EVEN, FOCUS, AND NORMAL STRESS

D. Robert Ladd

Abstract

The two traditional schools of thought about sentence-accent placement - the 'Nuclear Stress Rule approach' and the 'semantic highlighting approach' - do not really offer competing accounts of the same phenomenon, but emphasize different aspects of the overall problem. A good starting point for integrating these two approaches is provided by recent work by Gussenhoven. His work makes crucial use of the notion that the focus of a sentence may extend over several constituents and may be divided up into one or more accent bearing domains, within which accent placement is structurally specified. By extending this notion beyond Gussenhoven's original use of it, we arrive at a fundamental distinction between 'information chunking' (which depends on 'given/new', semantic weight, etc.) and focus (which is a syntactic phenomenon). These represent two separate (though interrelated) functions of accent, and have distinguishable effects on where accents are located. Past descriptions emphasize one or the other of these functions, and can be reconciled with each other if the distinction between the two functions is recognized.

1

'Focus' and 'normal stress' are undoubtedly two of the most ill-defined and most argued-about concepts in the literature on accent placement, and I should emphasize right here that in using the terms I am not declaring my allegiance to any particular school of thought. At the same time, however, it seems to me that focus and normal stress are also two of the most inevitable concepts in the literature on accent placement: sentences mostly say something new or make some point - that is the focus - and with certain accent locations the focus is specified only very broadly - that is normal stress. I feel that if we seriously explored the intuitions that underlie these two notions, we would have a chance of breaking out of the hardened theoretical positions on either side of the placement debate.

Let us consider those positions briefly. In one corner we have the traditional 'normal stress' view that every well-formed sentence has a structurally defined location for a single primary stress. 'Contrastive
stress' is governed by different principles and simply overrides the syntactically determined stress placement. It will be convenient to refer to this as the NSR view, after Chomsky and Halle's Nuclear Stress Rule, though of course the NSR represents only a formalization of a much older general approach (Newman 1946, Chomsky and Halle 1968, Bresnan 1971, 1972).

In the outer corner we have what we may call the 'highlighting' view. This holds that speakers put certain words into intonational relief in order to highlight them or focus on them; accents are meaningful wherever they occur, and 'normal stress' merely results from the conjunction of expected word orders and contexts. This view is perhaps most often associated with the work of Bolinger (e.g. 1961, 1972), but it also corresponds roughly to the views of the Prague School (e.g. Danes 1967), and has recently found considerable favor among experimental phonologists and phoneticians (Brown 1983, Nooteboom, Kruyt, and Terken 1980, Nooteboom and Terken forthcoming).

Somewhere in the middle of the ring we find a number of recent investigators (e.g. Schmerling 1976, Ladd 1980, Fuchs 1980, Bing 1980, Gussenhoven forthcoming) who have worked at reconciling the two views just sketched. Most of what I say here will be put in terms suggested by Gussenhoven's work, which must surely be reckoned the most successful and comprehensive of these recent attempts. Gussenhoven acknowledges that pragmatic and contextual considerations affect a speaker's decision where to accent a sentence, but he rejects the hypothesis that accent represents a simple choice between highlighting and not highlighting any given word. Rather, he assumes that the speaker's choice is made at a more abstract level, in the assignment of a semantic feature [+focus] to semantic constituents, and is thus part of the speaker's decision of 'what to say' rather than 'how to say it'. He presents a considerable amount of evidence that the link between focus and accent is not a one-to-one highlighting, but a 'realization', by surface features such as accent, of abstract semantic specifications. Like the link between other abstract features (e.g. features of case) and the surface elements that realize them, the connection between focus and accent is governed by a set of well-defined and to some extent structure-dependent principles.

Gussenhoven's case is best illustrated by his discussion of 'minimal focus' on the 'polarity' of the sentence, where the lexical content and grammatical relations are all contextually given, and only the truth or falsehood of the proposition is at issue (as in He DOES play golf or But the house isn't ON fire). He shows that the accent placement in such cases depends on independently motivated semantic/pragmatic distinctions - such as the distinctions between 'counterassertive' and 'counterpresuppositional' (Dik et al. 1982) - and on language-specific accent placement rules (Gussenhoven forthcoming, Sec. 8 and 9). By contrast, his discussion of cases that are more like 'normal stress'.

...
Gussenhoven identifies the major semantic constituents as Arguments, Predicates, and 'Conditions' (complements and adverbials of various sorts).

iii. However, in certain circumstances two such major constituents can form a single domain and receive a single accent: a Predicate can combine with an Argument (in which case the Argument is accented), and certain Conditions can combine with a Predicate (in which case the Predicate is accented).

The application of these principles can be illustrated with a few simple examples. In She even SPEAKS Classical Chinese, only speaks is the focus; there is a single accent domain and a single accent. The situation is similar in the 'contrastive' interpretations of She even speaks CLASSICAL CHINESE (i.e. where Chinese or Classical Chinese is the focus). In the normal stress version, where the whole verb phrase speaks CLASSICAL CHINESE is the focus, we observe the combination of two semantic constituents (Predicate speaks plus Argument Classical Chinese) into a single accent domain, with the accent placed by rule on the Argument.

If the focus consists of several constituents, multiple accents are required, as in She even studied CLASSICAL CHINESE at HARVARD. In this, neither at Harvard, nor (studied) Classical Chinese alone is the focus, but the whole fact of having studied Classical Chinese at Harvard. The sentence would be appropriate in a discussion of other remarkable biographical facts about the subject - say, that she grew up in Brazil, or once shook hands with Helmut Schmidt. As predicted by Gussenhoven's rules, the focus is divided up into two domains (Predicate/Argument studied Classical Chinese plus Condition at Harvard) and each receives its own accent. This correctly predicts that if the sentence had only a single main accent, the focus would be narrow and the pragmatic force somewhat different. That is, She even studied Classical Chinese at Harvard could be used in a discussion of things various people had studied at Harvard, while She even studied Classical Chinese at HARVARD would be appropriate in a context concerned with places where one might study Classical Chinese.

Even such everyday data as these illustrate the superiority of Gussenhoven's rules to the two older approaches. Sentences like She even speaks Classical Chinese pose a problem for the highlighting approach, because they point very clearly to the existence of structure-dependent principles for accent assignment in cases where large constituents are in focus. (Insisting, as the highlighting approach is forced to do, that Chinese is somehow the most important or informative word in the verb phrase merely begs the question.) Conversely, sentences like She even studied Classical Chinese at Harvard pose a problem for the NSR approach, because they point very clearly to the necessity of being able to assign more than one accent in cases of normal stress. (Again, insisting that at Harvard is somehow a 'separate prosodic phrase' which therefore gets its own primary stress merely changes the terminology without answering the basic question.) Both types of sentences are covered quite naturally by Gussenhoven's rules.

Furthermore, Gussenhoven is able to incorporate many of Bolinger's observations about contextual and lexical influences on accent placement by allowing the constraints on domain formation to be relaxed under certain circumstances. This is the case, for example, with infinitive complements of the sort seen in I even have all these OFFPRINTS to file or He even wanted some Persian CARPETS to EXPERIMENT with (cf. Gussenhoven sec. 7; Bolinger 1972). Bolinger (and the highlighting approach in general) argues that file is unaccented because it is relatively 'predictable' or adds little independent information to the sentence. Gussenhoven accepts the argument that such considerations can affect accent placement, but formally he analyzes the lack of accent on file by saying that under appropriate contextual/pragmatic circumstances the infinitive complement and the Argument can form a single domain. Gussenhoven's explanation of this phenomenon is thus comparable to Bolinger's, but his formal statement of the phenomenon itself is different: Bolinger is talking about words having or not having an accent, whereas Gussenhoven is talking about the formation of accent domains within the focus. Unlike Bolinger's analysis, in other words, Gussenhoven's explanation does not require us to say that file is somehow 'predictable' from offprints, but only that filing offprints (unlike experimenting on Persian carpets) is a familiar enough activity that the two elements can be combined in a single accent-bearing information chunk. Once that combination has occurred, the fact that the noun is accented rather than the infinitive is a purely structure-dependent consequence of combining them.

This may seem like a trivial distinction. I would argue that it is not trivial but subtle. Its importance can be appreciated more fully if we consider the accent placement in Your COAT's on fire! and There's a SPARK on your coat! These examples force the highlighting approach into the unenviable position of claiming that coat is somehow more contextually salient than fire but that spark is more contextually salient than coat. What Gussenhoven's approach permits us to say is the following: the two sentences each form a single information unit, with a single accent. The fact that they can be treated as single information units is due to a variety of poorly understood factors of contextual salience, informativeness, etc., of the sort that the highlighting approach has always emphasized. But given that fact, the location of the accent is structurally specified. By assuming that accents apply to accent domains - information chunks - rather than to individual constituents considered independently of one another, Gussenhoven's approach avoids the empirical embarrassment of having to make implausible claims about the relative contextual salience of fire and coat and spark.
With the simple provision that the focus of the sentence is divided up systematically into accent-bearing chunks, it seems to me that Gussenhoven has transformed the empirical question of accent placement in a potentially very productive way. The older approaches ask: "What determines where accents go?" For Gussenhoven, the location of the accents is a relatively low-level consequence of domain formation; his question is rather: "What determines the division into accent domains?"

This changed formulation brings out what is sensible and what is misdirected in both the earlier approaches. The observations of writers like Bolinger can be interpreted as being primarily with the conditions under which two semantic constituents may combine into a single accent domain, while the main emphasis of traditional normal stress rules is the structural specification of accent placement once domains with more than one major constituent are formed. Gussenhoven's model thus embodies an implicit explanation for the inadequacies of both the NSR and the highlighting approaches, namely that they try to describe two distinct phenomena with a single set of rules or principles.

Unfortunately, though, Gussenhoven fails to make the most of his own insight. There are several points in his analysis where, in my view, he describes things in terms of well-defined structural distinctions that should actually be treated as involving the more probabilistic constraints on domain formation. The remainder of the paper is devoted to backing up this criticism.

The data that give Gussenhoven the most trouble are cases in which major syntactic constituents are unaccented. We have already discussed two such cases: She even studied Classical CHINESE at Harvard, and I even have all these OFFPRINTS to file. In the first of these, which would be usable only if Harvard were specifically under discussion, Gussenhoven would analyze at Harvard as [-focus]. In the second, which is usable even if filing things is not explicitly a topic of conversation, Gussenhoven would treat to file as [+focus] but allow it to form part of a larger domain with offprints because of pragmatic/contextual considerations. There is still a third comparable case, exemplified by He even left the DOOR open. The intended focus interpretation is the normal stress reading, i.e. 'not only did he spill juice on the tablecloth and forget to make his bed, but he left the door open as well!'. Here Gussenhoven argues that open forms part of the underlying semantic constituent Predicate (i.e. leave ... open, parallel to throw ... away or take ... out), and therefore by definition cannot constitute a separate domain; by rule the Argument door is accented when it combines with the Predicate.

Taken separately, Gussenhoven's explanations for these three cases are not unreasonable, and there is justification for all three within the internal workings of his overall system. At the same time, however, all three seem to exemplify what the highlighting approach might call 'deaccenting for predictability' - that is, in all three cases we are dealing with contextual influences on accent placement. Gussenhoven acknowledges these factors in the analysis of offprints to file, but in the other two cases he talks in terms of structural constraints on domain formation and acceptability. That is, at Harvard is specified as [-focus] and is therefore structurally unable to bear an accent; open is treated as part of the 'semantic constituent' predicate and is therefore structurally incapable of forming a separate domain. Yet considering that the structural definitions that Gussenhoven provides for [+focus] and 'semantic constituent' are vague at best, it seems unwise for his rules to depend so critically on these presumed categories and distinctions.

The most consistent and unified treatment of these three cases within Gussenhoven's general framework, it seems to me, is to generalize the explanation applied to offprints to file. Specifically, we might say that the unaccented constituent at issue (at Harvard, to file, open) is unaccented because it is combined, with another constituent, in a larger accent domain that is accented somewhere else. This explanation does not depend crucially on the exact specification of [-focus] elements or on the exact identity of semantic constituents; it is enough to say that 'contextual givenness' (as in at Harvard) is...
one of the influences on domain formation, and that syntactic constituents that are semantically or syntactically closely bound to each other (such as leave and open) tend to combine in single accent domains.

Gusset's hypothesis, in other words, can be developed into the strong hypothesis that accent depends on two distinct types of factors with distinguishable effects. An adequate description of accent placement should thus consist of two clearly delimited parts: (1) a part that describes the probabilistic, context-influenced constraints on the formation of accent domains or information chunks, and (2) a part that describes the structural principles governing the location of accent once accent domains have been formed. The first part is the proper repository of all the observations of the highlighting approach (and in particular of the recent experimental research by Brown and Nooteboom et al.), while the second will accommodate e.g. Jackendoff's work on focus and normal stress, and things like Gusset's rule that a domain consisting of an Argument and a Predicate is accentuated on the Argument. However, strengthening Gusset's model in this way will call for the modification of at least two of his basic assumptions: (1) the relationship between focus and 'givenness' must be reconsidered, and (2) accent domains must be assumed to have hierarchical structure. The next section of the paper is devoted to a brief discussion of these two topics.

EVEN, FOCUS, AND NORMAL STRESS

[-focus] is to be defined in terms of givenness, much detail remains to be filled in.

The second problem with equating givenness and [-focus] is that it puts serious strain on any intuitively useful definition of focus (by which I mean any definition that accounts for data involving even). Specifically, it makes it difficult to account for cases of what I have termed 'default accent' (Ladd 1980), which arises when constituents are (so it appears) given, but also [+focus]. My original example was the following:

A: Has John read Slaughterhouse-FIVE?
B: No, John doesn't READ books.

I pointed out that the accent on read is not 'contrastive' - i.e. it does not focus narrowly on read as opposed to write or burn or sell - but falls where it does by default, to signal the default givenness of books. With the help of even, it can be seen that the difference between 'contrastive stress' and 'default accent' is primarily a question of how much of the sentence is in focus. Consider the following two constructed dialogues:

(Context: Two writers talking about a third one)
A: I hear John's been having a really unproductive spell since his last novel.
B: Yeah, it's really bad - he doesn't even READ books anymore.

(Context: An enthusiastic young student and a jaded older one, talking about a charismatic professor)
A: Prof. Smith is so incredibly knowledgeable and literate - he gave an incredible analysis of Ulysses in class today.
B: Are you kidding? He doesn't even READ books anymore.

In the first of these, the contrast between reading and writing books is explicit in the context, and it may reasonably be said that the focus associated with even is read. Books, which is obviously in the context because of the speaker's profession and the reference to John's last novel, is thus [-focus]. In the second dialogue, the contrast implied by the even is not between reading books and writing them, but between writing books and the various other activities that scholars are expected to engage in - writing papers, giving lectures, etc. The focus is thus read books. Books is again in the context because of A's mention of Ulysses and of how literate Prof. Smith is, but it cannot be said that it is [-focus] without affecting the analysis of the pragmatic force of even.
In my opinion, these examples show that elements can be part of the focus even when they are given. The focus of a sentence - operationally defined as that portion of the sentence that might be associated with words like even - probably always contains elements that are new or explicitly contrastive, but it may contain other material as well. There is no reason to equate focus with newness or informativeness; focus is related to syntax in a fairly well-defined way, while newness or informativeness is a question of poorly understood features of discourse organization. The key to understanding sentence accent is to recognize that signalling focus, and dividing up new and old information, are two distinct functions.

Research such as Brown's or Prince's or Nooteboom et al.'s thus says little about focus, but rather provides information about the treatment of discourse entities in the formation of accent domains. So interpreted, this research need not - and should not - be viewed as somehow discrediting the notion of grammatical effects on accent placement. Grammatical specifications of [-focus] are among the structural determinants of accent placement within domains; 'newness' as such plays a role only in constraining domain formation.

4.2

Let me return to the examples just discussed above. In He doesn't even READ books anymore, I suggested that one possible reading of this has books as part of the focus. This contradicts Gussenhoven's claim that books is [-focus], and in so doing eliminates the basis for his explanation of the accent placement. In my view, cases such as these argue for a more elaborate structure to accent domains and a somewhat richer set of rules governing accent placement within domains.

Specifically, I would argue that books is unaccented in this case because it combines into an accent domain with read. This, of course, raises a problem for Gussenhoven's system, because if Predicate and Argument are combined in a single domain, the accent is supposed to fall on the Argument - which is precisely what does not happen here. The solution to this problem is to be found in the recent theoretical work on metrical structure (Liberman and Prince 1977, Selkirk 1980, etc.). Domain formation is not (as Gussenhoven would have it) linear concatenation, but the joining of two sister constituents in a hierarchical structure in such a way that one of the two must be relatively stronger than the other. Domain formation necessarily involves the subordination of one element to the other; the specification of which is subordinated depends on a set of structural features that must include not only 'Predicate' and 'Argument', but also discourse statuses such as 'given'.

In the example just discussed, the unmarked case (and the one covered by Gussenhoven's rules) would be

![Diagram](https://via.placeholder.com/150)

The marked case arises when books is contextually given:

![Diagram](https://via.placeholder.com/150)

The similarity of this proposal to my discussion of deaccenting and default accent will be apparent, as will the need for a more careful study of the whole topic. It seems to me, however, that conceiving of domain formation in this way should eventually enable us to take the notion of 'relative strength' implied by the Liberman-Prince-Selkirk metrical theory and give it an explicit interpretation in terms of the pragmatic force of accent patterns.

5

By way of exemplifying some of the foregoing suggestions, I wish to consider briefly the question of accent placement in sentences with a non-pronominal subject and an intransitive predicate, like Your coat's on fire or Truman died or Jesus wept. These have been the subject of considerable amount of discussion in the last ten years, most of it revolving around the question of why 'normal stress' in some cases appears to be on the subject and in other cases on the predicate (Bresnan 1972, Schmerling 1976, Allerton and Cruttenden 1979, Ladd 1980, Fuchs 1980, Bardovi-Harlig ms.).

Adding even shows that when such sentences are accented only on the subject, the focus interpretation is ambiguous between focus on the subject only and focus on the whole sentence. For example, His REFRIGERATOR even stopped could focus on refrigerator (e.g. he blew so many fuses in the house that not only the clocks and the record player stopped, but even the refrigerator, which was on a separate circuit, stopped as well); or it could focus on the whole event (e.g. in a list of misfortunes that were awaiting Bill when he returned from his vacation - his plants had died, his basement had flooded, and his refrigerator had stopped as well). To the extent that 'normal stress' refers to the location of the accent when two focused constituents are combined in a single domain, then it is clear that normal stress in these cases is on the subject. But this means only that if subject and predicate are treated as a single domain, then the predi-
cate will be subordinated to the subject. The existence of many contrary cases, which has given the NSR approach such trouble, simply proves the difficulty of stating precisely the constraints on the formation of accent domains.

Contrary cases include cases where the predicate is long or semantically complex or unexpected, such as *The TRAFFIC light just turned purple* or *The RENT IS EXCESSIVE*; cases where the predicate gives a defining characteristic of the subject, such as *My BROTHER is a GEOLOGIST*; and cases where the subject is 'topicalized', i.e. somehow contextually inferable. The best illustration of this last type was the distinction Schmerling reported between *JOHNSON died* and *TRUMAN DIED* (1976: 41ff.). The reports of the deaths of two former U.S. presidents, as she heard them, differed contextually in that Johnson died relatively unexpectedly, whereas Truman's terminal illness had been in the news for several days and hence was in some sense more in the context. Within the modification of Gussenhoven's approach that I have been developing here, all of these would be treated as cases of contextual influences on domain formation: the predicate is prevented (by its greater unexpectedness, etc.) from being subordinated into a single domain with the subject.

Once again, the distinction between this explanation and the simple highlighting approach may be difficult to see, and it is worth discussing a couple of examples in a little more detail to make the difference clear. Consider first Schmerling's examples *TRUMAN DIED* and *JOHNSON died*. As Schmerling says (1976: 42):

Bolinger's theory would appear to suggest [...] that the mention of Truman in the relevant context should have suggested "death" and, therefore, that died [...] should not be stressed. On the other hand, the mention of Johnson in the relevant context should not have suggested "death" any more than anything else one might have wanted to say about him, and therefore died [...] should be stressed. Bolinger's theory would thus appear to predict stress contours opposite the to the ones which actually occurred.

The explanation I would suggest locates the predictability on Truman, not on anything to do with dying: this seems to be consistent with the fact the Prince's discussion of given/new statuses refers to *entities* in the discourse. Because he had been in the news, Truman was more 'inferred' or less 'unused' (to use Prince's terms) than might otherwise have been the case. Consequently, died was therefore relatively stronger in the sentence and less suitable for subordination in a single domain with Truman. In effect, both constituents are accentuated because one of them is less informative than normal. Obviously, nothing in a simple highlighting approach would lead us to expect this result.

While this interpretation may seem far-fetched, it appears to be supported by the following attested example: *I SAW Ron HARRIS today*. Ron Harris was a former fellow student of the speaker and addressee, who had returned to campus to defend his thesis. The conversation had been about him for a while, but the topic had changed when the sentence was uttered. Ron Harris was thus not a completely new discourse entity, but was not immediately in the context, either (in Prince's terms, Ron Harris was probably 'inferred', rather than either 'unused' or 'evoked'). Had the sentence been the first mention of Ron Harris in the conversation (Prince's 'unused'), it would have been accentuated *I saw Ron HARRIS today*, i.e. with the predicate subordinated to the object. Had Ron Harris been the immediate topic of conversation (Prince's 'evoked'), it would have come out *I SAW Ron Harris today*. In the actual context, because the informativeness of Ron Harris was as it were weakened, neither predicate nor object could appropriately be subordinated to one another, and the speaker (as in *TRUMAN DIED*) put accents on both constituents in order to emphasize that one of them was contextually inferable.

6

I am aware of having raised more questions here than I have answered. In a sense, that was my goal - to propose that the endlessly repeated questions of accent placement be asked in a new way. Jackendoff-style observations about normal stress and focus, and Bolinger-style observations about highlighting and relative information value, have been made often enough, and the theoretical weaknesses of both points of view have been thoroughly exposed. But the debate continues inconclusively because neither side has been asking the right questions. To escape from the stalemate, we must attempt to integrate recent insights into discourse structure and recent advances in prosodic theory with syntactic data about accent and focus. It seems to me that Gussenhoven's notion of domain formation, modified along the lines hinted at here, provides the needed new perspective.2

Notes

1 I am grateful to Carlos Gussenhoven for much discussion and correspondence on the issues dealt with here. However, I must emphasize that even my presentation of his rules is not in his original form, but is my own interpretation. He is in no way responsible for any distortions of his original intent that may be contained here.

2 After this paper was completed, I discovered that comparable phenomena exist in Danish and have been discussed in somewhat similar terms by Jørgen Rischel in "On Unit Accentuation in Danish - and the Distinction between Deep and Surface Phonology", to appear in *Pola Linguistica*, vol. XVII (1983).
D. ROBERT LADD

References


Bardovi-Harlig, K., (ms.): A Comment on Comment and Bresnan's Topical Stress. Unpublished paper, Univ. of Chicago.


