

# Notes on the Noun Phrase Prominence Principle

Jun-ichi Murata

## 0. Introduction

In this paper, we will consider the Noun Phrase Prominence Principle proposed by Bing (1979) to solve several difficulties with a metrical analysis of English sentence stress. In the first section, we will summarize Bing's metrical analysis. In the next section, we will point out a number of problems with her analysis, and present some possible solutions to them.

## 1. Bing's (1979) Noun Phrase Prominence Principle

Liberman and Prince (1977) reformulate Chomsky and Halle's Nuclear Stress Rule (NSR) and Compound Stress Rule (CSR) as follows:

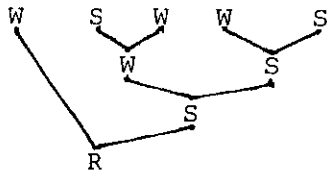
- (1) In a configuration  $[_c A B _c]$ :
  - a. NSR: If  $c$  is a phrasal category,  $B$  is strong.
  - b. CSR: If  $c$  is a lexical category,  $B$  is strong iff it branches.

This rule, for example, assigns sentence (2B) the values as shown in (3):

(2) A: What is it you don't like about John?

B: John doesn't read books.

(3) John doesn't read books.<sup>1</sup>

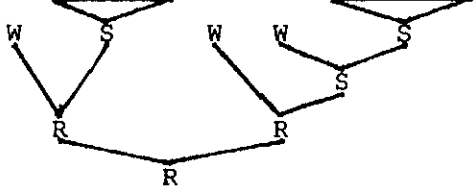


Now, consider the following sentences:

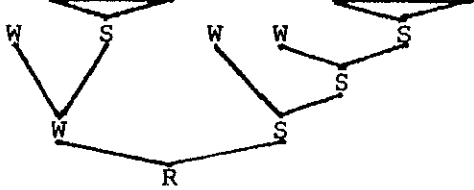
- (4) a. What happened?  
 b. The governor has been kidnapped.
- (5) a. I thought Jay was going to talk to the governor.  
 b. He can't. The governor has been kidnapped.
- (6) a. Did you say someone has been kidnapped?  
 b. Yes, the governor has been kidnapped.

The b-sentences are the same in syntactic form, but different in the pattern of prominence. They can be indicated in terms of metrical trees as follows:

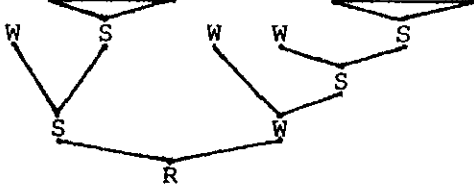
(4') The governor has been kidnapped.



(5') The governor has been kidnapped.



(6') The governor has been kidnapped.



If we apply rule (1) strictly, we would expect that (5') is the unmarked case. But this does not seem to be the case, for the fact that (4b) occurs in the relatively neutral context "What happened?" suggests that (4') is really the unmarked case.

Thus, to solve this problem, Bing (1979) proposes the following principle:

- (7) Noun Phrase Prominence Principle: A node in metrical structure corresponding to a node in syntactic structure which is a noun phrase cannot be dominated by any node labelled W(eak) except when that node has been destressed because of reference to previous discourse.  
(p. 18)

Another thing to note with Bing's analysis is her use of the value R in the metrical tree, as in (4') above. Liberman and Prince (1977) assigns the value R only to the root of the tree, but Bing (1980) extends the use of this value to indicate a relationship which is neither stronger or weaker than its sister node in the tree. Given this representation, she claimed, obligatory phrase boundaries (or "comma pause") could be defined in terms of adjacent structures dominated by R in the metrical tree.<sup>2</sup>

Given the above assumptions, we can account for a number of sentences which have been puzzles for the NSR.

First, observe the following notorious sentences.

- (8) John died.  
 (9) I looked the answer up.  
 (10) Great oaks from little acorns grow.

These sentences would be assigned inappropriate stress patterns by the NSR, but if we assume the Noun Phrase Prominence principle interacting with the NSR, we will have the right result.

Next, consider intransitive sentences discussed by Guéron.

- (11) a. The case was judged. Then a lawyer appealed.  
 b. The case was judged. Then a lawyer appeared.

Guéron calls sentences like (11a) predicational and those like (11b) presentational. The function of the former is to give information about the subject, and that of the latter to introduce a noun phrase into the discourse. Note that the contrary stress patterns are rejected.

- (12) a. The case was judged. \*Then a láwyer appealed.  
 b. The case was judged. \*Then a lawyer appeáred.

How does the Noun Phrase Prominence Principle (7) account for these stress patterns? In (11a) lawyer is destressed because of "reference to previous discourse" as the proviso in (7) describes. (Therefore, the pattern in (12a) will be unacceptable.) In (11b) the stress pattern is exactly as (7) predicts. In fact, Bing notes that "all intransitive verbs are less prominent than their subjects in 'out of the blue' contexts," a fact that Guéron ignores. The problem is that in (12b) lawyer cannot be destressed. But this fact can be explained by taking into account the above-mentioned function of presentational sentences: to introduce the subject of a sentence into the world of discourse. That is, the function of introducing something is incompatible with the condition of reference to previous discourse for destressing.

Thus, we see that the Noun Phrase Prominence Principle accounts for all relevant stress patterns, and further the stress pattern in presentational sentences, which has been treated as rather exceptional, has come to fall under the general condition.

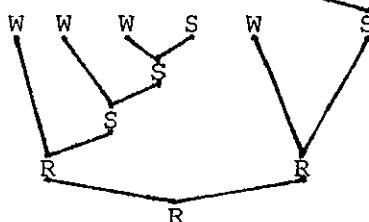
## 2. Problems and Solutions

As we have seen, Bing's analysis gives an interesting account of several facts that have not been fully accounted for,

but there seem to be a number of problems in her analysis.

First, consider her use of the node R. For example, she gave the sentence (13a) the representation (13b).

- (13) a. I have a point to emphasize.  
 b. I have a point to emphasize.



One problem, which might be trivial, is that as we see, although emphasize is assigned a stronger stress than point, this fact is not reflected in the representation (13b). Bing does not mention this problem, but another principle might be needed. The more serious problem is concerned with obligatory phrase boundaries. That is, as we saw in the last section, Bing defined obligatory phrase boundaries (or comma pause) in terms of "adjacent structures dominated by R in the metrical tree." Then, we would expect such a boundary to exist between a point and to emphasize, which is not the case. There may be some solutions to this problem, but considering the validity of the definition of phrase boundaries in terms of R, it would be better to introduce another node that is neither strong or weak. In my opinion, the best candidate for such a node would be a "intonational phrase" suggested by Selkirk (1980). However, we will not go into this problem any further here.

The next problem is how to incorporate the Noun Phrase Prominence Principle into the grammar along with other rules. In this regard, Bing suggests the following two ways. One is to regard it as a rule assigning prominence, and then it would

"assign either S or R to nodes corresponding to noun phrases being introduced into the discourse" and "the NSR would apply as an "elsewhere rule". The other is to formulate it as an interpretive rule like (14).

(14) Interpret any noun phrase dominated by a weak node as referring back to previous discourse.

However, I think that the latter way makes meaningless Bing's argument for the Noun Phrase Prominence Principle, in that it presupposes that the NSR always gives correct stress patterns, a fact that she argues against. For example, intransitive (particularly presentational) sentences are not assigned an appropriate stress by the NSR. Therefore, we had better adopt the former way, but I think there is another way: to formulate it as a "relabeling rule" which is applied after the NSR, like (15).

(15) Metrical Relabeling Rule (tentative):

$W \rightarrow S / \begin{array}{c} \text{NP} \end{array}$  unless NP refers back to previous  
discourse

Of course, this rule needs some refinement,<sup>3</sup> so here we will leave open the question of comparison between this way and Bing's way and just suggest (15).

Lastly, we will point out a problem concerning destressing. Bing notes that noun phrases are destressed just in case they refer back to previous discourse, but there is another destressing, not for this "pragmatic" reason, but for a "semantic" reason. It is the case of "anaphoric elements" in Nakau's sense, which is discussed by Hirose (1981). Consider the following sentences:

- (16) a. Whose book did John  $\left\{ \begin{array}{l} \text{destróy} \\ \text{criticize} \end{array} \right\} ?$
- b. What  $\text{bóoks}$  did John  $\left\{ \begin{array}{l} \text{see} \\ \text{find} \\ \text{read} \end{array} \right\} ?$

In (16a), in contrast to (16b), book is distressed, because the verbs destroy and criticize have "the inherent property that the referent described by the object noun phrase is preexistent (i.e. existent prior to the action described by the verbs)" (Hirose (1981) p. 21), and therefore book is "anaphoric". That is, book in (16a) is inherently (=semantically) assigned no stress, independent of the discourse in which it is used. Bing entirely overlooks this case.

Then, we see that as it stands, Bing's analysis has a number of problems. But since the aspects of English sentence stress are so complex that we must consider that sentence stress is determined through the interaction of several different factors, her hypothesis, which is insufficient in itself, can be regarded as one of these factors. And it would be one of the objectives of future research to make these factors clear.

### 3. Summary

We have examined the Noun Phrase Prominence Principle proposed by Bing (1979). In the first section, we surveyed her analysis. In the second section, we pointed out a number of problems with her analysis and suggested their solutions and finally reconsidered the significance of her analysis in a broader perspective.

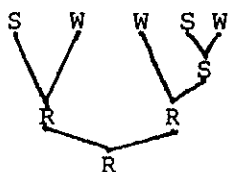
## NOTES

<sup>1</sup> Bing (1979) refers to the way to associate the tones of intonation contours with metrical trees, which, however, does not concern us here.

<sup>2</sup> For example, sentence (i) would be represented as in (ii):

(i) Frankly, he didn't.

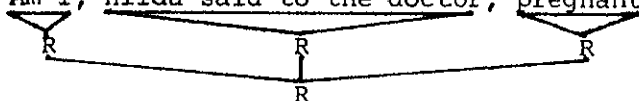
(ii) Frankly, he didn't.



Moreover, she argued that R could also be assigned to nodes which had more than one sister. Thus, the representation for (iii) would be (iv).

(iii) "Am I," Hilda said to the doctor, "pregnant?"

(iv) Am I, Hilda said to the doctor, pregnant?



<sup>3</sup> As it stands, this rule cannot account for the well-known stress contrast between (v) and (vi):

(v) George has pláns to leave.

("George has plans which he intends to leave.")

(vi) George has plans to léave.

("George is planning to leave.")

Notice that in (vi) (as well as in (v)) plans does not refer back to previous discourse. Consequently, (15) assigns both of these sentences the same stress pattern:



(vii) plans to leave



A metrical solution to this problem is presented in Hirose (1981).

#### REFERENCES

- Bing, J. M. 1979. "Up the noun phrase: Another stress rule," in Engdahl, E. and M. J. Stein (eds.) Papers presented to Emmon Bach by his students. 14-31. U/Mass.
- \_\_\_\_\_. 1980. "A reanalysis of obligatory "comma pause" in English," U/Mass. occasional papers in linguistics 5. 1-21.
- Hirose, Y. 1981. "A metrical analysis of English sentence stress," English Linguistics 24. 2-24. Tokyo: Kaitakusha.
- Liberman, M. and A. Prince. 1977. "On stress and linguistic rhythm," Linguistic Inquiry 8:2. 249-336.
- Selkirk, E. 1980. "On prosodic structure and its relation to syntactic structure," reproduced by the Indiana University Linguistics Club.