and, conversely, non-application can unambiguously be taken to signal that the word does carry the last accent of the tone group. In other words, the rule reveals what is the nucleus of the tone group. This feature of *Non-nuclear Retraction* has been exploited in two ways. First, it is established that what 't Hart & Collier (1975) analyse as a non-accent-lending rise (the '2') is indeed non-accent-lending. By showing how this pitch movement corresponds to the rise element of both the simple fall-rise and the complex fall-plus-rise of British English intonation analyses, and arguing that the intonational grammars of the two languages are very similar indeed, further

support is provided for the position that there are no bi-nuclear tones in English. Second, it is demonstrated that Currie's (1980, 1981) approach to establishing the nature of the tonic (our 'nucleus') by experimental means is misguided. To counter her claim that valid conclusions can be based on listeners' judgements on the presence or otherwise of theoretical constructs, an experiment was run to show that listeners' recognition of the tonic can be utterly erratic, while at the same time those listeners behave in a perfectly predictable and regular fashion when the task offered to them draws on their tacit knowledge of what that construct is intended to capture. More concretely, while these listeners were not able to say what the nucleus was in a set of utterances presented to them, they appeared to be foolproof when application of Non-nuclear Retraction was elicited from them. In more general terms, the experiment demonstrates that 'analysis-by-vote' is not a viable tool of linguistic research.

The ninth paper explores another of the four Dutch stress shift rules, Rhetorical Retraction. The rule is of some interest because of its variable nature. Just as variable segmental phonological rules are frequently exploited by speakers to signal extra-linguistic information (most notably about their social affiliations), so variable prosodic rules may be used for this purpose. It is shown that the application of the rule is more frequent as the rhetoricity of the style is greater. The effect would seem to tie in with the phenomenon of variable preposition placement in English (discussed in the fifth paper in this volume), and it seems not unreasonable to suggest that innovation in accentual patterns is somehow felt to rub off on the message. This would explain Osselson's comment on the public nature of speech with 'preposition stressing' (cf Doodkorte & Zandvoort 1962), and suggests that 'rhetoricity' is perhaps too specific a label to cover the pragmatic significance of Rhetorical Retraction in Dutch.

Note

1. I thank Erik Schils for his comments on an earlier draft of this paragraph.

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1. Focus, mode and the nucleus

Introduction

This article argues for the hypothesis that the location of the nucleus of the intonation contour is rule-governed. The term 'nucleus' is taken to refer to what has elsewhere been discussed as the 'nuclear syllable' (Crystal 1969), 'tonic' (Halliday 1967a), 'sentence stress' (Schmerling 1976), '[1 stress]' (Chomsky & Halle 1968), and 'Designated Terminal Element' (Lieberman & Prince 1977) (ignoring certain differences of analysis, such as that between double-nucleus and single-nucleus interpretation of some contours). Drawing on the facts of English and Dutch, it does so by attempting to identify the linguistic options available to speakers that are relevant to the location of the nucleus. The main argument hinges on the assumption that the chief functions of the location of the nucleus are (1) to signal the focus distribution of the sentence and (2) to signal whether the sentence is or is not meant as a counter-assertion, with the proviso that in many instances the location of the nucleus allows of more than one interpretation of one or both variables. Section 1 devotes some discussion to the problem of predictability, while the concepts of 'focus' and 'normal stress' are explored in sections 2 to 4. Section 5 states the Sentence Accent Assignment Rule (SAAR), giving illustrations of its application. In section 6, special attention is devoted to the pragmatic effects of SAAR in subject + predicate sentences. Section 7 attempts to give a fuller definition of the constituents the rule refers to and puts a general condition on its application. Section 8 introduces the variable *mode*, while section 9 defines the problem of the location of the nucleus in sentences with minimal focus and introduces another accent assignment rule (PFR). A summary in the form of a set of propositions concludes the article. I should like to point out that most of the examples in this article are attested; it is only the more pedestrian ones that have been made up for the purpose of illustrating certain points.

1.0 PREDICTABILITY VS FREE CHOICE

Linguistic theories usually contain sets of elements, and rules that operate on those elements to form well-formed sentences.¹ When linguists require such theories to have predictive power, they usually mean that, given a choice from a set or sets of elements, the rules will generate a sentence, or a number of sentences, that look like X rather than Y.² If X is well-formed and Y is ill-formed, the theory is fine; if either is not the case, it is not. This would seem a fairly uncontroversial, if simplified, interpretation of what linguistic theories are about. It is not, however, the interpretation that linguists dealing with intonation, or more particularly with the position of the nucleus, have typically adopted. Before roughly 1976, when discussions like those in Schmerling (1976) and Ladd (1980) began appearing, there were basically two kinds of linguists, as described below.

1. Those who held that, given a syntactically well-formed sentence, the position of the nucleus ought to follow from the lexico-syntactic choices that the speaker has made. (Invariably, allowance was made for semantic factors to account for what is known as 'contrastive stress'.) Chomsky & Halle's Nuclear Stress Rule (1968) and the subsequent contributions to *Language* by those taking part in the debate about Bresnan's modification of the way the NSR ought to apply (Bresnan 1971, 1972, Lakoff 1972, Berman & Szamosi 1972) fall in this category. Also Chafe's discussion of 'old' versus 'new' information in sentence-types (Chafe 1970) can be seen as belonging to this category in that the emphasis is laid on predicting the new-old distribution on the basis of syntactic structure. It is clear that this position does not correspond to the interpretation that was sketched above of what linguistic theories are like. Rather, those holding this view expected that, given a choice from sets of elements in one component of the linguistic system (syntax and lexis, or 'transitivity' in Halliday's term (1967b)), it was possible to predict the final result as produced by another component (phonology, in our case intonational phonology). To make the same point perhaps over-emphatically: it is rather as if phonologists were to try and predict the lexico-syntactic content of a sentence on the basis of a given intonation contour.

2. Those who held that human beings are endowed with a free will and enjoy - in many societies - freedom of speech, and that therefore the position of the nucleus cannot be predicted. The nucleus is seen as a 'highlighter' of particular

lexical elements and since speakers are perfectly free to highlight word A rather than word B or word C, it is futile to go on trying to find rules that will predict which one they will choose. This is the view that Bolinger adopted (1972) and that Schmerling borrowed to account for a sizeable, recalcitrant part of her data. To give an example, Schmerling (1976: 67) pointed out that the difference between

(1) This is the MAN I was telling you about

and

(2) This is the man I was TELLing you about

could not possibly be accounted for by any conceivable linguistic theory. Without wanting to argue about the validity of the observations made by Bolinger and Schmerling, it must be said that this view, too, is incompatible with the above sketch of what linguistic theories are supposed to be doing for us. In this view, the unexpressed demand that is put on the power of a theory is that, instead of predicting what a speaker's sentence will look like once he has made his choices from the sets of elements available to him, it will predict which choices the speaker will make. Even in variationist theory, which goes a long way towards predicting what speakers will do in what circumstances, such a demand would be unheard of. It is tantamount to wanting to predict what people are going to say.

The purpose of this article, then, is to identify the formal linguistic options available to speakers that are relevant to nucleus placement, and thereby define the boundary-line between this part of the linguistic system and pragmatics. That is, we do not pretend to be able to do more than predict the position of the nucleus given a choice from sets of linguistic primes. The reason for the choice is seen as falling outside the scope of the article proper, although it is not suggested that that choice is impervious to explanatory theories. Indeed, the question will be touched on at various points in the discussion below. It should be realised, however, that theories accounting for speakers' choices cannot be of the same 'mechanical' type as theories that take speakers' choices as their input. Rather, these will be probabilistic in nature, and be based on the fact that human beings are not only endowed with a free will, but are also reasonable. Thus, given the sentence in (3)

- (3) They're beating a poLICEman up!

the location of the nucleus on policeman will have to be accounted for in terms of some (underlying) linguistic structure which determines this position. A Bolingerian objection of the type 'the speaker could also have put the nucleus on up' is therefore as valid as saying that the speaker could also have used a passive construction, or a lexically specified subject, or assault instead of beat up, or copper instead of policeman, or whatever. Just as the latter 'objections' do not generally count as relevant linguistic arguments, so the former objection, which incidentally represents an emendation that affects the semantics of the sentence rather more drastically than any of the lexico-syntactic ones, should be seen as irrelevant to the point at issue.

2.0 FOCUS

The first concept we will postulate is that of **focus**. Focus is seen as a binary variable which obligatorily marks all or part of a sentence as [+focus], i.e. no sentence can be entirely [-focus]. In the relevant examples, [+focus] is usually symbolised as underscoring, although more explicit symbolisations will also be introduced. The concept of focus has been discussed in the literature as **focus** (Chomsky 1969, Jackendoff 1972, Quirk et al. 1972, Dik 1978, Ladd 1980), **comment** (Bloomfield 1933, Kraak 1970, Schmerling 1976), **rheme** (Prague School), **new (information)** (Halliday 1967b, Chafe 1970, 1976), while their counterparts are called, respectively, **presupposition** (Chomsky 1969, Jackendoff 1972, Quirk et al. 1972) or **deaccenting** (Jackendoff 1972, Ladd 1980), **topic**, **theme** and **given** (Halliday 1967b) or **old (information)** (Chafe 1970, 1976). The definitions that these various terms are given are not the same, however, and may refer to such varied things as the intonation contours of utterances, preceding elements in discourse, thematic organisation, and the communicative intentions of the speaker. (For analyses of some of these concepts see Allerton 1978, Prince 1979.)

We will here leave 'focus' semantically undefined, but nevertheless assume that it exists as a formal category available in speakers' grammars. It is important to keep the concept of **focus**, as a linguistic prime, distinct from, on the one hand, the reason or reasons why speakers mark part or all of their sentences as [+fo-

cus], and on the other, what such a choice implies for the phonetic/syntactic realisation of those sentences.³ It is the latter relationship that this article is trying to come to grips with. It should be carefully noted that the relationship is not the other way around: we do not define focus on the basis of the position of the nucleus. Indeed, for all we know, a given [-focus] - [+focus] structure may well require the nucleus to fall outside the material marked [+focus]. It is also important to see that every sentence is marked for focus. We should not resort to a classification of sentences into e.g. 'topic-comment sentences' and 'news sentences', the way Schmerling (1976) does:

- (4) Truman DIED (topic-comment sentence)
- (5) JOHNson died (news sentence)

since this can only lead to circularity in the description. If we carry this method to its logical extreme, we will end up with as many sentence types as there are intonation contours to be explained, and we could start all over again.

A third point to note is that focus marks semantic material, not syntactic constituents or words. Because there is, in general, a rather close relationship between semantic structure and lexico-syntactic structure, making it possible to associate semantic constituents with lexical or syntactic ones, our notational device of underscoring does not normally run into difficulties, certainly not in case of the three major semantic constituents recognised in this article: Arguments, Predicates and Conditions. Thus, Arguments (e.g. John, Mary) and Predicates (e.g. kissed) invariably correspond to some lexical material, and if any of these are [+focus], underlining is clearly unproblematic. This also goes for Conditions that are put on propositions (e.g. on Sunday as a condition on the proposition John kissed Mary), and any modifiers (e.g. silly John, beautiful Mary, last Sunday). If any of the above elements is incremented (e.g. John or Bill, kissed and fondled, on Sunday or Saturday), then one or both terms, or the relation between them, could be [+focus] (John AND Mary, etc.), and underlined. In many cases, however, the focus cannot be associated with any particular word. Trivially, this may happen when a speaker utters (6) in reply to Is this Beverley a bachelor?

- (6) Well, this Beverley is a SPINster. YES.

which reply does not have the full semantic representation of spinster in focus, but only its component FEMALE. (The yes, of course, is added to confirm the

rest of the representation.) Such focus-markings are particularly relevant in the case of predicates, where the verb phrase breaks down into the elements polarity, tense, aspect, voice, and lexical item. Consider the following example:⁴

- (7) A (Tour guide in Canada): I want you all to speak FRENCH now
 B (Tourist) : I hadn't realised we were IN Quebec

In B's reaction, the [+focus] material is not realise plus the positive polarity of the embedded sentence. Note that even if we can associate the focus with a particular word, this does not necessarily mean that the nucleus goes to it. In (8), the element in focus includes certain special aspects, but the nucleus goes to to.

- (8) But you do accept that there are certain special aspects TO this case?

It should also be observed that certain words do not themselves take part in the focus distribution (if we can exclude from consideration utterances in which such words are talked about, such as some of the ones that follow), but rather add to the meaning of the material that is [+focus]. Examples of such focus-governing morphemes are also, even, only, purely, etc. They tend to have a syntax of their own, and most of them are obligatorily assigned an accent by the accent assignment rules. (This particular rule is not stated explicitly here.) An exception is even, which is never assigned an accent: compare John/ALso vs Also/JOHN with JOHN even vs Even JOHN, where in the former case two accents are assigned, and in the latter only one. In terms of focus distribution such morphemes had best be regarded as governing the focus, a la Jackendoff (1972). Diagrammatically, the structures of (9) and (10) could therefore be represented as (11) and (12) respectively. (Note that the appended illocution-marker please normally falls outside the focus.)⁵

- (9) JOHN's on the dole even
 (10) (Shall I bring John and Mary?) John ONLY, please

- (11) [x is on the dole] [x = John]
 ↑ ↑
 [-focus] [+focus
 even]
- (12) [you bring x] [x = John] (please)
 ↑
 [+focus
 only]

A final point to be made, already hinted at above, is that there is an upper limit to the amount of material to be put in a focus. By contrast, the tone group, like the sentence, has no upper limit, in linguistic terms. In (13) for example, there is a focus boundary within a tone group:

- (13) Strikes have been reported/in Gdansk

Accent assignment rules apply as often as there are foci in the tone group. In section 5 the concept of focus domains will be dealt with.

Briefly, then, in the model proposed here, all sentences are obligatorily marked for focus. Accent assignment rules, taking the [+focus] material as their input, assign accents in a purely mechanical way. If there are more than one [+focus] stretches in a tone group, the assignment rules apply to all these stretches individually, with the last of these accents so assigned being the nucleus. In addition, as will be seen in section 6, the rules are sensitive to a feature *mode*, which is a binary variable specifying whether the sentence is meant as a counterassertion or not.

3.0 THE 'MEANING' OF [+FOCUS]

While no attempt is made to define the semantic difference between [+focus] and [-focus] in any formal way, something ought to be said about what semantic material can be marked [+focus]. In order to account for intonational data, linguistic communication had best be seen as the manipulation by speakers of certain semantic material with respect to a discourse background, which could crudely be thought of as a set of propositions that speakers assume is shared by their

hearers. The first, from now on called the Variable, is what speakers obligatorily assign [+focus] to, while, in addition, [-focus] may be assigned to the Background. The term 'Variable' has only its semantic blandness to recommend itself. A more meaningful formulation might be that [+focus] marks the speaker's declared contribution to the conversation, while [-focus] constitutes his cognitive starting point. In this sense, the contribution causes a 'Background update', which term expresses the fact that after it, the Background has been modified. This formulation lays no claim on the predictability or otherwise of either the [+focus] or the [-focus] material.

The number of different manipulations of the Variable with respect to the Background that speakers can choose from is limited. It is suggested that these manipulations are signalled by the particular nuclear tone used to realise the nucleus. It is these manipulations, then, that are proposed as the meanings of the nuclear tones. These tones are thus seen to form an intonational lexicon (Lieberman 1975, Ladd 1980), a paradigm of mutually exclusive units, each of which has a consistent meaning which is independent of whatever other semantic material goes into the construction of sentences. While the choice of any one tone always implies an addition to the semantics of the lexico-syntactic material in the sentence, the eventual semantic effect is always integrative with that material. To quote Liberman (cited in Ladd 1978):

The meanings [of words in ideophonic systems] are extremely abstract properties, which pick out classes of situations related in some intuitively reasonable, but highly metaphorical way: the general 'meaning' seems hopelessly vague and difficult to pin down, yet the application to a particular usage is vivid, effective, and often very exact. (Lieberman 1975: 142)

While I neither subscribe to Liberman's idea that these meanings are attached to holistic intonation contours, nor to his comparison of these meanings to 'ideophones', the sentiment expressed seems appropriate enough. This article is not about the meanings of nuclear tones. Yet, I should here like to give three examples of such tones, not just in order to illustrate what their role is, but mainly to demonstrate that the choice of nuclear tone may have an influence on our intuition about where the nucleus should be located in sentences presented in written form, as in this and many other articles. Three tones will be illustrated with the house is on fire as the Variable, to which no material from the Background is added. In section 5 it will be shown that this focus distribution re-

quires the nucleus to be put on house. It should perhaps be noted that this same nucleus placement would result if only the house was the Variable and be on fire belonged to the Background (as it is likely to do in a conversation about fires); this latter focus distribution is nowhere intended below.

1. One type of manipulation available to the speaker is adding the Variable to the Background, which will require him to use the nuclear tone *fall*. The corresponding sentence is

(14) The \backslash HOUSE is on fire

Its meaning could be paraphrased as 'I want you to know that from now on I consider the house is on fire to be part of our Background'. The speaker may of course have any number of reasons for employing this option: the sentence could serve as a warning, or it could be meant to signal to the hearer that the speaker has just made an inference. We will call this manipulation V-addition. It is of some interest to note that readers of isolated example sentences generally assume that this is the manipulation intended by the writer.

2. A second type of manipulation is the selection of a Variable from the Background, which would require the speaker to use nuclear tone *fall-rise*. The corresponding sentence is

(15) The \sim HOUSE is on fire

(The notation is British: the phonetic realisation of the fall-rise is a pitch-drop on house, and a pitch-rise on fire, with is on low in pitch, cf e.g. O'Connor & Arnold (1973: 13).) The meaning can be paraphrased as 'I want you to take note of the fact that the house is on fire is part of our Background'. The pragmatic effects of this manipulation can be quite varied. It could be a reminder to the hearer that this Variable is in fact part of the Background (as an answer to, for example, a masochist's complaint that There are hardly any major personal tragedies these days!), or an expression of surprise over the fact that it should be. Again, just why the speaker chose to employ the semantic option he did employ is up to the hearer to determine on the basis of the pragmatics of the speech situation. We will call this option V-selection. It should be noted that while speakers must associate [-focus] with the Background and [+focus] with the Vari-

able, there is no reason why the Variable could not be a subset of the Background, as it is in V-selection.

3. A third type of manipulation open to speakers is to leave it up to the hearer to determine whether it is relevant for the Variable to be part of the Background or to be added to the Background, which will require him to use the nuclear tone rise. The corresponding sentence is

(16) The 'HOUSE is on fire

Its meaning can be paraphrased as 'I will leave it up to you to determine whether we should establish this Variable as being part of the Background'. The interpretative possibilities are, as always, multiple. It could be a straightforward request for information, requiring the hearer to either confirm or deny that this Variable is part of the Background, it could represent a tentative guess as to whether it is, or it could, again, signal surprise, but unlike the V-selection sentence above, at the same time carry the implication of a strong appeal to the hearer for confirmation. We will call this option V-relevance testing.

It may be noted that 'V-addition' and 'V-selection' would appear to correspond to what Brazil has called 'proclaiming' and 'referring' respectively (Brazil 1975, Brazil, Coulthard & Johns 1980), while the distinction between 'V-addition' and 'V-relevance testing' might be seen as a more specific characterisation of what Cruttenden (1981) calls 'closed' and 'open'. Note, however, that Cruttenden and Brazil group the fall-rise and the rise together.

These hypotheses concerning the meanings of these nuclear tones of English of course require testing against a large body of data. They are given here, however, not only to put the descriptive model in its proper perspective, but also to illustrate how the choice of nuclear tone may interfere with our intuitions as to where the nucleus should naturally come, as it would seem to do in some of the examples used by Berman & Szamosi (1972) to argue against Bresnan's proposal that the NSR could be salvaged by having it apply to deep structure representations (Bresnan 1971). They claim that (17), for instance, represents a 'non-normal' nucleus placement:

(17) The volCANoes are dormant

and that the normal position for the nucleus is on dormant. It is suggested that the oddity of (17) is caused by the combination of choices - assumed by the reader on the basis of the representation of the sentence in (17) - from the intonational lexicon as well as from the possible focus distributions. These choices are: the Variable is the volcanoes are dormant and the manipulation is V-addition. Since in the reader's Background volcanoes are dormant by way of reference point, these choices lead to a non-interpretable discourse context (unless the reader is to assume that the intended speaker was making a point of stating the obvious).

The sentence can be made acceptable in two ways: either we change the manipulation or the focus distribution. With a fall-rise tone, the utterance could suitably be taken as a reminder, and the oddity of the nucleus location on volcanoes would disappear (cf A: Nothing's RIGHT on this island, there's nothing we can attract TOURists with. B: (with shrug of shoulders) The vol[^]CANoes are dormant). Alternatively, we could change the focus distribution, and leave the volcanoes in the Background: the hearer can now assume that he ought to be able to identify the referent of the volcanoes, presumably a set of volcanoes that was not previously dormant because the predication, the Variable added to the Background, is that they are. This focus distribution of course requires the nucleus to fall on dormant, the reading that Berman & Szamosi designate as 'normal'. There is, perhaps trivially, a third way in which we could alter the speaker's choices so as to make the sentence acceptable: if we change dormant into erupting, the full-focus interpretation combined with the speech act V-addition would no longer clash with the Background. In (18), Berman & Szamosi consider the nucleus placement on volcanoes to be 'normal':

(18) The volCANoes are erupting

Thus, we may establish a felicity condition on V-addition, viz. that the added Variable must not already be part of the Background. It will be clear that in a discussion of the mechanics of nucleus assignment, it is important to factor out the effects of the choice from the intonational lexicon as well as of Background on the focus distribution of the sentence.⁶

The terms used in this section can be summarised as follows:

Background:	body of knowledge about the world operated upon by speakers and hearers which they assume to be mutually shared;
Variable:	semantic material to which speakers apply one of a number of manipulations with respect to the Background;
Focus:	linguistic category, specifying the size of the Variable;
Intonational lexicon:	set of tones signalling ('realising') the particular manipulation chosen;
Nucleus:	location of the tone in the sentence, the chief means of signalling ('realising') the focus marking.

4.0 ON 'NORMAL STRESS'

From the above analysis it will be clear that what people have called 'normal stress' may be a more complex phenomenon than is sometimes thought. What happens when a reader is presented with a written sentence and is asked to pronounce it - or simply does so silently for himself - is that, assuming the manipulation V-addition, he first puts a focus/non-focus interpretation on the semantic material represented by that sentence, and then the position of the nucleus follows as a mechanical consequence of that choice. People's natural tendency when dealing with this somewhat unnatural task is to give the producer of that sentence the benefit of the doubt and assign as much of it as is reasonable to the Variable. What is reasonable here not only depends on the semantic material itself, but also on the reader's world. For example, when someone is called upon to read out (19)

(19) He said the princess had laughed!

he may either imagine himself to be a citizen of a country ruled by a king whose daughter was afflicted with the inability to laugh, in which case he will be able to assign [+focus] to the entire embedded clause, or he may assume that in this world princesses are just as likely to laugh as not to laugh, in which case he will not look upon the whole of the embedded sentence as the Variable. The next best interpretation is that reference is made to one of those princesses who had

somehow already been identified, and that the point made is that she had laughed, and not not laughed, which could also have been the case. In the first interpretation we get (20), in the second (21).⁷

(20) He said the prinCESS had laughed!

(21) He said the princess had LAUGHED!

What this means is that the concept of normal stress cannot reasonably be part of a linguistic theory of accent assignment, as it necessarily involves a prior interpretation of semantic material as either Background or Variable. The best one could do is to provide an explanation of why a particular accent assignment is called 'normal': the answer is that it is that position that results from the widest reasonable interpretation of the semantic material as the Variable with speech act V-addition.

'Normal stress' has been characterised, implicitly by Chomsky (1969) and explicitly by Höhle (1979) and Ladd (1980), as that nucleus placement that results from the interpretation of the entire sentence as [+focus]. Höhle says that the nucleus placement that allows for the largest possible number of focus/non-focus interpretations is normal, while Ladd states that the nucleus placement that results from an interpretation of the sentence as one with 'unmarked focus' or 'focus unspecified' is normal. (From this discussion it is clear that this is conceptually the same thing as our 'with nothing marked [-focus]', cf also Halliday 1967b.) Both definitions of course amount to the same thing, by virtue of the fact that it is natural for larger things to comprise smaller ones rather than the other way around. This can be illustrated by (22), which is a paraphrase of the example given by Höhle:

- | | | |
|------|----------------------------|-----------------------------------|
| (22) | What's happened? | <u>Papa has given Tommy a GUN</u> |
| | What's Papa done? | Papa <u>has given Tommy a GUN</u> |
| | What happened to Tommy? | <u>Papa has given Tommy a GUN</u> |
| | What's Papa done to Tommy? | Papa <u>has given Tommy a GUN</u> |
| | What's Papa given Tommy? | Papa has given Tommy <u>a GUN</u> |

All other nucleus placements allow for fewer focus interpretations. (The same point arises from Chomsky's discussion of the focus interpretations of the noun phrase an ex-convict in a red SHIRT (Chomsky 1969)). Of the two definitions Ladd's would seem to be the more straightforward. The point that arises from Höhle's discussion is that we are dealing with five different intonational struc-

tures in the right-hand column of (22). Indeed, since every [+focus] Argument will be assigned an accent - as will be argued below - we are in fact dealing with four phonetically different surface structures, only the last two being truly homophonous.

From our discussion so far it will be clear that neither definition of 'normal stress' will cover all instances of what has been called 'normal stress' in the literature. Many sentences are excluded from having full focus interpretation because their semantic material is too obviously part of the Background. Also, sentences that include a focus governor cannot be given a full [+focus] interpretation either. In the literature, the designation 'normal' for the accent in such sentences depends crucially on the fact that there is only one focus/non-focus interpretation possible, viz. the one marked by the lexical focus indicator. We can illustrate this with (23).

(23) John would like to go there himSELF

When in English we wish to focus on the meaning 'not an NP other than the NP specified', we produce (my/your etc.)self, -ves as a matter of course, because that is the way our syntax works. And since we specifically produce it when we wish to express that meaning, it can only occur with [+focus] for that NP, and [-focus] for the rest of the material, which is therefore also the obligatory interpretation.* (The same point is made by Ladd (1980: 76) with respect to the focus adjunct even. Cf also Schmerling (1976: 49).)

The important point is, however, that the notion 'normal stress' has no role to play in our theory, simply because we cannot make it do anything to account for the data. The only thing a characterisation of the concept can do for us is to account for people's intuitions about what is the most likely ('normal') place in which they will put the nucleus in isolated 'sentences' that are presented to them. I believe that the formulation I gave earlier in this section does precisely that.

Like Schmerling (1974), we are therefore forced to reject the notion of 'normal stress' as a meaningful concept, but for a different reason. Schmerling rejected it because she came upon too many sentences in which different nucleus placements seemed equally 'normal' (cf examples (1) and (2)) and which therefore could not be explained by resorting to a concept of 'normal stress'. Part of the

point in this article is that such different positions can be accounted for, but that it is not 'normal stress' that will do this for us.

5.0 ACCENT ASSIGNMENT RULES

Without wanting to prejudge the question of whether all languages always require that the same (or equivalent) semantic material be marked [+focus] if speakers' communicative intentions are the same, it may be hypothesised that Variable, Background and focus are universal concepts. What is clearly not universal are the ways in which languages realise focus. This could - theoretically - be done with the help of focus-morphemes, to be placed, say, at the beginning and end of the [+focus] material, or by means of word order, by placing the [+focus] material at the end or the beginning of the sentence. An example taken from Edwards (1979) illustrates the effect of word order in Haida, an Amerindian language. In this language, elements are placed 'in sentence-initial position (...) because of the speaker's intention to place before the audience that information which has the most communicative importance.' Thus, (24) means FRED killed the woman and (25) means The WOMan killed Fred:

(24) Fred nang jaades tiigan

Fred the woman killed

(25) Nang jaades Fred tiigan

The woman Fred killed

Interestingly, the hearer is supposed to be aware of the deceased state of the woman in (24) and of Fred in (25), because the same sentences could also be used to mean The woman killed FRED and Fred killed the WOMan, respectively. If we wanted to disambiguate the subject-object relation, that is, if we wanted to express the equivalent of the English sentence The woman killed FRED with full focus interpretation, the Haida speaker would have to resort to a 'topicalisation' morpheme after the sentence-initial element, which would then be taken as the object:

(26) Fred uu nang jaades tiigan

(a sentence that by Haida intuitions would be anything but 'normal'!)

Languages like English and Dutch sometimes make use of word order or other syntactic devices to aid their focus marking (e.g. clefting, topicalisation, passivisation⁹), but most importantly they employ accent for this purpose. They have, in other words, accent assignment rules that take focus distributions as their input. Again, there is no reason why these accent assignment rules should be the same in the two languages. The first rule to be presented here, called simply the Sentence Accent Assignment Rule, or SAAR, is common to both languages, but the second, the Polarity Focus Rule, or PFR (more properly an extension of SAAR), points up a number of differences. It is this second rule, in particular, that makes it clear that the relation between the location of the nucleus and the semantics of the sentence can be very indirect, and cannot always reasonably be accounted for in terms of the communicative importance of the word the nucleus happens to be found on. SAAR attempts to capture in a more insightful way the observation that Schmerling (1976: 82) made when she formulated her Principle II, which says:

The verb receives lower stress than the subject and the direct object, if there is one; in other words, predicates receive lower stress than their arguments, irrespective of their linear position in surface structure.

Apart from the unfortunate appeal to degrees of stress in a stress assignment rule, the mistake Schmerling made is that she intended her Principle to apply to what she called 'news sentences', i.e. to sentences that consist of [+focus] material only (e.g. (27)). What she failed to realise is that it applied to [+focus] material, full stop. Trivially, this becomes clear when we want to account for the location of the nucleus in B's reply in (28), where her is [-focus]:

- (27) (Have you heard?) JOHNson's died
 (28) A: And what has SHE come to us for?
 B: Her HUSband beats her

It will be clear that the nuclei in both (27) and (28) should be accounted for by one and the same principle. Non-trivially, the unwarranted distinction between 'news sentences' and sentences containing [-focus] material can lead to serious errors of analysis. By restricting Principle II to the class of 'news sentences', Schmerling finds herself in the position of having to trump up additional principles to account for other data, such as the other member of her well-known minimal pair JOHNson died - Truman DIED. As will be recalled, her examples are authentic. The first was used by her husband to inform her of the sudden

death of President Johnson, while the second was uttered a few weeks earlier: 'one morning I came downstairs to breakfast, and my mother, who had gotten up earlier and listened to the news, announced to me

(29) Truman died (=Truman DIED)' (Schmerling 1976: 41)

Schmerling accounts for the nucleus placement in (29) by postulating two principles. After correctly arguing that Truman is topic, or [-focus] in our terms, she first introduces a principle that assigns an accent to both the topic (Truman) and the comment (died), and then postulates a principle that designates the last of a number of accents ('equal' stresses for Schmerling) as the nucleus. In other words, she assigns an accent to [-focus] material. It is easy to see that this cannot be right. If we paraphrase (29), admittedly somewhat clumsily, as

(30) The disease KILLED Truman

we get the nucleus on killed, despite the fact that the topic comes last. (It should be clear that the disease in (30) is [-focus]: the Background for both (29) and (30) is 'Truman is (dangerously) ill'). By extending the application of Principle II to [+focus] material as such, we not only account for sentences like (28), but also for sentences like (29) and (30): in them, there is only one constituent that is [+focus], and not surprisingly, it is given the nucleus (Gusenhoven 1978).

There is a further problem with Principle II. Phrased the way it is, it puts no condition on the linear adjacency of the Argument and the Predicate. Consider, however, the following two 'news sentences':

(31) Our DOG's disappeared

(32) Our dog's mysteriously disapPEARED

It would appear that if the speaker wishes to treat mysteriously as [+focus], he must, by that very choice, give disappeared an accent. What this suggests is that if an Argument and a Predicate are to merge into a structure that can be marked [+focus] by just the accent on the Argument, no other [+focus] constituents must be inserted between them. It is clearly not the case that the information status of disappeared in (31) differs from that in (32): both instances count as equally new. It is rather that because of the interposition of the [+fo-

cus] Condition, the [+focus] status of disappeared can no longer be served by the accent on dog.

These facts suggest that SAAR operates over focus domains. A focus domain can be defined as one or more constituents whose [+focus] status can be signalled by a single accent. We will therefore formulate SAAR in terms of (1) a domain assignment rule, and (2) a rule assigning an accent to every domain formed. In (33), A, P and C stand for Argument, Predicate and Condition, respectively, while X and Y stand for any of these. Underlining symbolises [+focus], absence of underlining [-focus]. Square brackets are used to mark off focus domains, and the asterisk indicates a sentence accent.

(33) SAAR

- a. Domain assignment: $\underline{P(X)A} \rightarrow [P(X)A]$
 $\underline{A(X)P} \rightarrow [A(X)P]$
 $\underline{Y} \rightarrow [Y]$
- b. Accent assignment: $[] \rightarrow [^*]$. In AP/PA, accent A.

Some examples of the operation of SAAR are given in (34).^{10, 11} Note that any [-focus] material has been included in the nearest focus domain, but is not, of course, accented. The last assigned accent (the nucleus) corresponds to capitalisation in other examples.

- | | | | | |
|------|--------------|---------------|-----------------------------|--|
| (34) | <u>AP</u> | \rightarrow | $[^*AP]$ | Our <u>d</u> og's disappeared |
| | <u>ACP</u> | \rightarrow | $[^*A][^*C][^*P]$ | Our <u>d</u> og's mysteriously disappeared |
| | <u>ACP</u> | \rightarrow | $[^*ACP]$ | (Talking about mysteries) Our <u>d</u> og's mysteriously disappeared |
| | <u>APC</u> | \rightarrow | $[^*AP][^*C]$ | <u>J</u> ane's had an accident in <u>L</u> ondon |
| | <u>APAA</u> | \rightarrow | $[^*A][PA^*A]$ | (Any news about Jane?) <u>J</u> ohn's promised Jane a <u>b</u> ike |
| | <u>APA</u> | \rightarrow | $[^*A][PA^*]$ | <u>J</u> ohn beats <u>M</u> ary! |
| | <u>APA</u> | \rightarrow | $[^*A]PA$ | Her <u>h</u> usband beats her |
| | <u>APA</u> | \rightarrow | $[^*A]PA$ | He <u>b</u> eats her |
| | <u>ACPCC</u> | \rightarrow | $[^*A][^*C][^*P][^*C][^*C]$ | Truman was quietly buried in Independence in 197 <u>2</u> |

Observe that the interposition of [-focus] constituents (corresponding to (X) in (33)) do not prevent AP/PA focus domains from being formed, as in (34c,e).

There is an important condition that must be put on the A in SAAR. As a 'news sentence', (36) is not well-formed (compare (35)):

(35) The PRISoners have escaped!

(36) *EVerybody has escaped!

Similarly, (37) is ill-formed (as a 'news sentence' again, of course: if has escaped is [-focus], as in an echo question, it is entirely well-formed).

(37) *WHO's escaped?

If (36) and (37) are to be all [+focus], they must have an accent on the Predicate, in addition to one on the Argument. AP domain formation would thus appear to be ruled out in cases where the A is either a quantifier or an interrogative pronoun. These Arguments require a focus domain to themselves. Observe how this rule accounts for the fact that (38) en (39) translate into Dutch the way they do:

(38) I've seen JOHN → Ik heb JAN gezien

(39) I've seen NO one → Ik heb niemand geZIEN

That is, in (38) seen John is one focus domain, but seen no one in (39) are two. Fuchs (1980), who discusses the accentuation of subject + predicate sentences in German, observes that if a nucleus on the predicate is to be possible, the subject must be 'lexically filled', i.e. must not be a pronoun. This may well be the correct generalisation, for it would seem that not only quantifiers (indefinite pronouns) and interrogative pronouns are excluded, but also personal pronouns. This may be clear from a comparison of the two replies to A's question in (40). Speaker B is here assumed to be A's sister, and Your sister and I refer to the speaker herself:

(40) A: Why don't we go to Val d'Iserre for our holiday?

B: Your SISter had an accident there (You insensitive thing!)

B: * I had an accident there (nucleus on I)

Of course, in either case, the subject could be treated as [-focus], as the referent is clearly present in the background in her role as speaker:... ACCident there. The point is rather that it is possible to only accent Your sister, but not - unless an emotional style is presupposed which need not be assumed in