Contrastive *FOCUS* vs. presentational *focus*:
Prosodic Evidence from Right Node Raising in English*

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Abstract

This paper reports a difference in English between the prosodic properties of contrastive *FOCUS* and presentational *focus* entities when they are immediately followed within the sentence by a presentational focus. In this context, the contrastive FOCUS shows not only a L+H* pitch accent, but also a following phonological phrase break, marked by both a L- phrase accent and temporal disjuncture. In the same context, presentational focus shows a pitch accent H* and no phonological phrase break (no L- and no disjuncture). Since these differences in prosody correlating with different Focus types are not plausibly construed as the realization of distinct tonal morphemes, I suggest that the contrastive/presentational contrast is present in the interface informational/syntactic structure itself, and makes itself felt in the phonological representation through the action of syntax-phonology interface constraints which distinguish the two Focus types.

Introduction

The question has not yet been resolved for English whether to distinguish contrastive and presentational Focus types (notated here, respectively, FOCUS and focus) in phonological representation and/or in the interface syntactic representation. It is generally assumed in semantic accounts that the syntax includes markings for information structural notions like Focus, but not for the different subtypes of Focus ([8],[9]). A distinction in phonological representation between the two types could potentially be neutralized in cases where a particular Focus element is the last Focus within the sentence (followed only by given, unaccented, material). Indeed, scholars of English intonation (e.g. [4]) have claimed there is no phonological distinction in such cases. So an investigation of prosodic differences in Focus types would ideally study sentences where (a) the FOCUS and focus entities are compared in position before a new, presentational focus (which will be accented) and (b) there is no potential confounding effect on the prosody from the syntactic phrase structure. For this reason I chose to study the focus/FOCUS contrast on transitive verbs followed by discourse-new direct objects, where the right edge of the verb is phrase-medial and so not the context for interface constraints that might align the edge of a syntactic phrase with the edge of a prosodic phrase ([10],[14]).

In order to reliably elicit a contrastive FOCUS on a verb followed by a presentational focus, dialogue materials "performed" by speakers contained the so-called Right Node Raising (RNR) construction, which is characterized by a pair of contrastive FOCUS elements ([6],[2]) that share a common syntactic complement, as in (1-2).The shared complement is typically discourse-new.

(1) For instance, the Santa Lucia fir is [confined to]$_{FOC}$ even though it didn't [originate on]$_{FOC}$ the North American continent.

(2) It's interesting to compare the adults who [vilify]$_{FOC}$ to the children who [emulate]$_{FOC}$ the radical rappers.

Syntactic analyses of this construction have arrived at the conclusion that the shared, "right-node-raised" object appears *in situ*, in the normal position for a complement of the verb, and that the first verb of the contrasted pair is followed by an empty position in the phrase structure ([6], [2]):
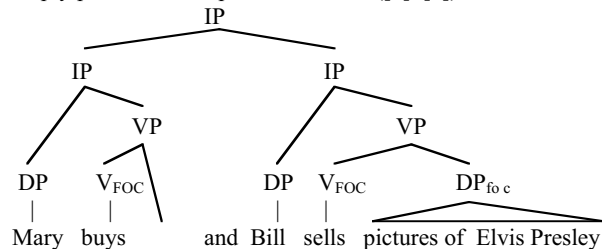

Figure 1: Syntax of a Right Node Raising construction

The righthand contrastive FOCUS verb of this RNR construction would therefore appear in the same syntactic structure context as a presentational focus verb in the corresponding simple sentence, e.g. *Bill sells pictures of Elvis Presley.* RNR sentences and the corresponding simple sentence thus provide a controlled context in which to examine the differential effects of FOCUS and focus in medial position.

1. Some further methodological details

1.1. Recording

- Three speakers (linguistics graduate students naïve to the task) each read two repetitions of dialogues containing the RNR sentences with the verb in contrastive FOCUS or the corresponding simple sentences with the verb in presentational focus.
- RNR dialogues and simple sentence dialogues were read one week apart, to mitigate any disambiguation attempts.
- A radio interview format was used (e.g. the Terri Gross show on National Public Radio (USA)). The author played the role of the interviewer. The speaker played the role of the interviewee, and was asked to style their speech accordingly.
- The Praat program was used to record directly into an iMac with a SONY ECM-MS957 microphone.

1.2. Reading materials

- The dialogues were designed so as to make the use of the RNR sentences natural, and to call for the discourse-new, presentational focus, status of the shared constituent.

- Nine different RNR sentences were used. These include the following sentences, in addition to (1) and (2) :

  (3) We've managed to <u>remaster</u> without <u>remanipulating</u> the recordings on the Black Cat label

  (4) We were <u>investigating</u> and often <u>delineating</u> unknown geological territory

  (5) Then I realized that I wanted less to be <u>investigating</u> than to be <u>climbing</u> the local mountains.

  (6) We were <u>investigating</u> at the same time as <u>climbing</u> the local mountains.

  (7) I'm sure you're aware that the adults will <u>nullify</u> but that children will <u>modify</u> a radical agenda, ….

  (8) Everyone <u>admired</u> but nobody <u>venerated</u> the master.

  (9) All the students <u>admired</u> and some even <u>venerated</u> the master.

- Four of these had corresponding simple sentences in the materials:

  (10) For example, the catalpa tree <u>originated</u> on the North American continent. (cf. (1)).

  (11) We've been <u>remanipulating</u> the recordings on the Black Cat label. (cf. (3))

  (12) We were <u>climbing</u> the local mountains. (cf. (5-6))

  (13) They <u>venerated</u> the idols, as if they were the gods themselves. (cf. (8-9))

1.3. Analysis

- Pitch tracks were made with the Pitchworks program.
- A ToBI transcription was made by the author of the recorded sentences. Analyses of break indices were confirmed by other listeners.

2. Results

2.1. The prosody of medial contrastive FOCUS

The tonal and disjunctural properties of both contrastively focussed verbs in the RNR constructions are summed up in Table 1. Results for the first and second verb do not differ.

Table 1: The prosodic properties of medial FOCUS

Prosodic properties:	Instances of medial RNR FOCUS, N=93	Percentage
Pitch accent:		
L+H*	76	82 %
H*	9	10%
!H*	8	8%
T- right edge		
L-	83	89%
L-H%	5	6%
H-	4	4%
no T-	1	1%
Break index:		
BI 4-5	47	50%
BI 3	37	40%
BI 1-2	9	10%
Pause:		
yes	33	35%
no	60	65%

The reason that N=93, instead of the expected 108 is that not all dialogues were successful in consistently eliciting a presentational focus (= pitch accenting) on the direct object, and in these cases the contrastive FOCUS on the second verb is not prosodically medial. Here is an example of a successful dialogue, where the object was consistently focussed:

TG: William Bateman, you've been working for many years on the reception of certain extreme kinds of popular music by different groups in the population.

R: Yes, I am looking at this as a social psychologist. For example, <u>it's interesting to compare the adults who vilify to the children who emulate the radical rappers.</u>

TG: Do these represent the two poles of reaction to the rappers?

2.1.1. *Junctural properties of medial FOCUS*

It is striking that in 90% of the cases, there is a substantial disjuncture following the FOCUS verb: 50% had a very big 4-5 break index phrase break (among these were most of the cases of pause) and 40% also had a non-negligeable phrase break with a break index of 3. Further evidence for the presence of a substantial phrase break after FOCUS is given by the presence of right-peripheral tones in 99% of the cases.

2.1.2. *Tonal properties of medial FOCUS*

Peripheral tones That the FOCUS verbs should consistently bear a pitch accent is to be expected, but what this evidence reveals is a further correlate of contrastive FOCUS, namely the reliable location of an edge tone on the right. In 89% of the cases that edge tone was a L- (consistent with either an intermediate/major or an intonational phrase edge). The L-H% fall rise found with IP edges in English is present in just 5% of the cases, a H- in the remaining 4%. The criterion for deciding on the presence of a phrasal L- were:

a. The presence of a level L plateau extending inwards from the right edge of the verb, in cases where the verb contains two syllables following the accent-bearing word stress.

b. The presence of a L target at the right edge of the verb where that L is not part of a following L+H* accent.

The pitch track in Figure 2 shows the presence of a small L plateau at the end of each FOCUS verb:
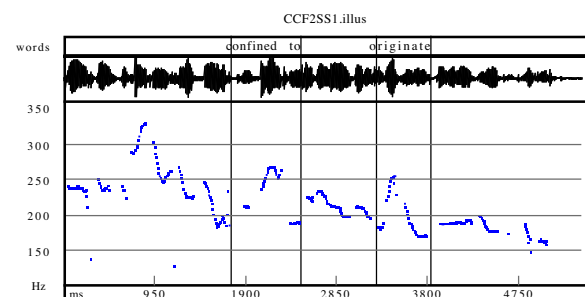

Figure 2: FOCUS verbs in sentence (1):
For instance, the Santa Lucia fir is <u>confined to</u> even though it didn't <u>originate</u> on the North American continent.

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Pitch accents The L+H* pitch accent predominates, appearing in 82% of the cases. (In the further 8% of cases notated !H* there are extenuating circumstances which may explain the absence of L+H*. The verb was preceded in the same phrase by a L+H*-bearing quantifier which was also a contrastive FOCUS and plausibly carried the prominence of the phrase, cf. section 3.) The typical pattern of FOCUS as seen here is thus one of a *duncecap*, with a H* peak on the stressed syllable preceded by a sharp rise from the preceding syllable

(due to the leading L+ of the accent) and followed by a sharp fall due to the L-). We can call the case where the fall is followed by a L plateau extending up to the right edge FOCUS a right-visored duncecap. These duncecap patterns are easily discernible in Figure 2, and in Figure 3, where the FOCUS verbs are both preceded by a contrastive subject (but not a quantifier and not in the same phrase):
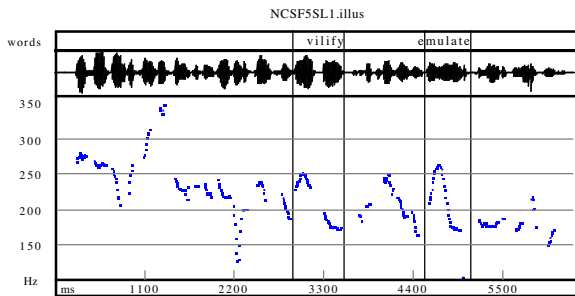

Figure 3: FOCUS verbs in sentence (2): It's interesting to compare the adults who <u>vilify</u> to the children who <u>emulate</u> the radical rappers.

2.2. The prosody of medial presentational focus

The small N=15 in Table 2 for the sentences with medial presentational focus on the verb is explained by the exclusion of sentence (13), read by all as having a contrastive FOCUS on the verb. The numbers nonetheless make clear that the prosody of medial presentational focus verbs in sentences (10-12) are markedly distinct from those of FOCUS verbs. To see the difference, compare Figure 4 with Figure 2.

Table 2: The prosodic properties of medial focus

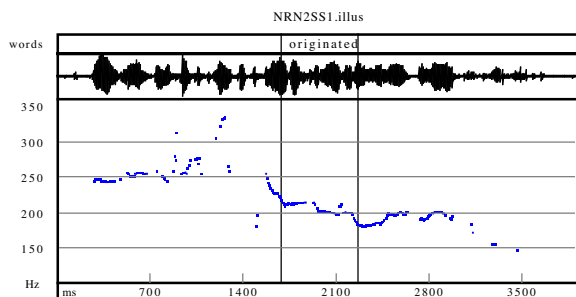| Prosodic properties:	Medial presentational focus, N=15	Mean Value
L+H*	4	27%
H*	11	73%
L-	2	13%
no T-	13	87%
BI 3	2	13%
BI 1-2	13	87%
Pause	2	13%
No pause	13	87%

Figure 4: Focus verbs in sentence (10): For example, the catalpa tree <u>originated</u> on the North American continent.

Also note that in the simple sentence in Figure 5, the doubly accented presentational focus verb *remanipulating* lacks both a leading L+ and a following L plateau or target L at its right edge, while in the RNR sentence in Figure 6 the FOCUS verb has these flanking L tones:
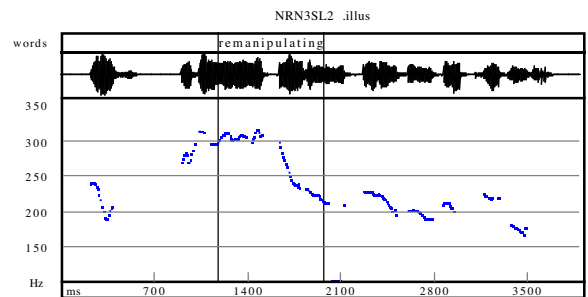

Figure 5: Focus verb in (11): We were <u>remanipulating</u> the recordings on the Black Cat label
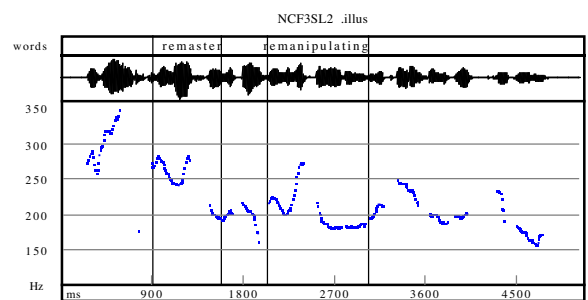

Figure 6: FOCUS verb in (3): We have managed to <u>remaster</u> without <u>remanipulating</u> the recordings on the Black Cat label

The cases of medial presentational focus lack the duncecap pattern, and in particular lack the final L- edge tone. This lack of a peripheral phrasal tone is corroborated by the lack of any (dis)junctural evidence for phrase breaks.

2.3. FOCUS and focus in prosodically final position

The duncecap tonal properties described for contrastive FOCUS here hold of FOCUS in both medial and final position, where "final" means it is not followed by any further pitch accented material. It will (typically) have a L+H*, and it will always show a L- at its right edge (in basic declaratives like those studied here), whether that L- has spread from a distant sentence edge, or appears phonologically at the FOCUS right edge. It is presentational focus that shows a difference in medial and final position. In final position, the typical H* pitch accent of presentational focus will be followed by a sharp fall, due to the presence of sentence-final L-. It is for this reason that it is most instructive to examine the FOCUS-focus contrast in prosodically medial position.

3. Phonological Analysis

The goal of a phonological analysis of the prosodic properties of FOCUS must be to provide an explanation for both the tonal and the (dis)junctural properties of FOCUS. They clearly go hand in hand in the data presented.

Before we can proceed with a phonological analysis, it must be established whether the prosodic phrase edge that appears at the right edge of FOCUS is that of an intonational phrase, or of a major/intermediate phrase, or varies depending on the case. So far we have only presence of pause and the intuitive assignment of break indices to guide us in deciding phrasal level. Should we use this evidence of different sorts of temporal organization to guide us in making a categorical phonological choice, or might we consider these junctural differences to be a matter of the implementation/performance of phonologically identical phrasing? Only further research can tell us. But it would be useful nonetheless to chart out and evaluate the sorts of phonological analysis that the theory currently makes available in accounting for the prosody of FOCUS. Below I will try out the assumption that the FOCUS phrase break called for by the phonological constraint system ([7],[5]) is an intonational phrase break, even though more study of the question is necessary

We can distinguish among the possible constraint-based approaches to FOCUS-induced phrasing:

- The phrasing can't be due to syntax-phonology interface constraints such as Align-R (XP, IP) ([10],[14]) since there is never any XP break after the second FOCUS verb according to standard syntactic analysis of RNR.

- Phrasing could in principle be due to an interface alignment constraint directly appealing to FOCUS in the syntactic structure, e.g. Align-R (FOCUS, IP). Focus-phrase edge alignment constraints have been given a role in many accounts of FOCUS prosody ([3],[12],[13]). They accomplish the job of predicting phrasing, but leave unexplained the fact that FOCUS in English is distinguished by choice of pitch accent as well.

- Finally, in the spirit of [14], FOCUS phrasing could be due to an interface constraint calling for a FOCUS to bear a certain degree of prosodic prominence, say IP-level prominence:

   FOCUS-Prominence Constraint: FOCUS $\subset$ ΔIP

   This interface constraint identifies constituents with FOCUS in the syntactic representation and demands that the corresponding phonological constituent contain an IP head prominence (notated ΔIP). This FOCUS-Prominence constraint would combine with the phonological alignment constraint Align R (ΔIP, IP) to call for an IP phrase edge at the right edge of FOCUS.

The principle(s) of strict layering [11] would further call for a major phrase edge to coincide with the IP edge, and this means that a L- peripheral tone can be inserted by default, due to a constraint calling for a right MaP edge to be aligned with a peripheral tone: Align-R (MaP, T-).

The FOCUS-Prominence constraint has the advantage that it permits an explanation for the systematic appearance of the L+H* pitch accent in the typical case of FOCUS. L+H* could be construed as the default accent for a prominence at the IP level in English. A phonological constraint Associate (ΔIP, L+H*) would call for the L+H* to appear with ΔIP. L+H* does of course also appear with nonFOCUS at lower levels of prominence, where it might be considered an emphatic variant of H*. But the appearance of L+H* with FOCUS is systematic. The presence of only a H* on FOCUS is predicted to occur when FOCUS is in the same IP as another FOCUS element such as a scope-bearing quantifier which is itself required to bear the IP prominence (cf. section 2.1.1).

Note that for this proposal that L+H* is the reflex of ΔIP to work, it must be assumed that prominence is not necessarily defined in IP. Intonational phrases that do not contain a FOCUS would not be required to contain a ΔIP. Otherwise any sentence would be predicted (falsely) to always display at least one instance of L+H*, falling on the IP prominence of the sentence. This proposal allows that the FOCUS-Prominence constraint would be the unique source of ΔIP within sentences. And this would explain why it is true, crosslinguistically, that FOCUS may display nonmorphemic prosodic properties that are unique to it, such as vowel lengthening in European Portuguese [1]. These would be properties of IP prominence, defined only on FOCUS.

Presentational focus, on the other hand, is presumably constrained to contain just the prominence of a major/intermediate phrase, ΔMaP. So it could share some, but not all, the prosodic properties of contrastive FOCUS

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