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## References

- Chomsky, N. 1990. Talk given at Cornell University, Spring.  
 Chomsky, N. 1986. *Barriers*. MIT Press.  
 Groos, A. and R. Bok-Bennema. 1986. The structure of the sentence in Spanish. In I. Bordelais, H. Contreras and K. Zagona (eds.) *Generative studies in Spanish syntax*. Foris, Dordrecht.  
 Harbert, W. and G. Webelhuth. In preparation. Some notes on Case Theory. Cornell University manuscript.  
 Koopman, H. and D. Sportiche. 1988. *Subjects*. University of California at Los Angeles manuscript.  
 Kuroda, Y. 1986. Whether we agree or not. University of California at San Diego manuscript.  
 Lasnik, H. and M. Saito. 1984. On the nature of proper government. *Linguistic Inquiry*, 15.  
 Rivero, M.L. 1980. On left-dislocation and topicalization in Spanish. *Linguistic Inquiry* 11.  
 Rivero, M.L. 1977. On topicalization and wh-movement in Spanish. *Linguistic Inquiry* 9.  
 Rizzi, L. 1989. *Relativized Minimality*. MIT Press.  
 Suñer, M. 1989. Indirect questions: Implications for the structure of CP. Cornell University manuscript.  
 Toribio, A.J. 1989. Auxiliary/verb-second in English, Spanish and code-switching. Cornell University manuscript.  
 Torrego, E. 1984. On inversion in Spanish and some of its effects. *Linguistic Inquiry*, 15.

THE ROLE OF PLASTICITY IN THE ASSOCIATION  
 OF FOCUS AND PROMINENCE\*  
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## 1 Introduction

As is well known, information packaging (cf. Chafe 1976, Prince 1986), with its core notion of focus, is an important determinant of the surface structural shape, syntactic and prosodic, of sentences. It has been noted that the informational focus of the sentence is almost universally marked by intonation in the sense that (a subset of) the focus must lie under the most prominent point of the pitch contour (cf. Sgall et al. 1984, Lambrecht 1987, inter alia). This state of affairs we may call the TOGETHERNESS of focus and intonational prominence. This is indeed the case in English, where intonational prominence may be shifted to different positions in the clause to accommodate different focus readings for the sentence while the syntactic structure remains constant.<sup>1</sup> This well-known pattern is illustrated in (1).<sup>2</sup>

- (1) a. The boss hates BROCCOLI.  
 b. The boss HATES broccoli.  
 c. The BOSS hates broccoli.

The togetherness of focus and prominence, however, is not always achieved the way it is in English. This paper shows that there are at least two ways across languages in which the togetherness of focus and prominence is attained. This crosslinguistic variation is illustrated with examples from Catalan and English. Contrary to English, in Catalan intonational prominence is fixed on clause-final position and syntactic operations must be used to make the focus (or a subset of it) fall under prominence. In other words, the syntactic structure of the sentence is altered while the intonational structure remains constant. It is proposed that this crosslinguistic variation illustrated by Catalan and English is the reflex of a PLASTICITY PARAMETER of intonation relative to focus where English instantiates the value [+plastic] and Catalan the value [-plastic].<sup>3</sup> This is expressed in (2):

- (2) Plasticity parameter:

[+plastic]: intonation contour may be molded to attain the togetherness of focus and prominence (English).

[-plastic]: intonation contour may not be molded to attain the togetherness of focus and prominence, which must be attained by other means (Catalan).

This paper is structured as follows. First, the notion of 'focus', as used below, is defined. Second, the data from Catalan and English will be introduced. Third, it is shown that the intonational contour in Catalan is indeed fixed and we discuss the effects that this has on verbal complements and subjects. Finally, some possible counterexamples to the predictions made are discussed.

## 2 Focus-Ground

Information packaging, as used by Chafe 1976 and Prince 1986, is a structuring of the information contained in a sentence according to the speaker's beliefs about the hearer's knowledge and attentional state. In Vallduvi 1990b this packaging is viewed as a small set of instructions to the hearer about how to enter information into her/his knowledge

store. From this perspective, the sentence is divided into a FOCUS and a GROUND, which are defined as in (3):

- (3) Focus: What the hearer is instructed to enter into her/his knowledge-store.  
Ground: Elements that indicate where and how to enter the focus.

This partition is equivalent in empirical coverage to the focus-presupposition or focus/open-proposition division (Chomsky 1971, Jackendoff 1972, Ward 1985, Prince 1986, Rochemont 1986, among others), the focus-topic articulation of modern Prague School linguistics (Sgall et al. 1986), and the OldInfo-NewInfo split of Välimaa-Blum 1988.

A given sentence may be focal in its entirety if no indication of where its content goes in the hearer's knowledge-store is needed (all-focus sentences). The ground, if there is one, is further subdivided into two elements. One, the LINK, which more or less corresponds to the sentence-initial topic or theme in Halliday 1967, Reinhart 1982, and Välimaa-Blum 1988, indicates where or under which address in the hearer's knowledge-store the focus must be entered. The other, the TAIL, indicates how the focus is entered under a given address. This may be illustrated with an example from English. In (4)a there is a link, *the boss*, and the focus, *hates broccoli*. This sentence corresponds to a prototypical topic-comment structure (cf. Gundel 1987). In (4)b there is a complex ground composed of a link as above and a tail, *broccoli*, while the focus is only the verb.<sup>4</sup> The informational interpretation of these sentences is, following the definitions above, as indicated under the sentences in question:

- (4) a. The boss [ hates BROCCOLI. ]  
b. The boss [ HATES ] broccoli.
- a. Under the address 'the boss' in your knowledge-store add that he hates broccoli.  
b. Under the address 'the boss' in your knowledge-store substitute 'hates' for *v* in 'he *v* broccoli' (which is already under that address).

It is clear that from this perspective prosodic prominence does not define focus, but it is just a structural correlate, a way to represent or encode focus in the surface structure of sentences.

Now that the primitive 'focus' has been defined, let us compare the way in which this primitive is structurally encoded in Catalan and English.

### 3 Catalan and English

As was noted, sentences like (4)a are articulated only into a link and a focus. This sentence presents identical structural characteristics, both syntactic and prosodic, in both Catalan and English, as shown in (5).

- (5) a. The boss [ hates BROCCOLI. ]  
b. L'amo [ odia el BRÒQUIL. ]

There's a sentence-initial link (i.e. topical) element followed by the focus, which is marked by having its rightmost word receive prosodic prominence.

This total parallelism between Catalan and English disappears, though, when sentence types other than link-focus structures are considered. The examples in (6) are link-focus-tail examples (cf. (3)b above) and the examples in (7) are all-focus sentences:

- (6) a. The boss [ HATES ] broccoli.  
b. L'amo [ l<sub>1</sub>'ODIA t<sub>1</sub>, ] el bròquil<sub>1</sub>.
- (7) a. [ The BOSS called. ]  
b. [ Ha trucat l'AMO. ]

In these examples, just as in (5), prominence falls on the same constituents in Catalan and English. The syntactic configuration of the sentences in question, however, is clearly different. In (6) the tail constituent appears *in situ* in English but in a righthand clause-external position in Catalan, while a gap appears *in situ* and a coindexed clitic is attached to the verb. In (7)b, the all-focus structure, the subject *l'amo* 'the boss' is prominent as in English, but its syntactic position is postverbal and not preverbal. To summarize, both languages have identical assignment of prosodic prominence but divergent syntactic configurations under this assignment of prominence.

The main body of the paper is devoted to showing how the syntactic configuration of the Catalan sentences is the result of the [-plastic] nature of Catalan. In other words, it will be shown that, since prominence in Catalan cannot be shifted back and forth to mark focus, the syntax is therefore affected.

### 4 Fixed intonational prominence

In example (6)b above the object NP *el bròquil* 'the broccoli' in the Catalan sentence is found, as in English, to the right of the prominent constituent. Strictly speaking, prominence is not found on the rightmost constituent in the sentential string. Why do we say, then, that prominence in Catalan is fixed on clause-final position? Let us see why.

A sentence with a verb-object-locative sequence like (8)a,

- (8) a. [ Fiquem el ganivet al CALAIX. ]  
IP-put the knife in.the drawer  
'We put the knife in the DRAWER.'  
b. \*Fiquem al calaix el GANIVET.  
c. \*Fiquem el GANIVET al calaix.

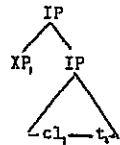
presents two important characteristics: a) the order of the complements is invariable, as shown by (8)b, in that the direct object must precede the locative phrase, and b) prominence cannot be shifted to the left, as shown by (8)c, and, therefore, prominence cannot be placed on the direct object. Given these facts, the question that arises now is what surface representation a sentence with a nonfocal locative would have. If both prominence and the locative phrase must be clause-final, nonfocal locative phrases should be impossible. There is a way in which locative phrases can be marked as nonfocal, but before this issue is addressed we shall consider the case in which the direct object must be marked as being part of the ground, i.e. must be removed from the scope of prominence.

To mark a direct object as being part of the ground it must be detached to a clause-external position adjoined to IP. It may be detached either to the left or to the right of the core clause, as in (9)a and (9)b, depending on whether it is a link or a tail, respectively. This detachment, as noted above, leaves behind a gap and triggers the appearance of a coindexed clitic attached to the verbal head:

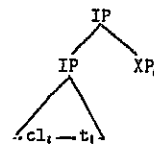
- (9) a. El ganivet<sub>1</sub> [ el<sub>1</sub>/(\*) fiquem t<sub>1</sub> al CALAIX. ]  
b. [ El<sub>1</sub>/(\*) fiquem t<sub>1</sub> al CALAIX, ] el ganivet<sub>1</sub>.  
c. \*El fiquem el ganivet al CALAIX.

The adjunction-to-IP analysis is the one proposed for topicalization in English by Baltin 1982 and Rochemont 1989, who also extends it to Romance, specifically Italian. The structure adopted for sentences like (9)a and (9)b is as in (10):

(10) left-detachment:



right-detachment:



There are three pieces of evidence for the position that the detachment slot is external to IP. First, the mandatory presence of the clitic *el* coreferential with the detached phrase in the sentences in (9) (cf. the starred cliticless versions of those examples) in both left- and right-detachment. It is independently known that in Catalan clitics appear if and only if the complement slot they are coindexed with is empty at the surface.<sup>5</sup> This is illustrated by (11) and (12) with a direct object and a locative phrase, respectively. Note that the presence of a clitic is ungrammatical if the corresponding argument is in situ, as indicated by (9)c, (11)a, and (12)a:

- (11) a. (\*L<sub>A1</sub>) *conec ta COSINA<sub>1</sub>*.  
*obj* 1s-know your-f cousin-f  
 'I know your cousin.'  
 b. L<sub>A1</sub>/(\*) *conec e<sub>1</sub>*.  
 'I know her.'
- (12) a. (\*H<sub>i1</sub>) *visc a Los ANGELES<sub>1</sub>*.  
*loc* 1s-live in Los Angeles  
 'I live in Los Angeles.'  
 b. H<sub>i1</sub>/(\*) *visc e<sub>1</sub>*.  
 'I live there.'

Furthermore, the parallel behavior of (9)a and (9)b above suggests that if the position occupied by a left-detached phrase is clause-external, as seems to be the case merely from linear order considerations, so must the position of the right-detached phrase.

Second, the linear position of the direct object after the locative in (9)b violates the strict linear order requirement complements must satisfy. Compare (9)b with (8)b, which shows that the complements of the verb cannot undergo permutation in the clause. The position of a direct object to the right of the locative phrase is only possible if it is right-detached to an adjunction-to-IP position, leaving a clitic copy behind.<sup>6</sup>

Finally, there is evidence from the licit placement of clause-peripheral particles like *xec* 'man' and the tag *oi* 'right?' between the clause and the detached phrases, as shown in (13)a, (13)b, and (14)a. Examples (13)c and (14)b show that these particles occur at clause boundaries but not clause-internally.

- (13) a. *El ganivet<sub>1</sub>, xec, [ e<sub>1</sub> fiquem t<sub>1</sub> al CALAIX. ]*  
 b. *[ El<sub>1</sub> fiquem t<sub>1</sub> al CALAIX. ] xec, el ganivet<sub>1</sub>.*  
 c. *Fiquem (\*xec) el ganivet (\*xec) al CALAIX, xec.*
- (14) a. *[ El<sub>1</sub> fiquem t<sub>1</sub> al CALAIX, ] oi, el ganivet<sub>1</sub>?*  
 b. *Fiquem el ganivet (\*oi) al CALAIX, oi?*

Contrast the licit placement of these clause-peripheral elements between the detached phrases and the clause with their illicit placement within the clause proper. If they can be placed, say, before the right-detached phrase, this indicates that there is a clause boundary there, i.e. that they are clause-external.

Returning to the case where the clause-final locative had to be marked as nonfocal, it seems clear now that detachment, used as a means to remove elements from the scope of prominence, will be the way to remove the locative from its in situ slot, thus allowing it to escape an otherwise forced focal interpretation. This is illustrated in (15), with both a right- and a left-dislocation.

- (15) a. *[ H<sub>i1</sub>/(\*) fiquem el GANIVET t<sub>1</sub>, ] al calaix<sub>1</sub>.*  
 b. *Al calaix<sub>1</sub> [ hi<sub>1</sub>/(\*) fiquem el GANIVET t<sub>1</sub>. ]*  
 c. *\*Hi fiquem el ganivet al CALAIX.*

This patterns exactly like the case of the direct object, just discussed, except in one respect. In the right-detachment of the locative there is no permutation in the linear order of the verbal complements, i.e. both the canonical sentence, (8)a, and the right-detached example in (15)a present the same string order object-locative. However, the clitic facts are as above (presence is illicit when the argument is in situ, mandatory when the argument is not), as shown by the contrast between (15)a and (15)c, and the clause-peripheral particles also pattern as above, as indicated by the contrast in (16):

- (16) a. *[ H<sub>i1</sub> fiquem el GANIVET t<sub>1</sub>, ] xec, al calaix<sub>1</sub>.*  
 b. *\*Fiquem el ganivet, xec, al CALAIX.*

Summarizing these facts, the only way to get a non-clause-final VP element to receive prominence is by right- or left-detaching the elements that follow it to its right, as in the case of (15)a-b above, or even in cases where more than one element must be detached, as in (17)a and (17)b (the detached phrases may appear in any linear order: object-locative or locative-object):

- (17) a. *[ L<sub>1</sub>'hi<sub>2</sub> FIQUEM t<sub>1</sub> t<sub>2</sub>, ] al calaix<sub>2</sub>, el ganivet<sub>1</sub>.*  
 b. *El ganivet<sub>1</sub> al calaix<sub>2</sub> [ l<sub>1</sub>'hi<sub>2</sub> FIQUEM t<sub>1</sub> t<sub>2</sub>. ]*  
 c. *\*FIQUEM el ganivet al calaix.*

The non-clause-final element is thus allowed to become clause-final so that it can receive prominence. Note that a mere shifting of the prominence is not allowed in the case of (17) either (cf. (17)c). Also, the only way to have a clause-final constituent escape prominence is by removing it from the clause by means of a detachment, as in the case of the locative above. It must be concluded from these that prominence is fixed on clause-final positions and that constructions where it may seem that the intonation has been shifted to the left, like (15)a, are actually configurations where sentence elements have been detached from within the core clause to a position to the right of clause-final prominence. Catalan is, then, [-plastic].

## 5 Subjects

Let us now discuss the contrast between the all-focus sentences in (7), repeated here as (18) and the link-focus sentences in (19):

- (18) a. *[ Ha trucat l'AMO. ]*  
 3s-prpf-call the.boss  
 b. *[ The BOSS called. ]*

- (19) a. *L'amo<sub>1</sub> [ ha TRUCAT t<sub>1</sub>. ]*  
 b. *The boss [ CALLED. ]*

In English the same string sequence 'the boss called' may have two prosodic structures depending on the scope of focus in the sentence. Prominence may appear on the verb if the sentence is a link-focus structure like (19)b, but it may appear on the subject if we are dealing with an all-focus sentence like (18)b.<sup>7</sup> This behavior is expected from a [+plastic] language.

But how does Catalan encode these different focus readings? Given its lack of plasticity it must resort to syntactic operations. Compare examples (18)a and (19)a above. In (18)a the subject is clause-final and lies under the scope of prominence. In this case the subject is focal. But subjects, if they are nonfocal, may be right- or left-detached as well (just like any other argument). The example in (19)a above contains a link subject which has been left-detached, while (20) contains a tail subject in a right-detachment slot:

(20) [ Ha TRUCAT t<sub>1</sub> ] l'amo<sub>1</sub>.

Subjects, however, do not require a clitic copy in the clause since Catalan is a null-subject language. But the clause-external status of detached subjects may be established through the other diagnostics. The clause-peripheral *zec* 'man' may appear between the clause and the detached phrases as in (21)a and (21)b but not inside the clause (21)c:

- (21) a. L'amo<sub>1</sub>, zec, [ ha TRUCAT t<sub>1</sub> ]  
 b. [ Ha TRUCAT t<sub>1</sub> ] zec, l'amo<sub>1</sub>.  
 c. [ Ha trucat (\*zec) l'AMO, ] zec.

Furthermore, now that it has been independently established, from the behavior of complements, that prominence must be clause-final, it seems clear that the contrast in (22),

- (22) a. Ha trucat l'AMO.  
 b. Ha TRUCAT t<sub>1</sub>, l'amo.

is not the result of a prominence shift but that of a different syntactic configuration in each sentence, the subject in (22)a being *in situ* while the subject in (22)b is in a right-detachment slot.<sup>8</sup>

## 6 Potential counterexamples

The [+/-plastic] distinction leads us to expect that [+plastic] languages will not use syntax to attain the togetherness of prominence and focus, while [-plastic] languages will have to, since they cannot resort to prominence shifting. This seems to be indeed the case for the examples discussed in the previous sections. However, it was also noted that the structural representation of linkhood requires overt syntactic operations in both English and Catalan, consisting of a preposing of the link if it is not a subject. This is the case in examples like (23)a:

- (23) a. Broccoli<sub>1</sub> he HATES t<sub>1</sub>.  
 b. He HATES broccoli.

In this example the togetherness of prominence and focus is achieved thanks to the syntactic fronting of *broccoli*, but this result is just an indirect consequence of the movement. The same togetherness could have been achieved by a mere shift of prominence if *broccoli* had not been a link, as in (23)b. In other words, the fronting in (23)a is the structural encoding of the linkhood of the object, not of the focushood of the verb, which is signalled by prosody as expected.

But even leaving the case of link-fronting aside, potential counterexamples to the claim that [+plastic] languages do not use syntax to attain togetherness are still encountered. Similarly, there's one potential counterexample to the claim that [-plastic] languages never use prosody for this purpose. These cases will be now discussed.

## 6.1 English focus-preposing

The existence of focus-preposing (a.k.a. focus-topicalization, focus-movement, Y-movement, or rhematization), illustrated in (24)b, is problematic. Notice the availability of a non-focus-preposed version of this sentence in (24)a.

- (24) a. They named it [ FIDO ].  
 b. [ FIDO<sub>1</sub> ] they named it t<sub>1</sub>.

Obviously, the former involves a syntactic operation, and it seems that its purpose is to structurally encode the focus, contrary to expectation from the point of view of the [+/-plastic] distinction. Example (24)b, however, is a counterexample only if it is assumed that it is totally informationally synonymous with (24)a, i.e., if it is assumed that the informational load of (24)b is only the marking of *Fido* as focus.

But there is arguably a contrast between the two sentences in (24) that renders them not equivalent in their informational understanding. Ward 1985 points out that focal preposing shares some informational characteristics with nonfocal preposing, i.e. link-preposing. Ward's observation, grossly summarizing his point, is that the phrase *Fido* in (24)b also represents a set or scale to which the value 'Fido' belongs and that, through the preposing, this set or scale is marked as evoked and salient in the discourse. In the terms used in this paper, it can be said that *Fido* in (24)b has an informational dual status: it marks a set or scale as being the link and it indicates that 'Fido' is the specification of a value in that scale. Only this second part is focal. Sentence (24)a, in contrast lacks the link reading for the set or scale. The intended informational reading for (24)b could be informally represented as in (25):

- (25) Set-of-dog-names<sub>1</sub>, they named it Fido<sub>1</sub>.

It may be argued, then, that the surface position of *Fido* in (24)b is due to its partial status as link and not to its partial status as focus, thus incorporating Ward's generalization about preposing in English and, in consequence, preserving the validity of the plasticity claim.

## 6.2 Clefts

It has been long recognized that *it*-clefts like (26),

- (26) It's [ BROCCOLI<sub>1</sub> ] the boss hates e<sub>1</sub>.

are focus-ground constructions in that they represent this information articulation straightforwardly by clefting the focus away from the ground (cf. Prince 1986). Again, if focus-ground marking were the only task performed by *it*-clefts, their existence would be unexpected and unnecessary given that English is a [+plastic] language.

If, however, focus-ground marking is the only task performed by *it*-clefts, a total equivalence between (27)a and (27)b must be assumed,

- (27) a. It's [ a SHIRT<sub>1</sub> ] she gave e<sub>1</sub> to Harry.  
 b. She gave [ a SHIRT ] to Harry.

However, it is also known (e.g. Ward 1985) that *it*-clefts and prosodically-marked focus-ground constructions like (27)b present divergent behavior in some occasions. Compare the two sentences in (28):

- (28) a. \*It's [ NOBODY ] I saw e<sub>1</sub> at the party.  
 b. I saw [ NOBODY ] at the party.

Sentence (28)b, a regular focus-ground construction, may have *nobody* as its focus, but the equivalent it-cleft becomes ungrammatical in the same situation, as shown by (28)a.

This contrast seems to be due to the fact that the ground in focus-ground constructions is not presupposed in any semantic sense (despite the common use of the term '(pragmatic) presupposition' to refer to the ground). In other words, *I saw somebody at the party* is not presupposed by (28)b. However, *I saw somebody at the party* is indeed a presupposition of the sentence in (28)a, or any sentence with the structure *It's x that I saw at the party*. Sentence (28)a is ungrammatical because a contradiction arises between it and its presupposition. Sentence (28)b is licit because such a contradiction does not arise. If this analysis is correct, then it-clefts are not exclusively marking focus-ground relations but have an additional task of a logico-semantic nature, namely that of structurally encoding (certain) presuppositions.<sup>9</sup>

This observation coincides with the data on it-clefts in Delin 1990, which points towards these discrete dual logico-semantic and informational functions of the construction. And most likely, the informational role of it-clefts is parasitic on their logico-semantic role, since, in some occasions, the clefted element is definitely nonfocal. If this is the case, the existence of it-clefts is not a problem for the predictions made by the plasticity parameter and the status of English as [+plastic].

### 6.3 Catalan 'focus-preposing'

In Catalan there are constructions like (29) and (30) that appear to be in contradiction with the claim that Catalan is a [-plastic] language:

(29) [ El JULI, ] ficarà el ganivet al calaix.  
'[ JULI ] will put the knife in the drawer.'

(30) [ Al CALAIX, ] ficarà el ganivet el Juli.  
'Juli will put the knife [ in the DRAWER. ]'

In sentence (29) prosodic prominence has apparently been shifted to the sentence-initial position. This runs contrary to the claim that prominence in Catalan is necessarily clause-final. Similarly, in (30) there is a case of apparent focus-preposing of the sort just discussed for English. Here it seems like prominence has been shifted to the clause-initial slot as well.

This constructions, in fact, have been traditionally analyzed as focal preposings involving a fronting of the focus to a clause-external position to the left of the core clause (cf. Bonet & Solà 1986). Under close inspection, however, the phrases to the right of the focus behave like regular right-detachments of the kind discussed above. The only difference is that in (29) and (30) we have detachments of not only verbal complements but also of the verbal head as well. In particular, these sentences present, just as uncontroversial right-detachment does, free string order among the postfocal phrases. Remember that Catalan has a strict word order pattern within the core clause and that deviations from the pattern, other than via detachment, are illicit. Interestingly, though, the postfocal phrases in (29) and (30) may appear not only in that string order, which is the canonical one, but also in any other order. This is illustrated for (30) by (31):

(31) [ Al CALAIX, ] ficarà, el ganivet, el Juli.  
..., ficarà, el Juli, el ganivet.  
..., el Juli, el ganivet, ficarà.  
..., el Juli, ficarà, el ganivet.  
..., el ganivet, el Juli, ficarà.  
..., el ganivet, ficarà, el Juli.

This characteristic is typical of right-detached phrases, which allow any linear combination in their adjunction to the right of IP (the same is true of left-detachment). If the postfocal phrases in (31) are right-detached their behavior is not surprising. If they are in situ, however, it remains totally unaccounted for. This and other evidence for this analysis is discussed with further detail in Vallduví 1990b.

Given this analysis, the prominent phrase in sentences like (29) and (30) remains in situ, while the other phrases undergo detachment. This makes the in situ phrase actually appear in clause-final position, which guarantees its receiving default (actually mandatory) intonational prominence. Once again, togetherness is attained exclusively by means of syntactic operations without resorting to prominence shifts.

The potential counterexamples discussed in this section have been given plausible alternative explanations and therefore the plasticity parameter can be maintained and its predictions with respect to the use of syntax and prosody in English and Catalan are born out.

## 7 Conclusion

Let us conclude by reviewing the consequences and ramifications of the distinction put forth in this paper.

First, given the above facts above Catalan and English we are led to the conclusion that, while prominence and focus go together, the plasticity of each particular language determines how this togetherness is achieved. In [+plastic] languages like English it is achieved by means of prosody without resorting to syntactic operations, while in Catalan, which is [-plastic], the togetherness of focus and prominence must be achieved through the syntax, thus determining, in part, the surface syntactic configuration.

Second, and as an immediate consequence of the first point, if the [+/-plastic] parameter is taken into account, we may have found a reason for the fact that the surface position of the major constituents in English tends to reflect grammatical/thematic relations while in Catalan it reflects informational notions. In other words, in Catalan the surface syntactic position of, say, an object NP reflects its status within an informational instruction and not its position in a thematic or case grid, which is recovered by means of a series of coindexed clitics and empty categories. The opposite, notwithstanding the existence of topicalization, is generally the case in English: whether the object NP is (part of) the focus or the tail, it remains in situ.

There is at least another type of language, to which Basque and Hungarian belong, which seems to instantiate the [-plastic] value of the parameter as well. Unlike Catalan, however, prominence does not seem to be mandatorily clause-final but seems to necessarily fall on a fixed preverbal position in which focal elements must appear. Achieving togetherness in this manner gives rise to a number of syntactic operations as well (cf. Horvath 1986). It remains to be seen how Catalan differs from this languages once typological differences like basic word order are taken into account, but Hungarian clearly coincides with Catalan in having the surface position of the major constituents in the sentence encode informational notions, as indicated by Kiss 1981.<sup>10</sup>

Third, it becomes clear that [-plastic] languages have a 'freer' word order. In the case of Hungarian, it has led some scholars to the conclusion that it is not a 'configurational' language. If Catalan lacked the clitic morphology it now possesses, it would be much harder to determine if it is 'configurational' or not. Remember that Catalan, despite the fact that it has a strict word order within the core clause, becomes a 'free' word order language once the availability of detachment is taken into account. The [+/-plastic] parameter may be an important determinant of the existence of free word order in natural language, although obviously not the only one.



Finally, any attempt to come up with a universal characterization of the representation of information packaging in language will have to take into account the [+/-plastic] distinction. Plasticity must be factored out from a crosslinguistic structural representation of information packaging, which should be constant across languages. Divergence from this constant representation will be due, in part, to the [+plastic] or [-plastic] nature of each particular language.<sup>11</sup>

The following is a summary of the above observations:

- [+/-plastic] determines how the togetherness of focus and prominence is achieved.
- [+/-plastic] determines in part the surface structure of languages: English represents mostly thematic structure, Catalan informational structure.
- [-plastic] languages have a 'freer' word order.
- Factoring out plasticity from the crosslinguistic representation of information packaging should yield a more constant universal characterization of this representation.

## FOOTNOTES

\* J. Hoeksema, A. Kroch, and E. Prince offered valuable help as advisors and supervisor, respectively, of my dissertation, of which this paper is a spinoff. Several members of the audience made important observations during the oral presentation of the paper as well. The author is nevertheless responsible for any errors of fact or interpretation.

1. For an instrumental analysis of focus-relevant pitch see Horne 1988. Selkirk 1984 studies the exact mapping mechanisms between prosodic structure and syntax in the case of English. Some scholars, who analyze wh-words in wh-questions as foci, do not agree with the claim that in English prominence must necessarily fall on the focal element (cf. Rochemont 1986).
2. Here and throughout the paper small capitals signal the lexical item containing intonational prominence. Brackets ([ ]), in examples further down, delimit the focus (and attached clitics for verbal foci).
3. The reason for stating that plasticity is a property of intonation *only* relative to focus is that intonation is known to perform other tasks besides the formal marking of foci: contrastive topics also receive some prominence, illocutionary meaning (e.g. questions, exclamations) is often (partially) encoded in intonation, and even metalinguistic facts (e.g. corrections) affect intonation. Plasticity has nothing to say about these and other possible uses of intonation.
4. Link-focus constructions are also equivalent to predicate focus sentences in Lambrecht 1987 and to categorical judgments in Kuroda 1972 and Sasse 1987. Link-focus-tail constructions are sometimes called 'narrow' or 'constituent' focus sentences or variable-containing constructions (Prince 1986). All-focus sentences correspond to Kuno's (1972) neutral descriptions, Schmerling's (1976) news sentences, Kuroda's and Sasse'sthetic judgments, and Lambrecht's sentential focus constructions.
5. There are two well-known exceptions to this generalization. One, the optional presence of a clitic coreferential with indirect objects, and two, the mandatory presence of a clitic accompanying (strong) pronominal complements in situ.
6. One exception to this is the existence of heavy-NP shift, which behaves as it does in English.

7. There is a third focus reading where only the subject is focal. This case is prosodically homophonous with the all-focus sentence. This third reading, however, is only tangential to our discussion here.
8. It has been assumed here that the base position of the subject in Catalan is postverbal. This view is not the traditional one, but it is independently argued for in Bonet 1989. The evidence in support of considering the preverbal position derived is significant and is supported by several proposals in the recent syntactic literature on Romance (cf. Vallduvi 1990b).
9. It is not the case that the ungrammaticality of *\*It's NOBODY that I saw at the party* is the result of a potential incompatibility of quantifiers and the clefted position in it-clefts. Sentences like *It's every CHAPTER that you have to read or It's only some PEOPLE that hate their kids* are grammatical.
10. French, like Catalan, is also a [-plastic] language and uses detachment as a means to circumvent the unshiftability of prominence. However, it also seems to use a number of cleftlike constructions for the same exact purpose (cf. Lambrecht 1987). A careful analysis of the French data is in order, but if this is indeed the case some additional factor is needed to account for the difference in syntactic encoding between Catalan and French.
11. See Vallduvi 1990a for a proposal to provide a unique abstract structural representation of informational meaning for Catalan and English.

## REFERENCES

- Baltin, M. 1982. A landing site theory of movement rules. *Linguistic Inquiry* 13.1-38.
- Bonet, E. 1989. Postverbal subjects in Catalan. MIT. Unpublished ms.
- Bonet, S. & J. Solà. 1986. *Sintaxi Generativa Catalana*. Barcelona: Enciclopèdia Catalana.
- Chafe, W. L. 1976. Givenness, contrastiveness, definiteness, subjects, topics, and point of view. In C. Li, ed. *Subject and Topic*. NY: AP. Pp. 25-55.
- Chomsky, N. 1971. Deep Structure, Surface Structure, and semantic interpretation. In D. Steinberg & J. Jakobovits, eds. *Semantics*. Cambridge: Cambridge U. Press. Pp. 183-216.
- Delin, J. 1990. Accounting for cleft constructions in discourse: A multilayered approach. Research paper HCRC/RP-5. Edinburgh: HCRC.
- Gundel, J.K. 1988. Universals of topic-comment structure. In M. Hammond et al., eds. *Studies in Syntactic Typology*. Amsterdam/Philadelphia: John Benjamins. Pp. 209-239.
- Halliday, M.A.K. 1967. Notes on transitivity and theme in English (Part II). *Journal of Linguistics* 3.199-244.
- Horne, M.A. 1988. Toward a quantified, focus-based model for synthesizing English sentence intonation. *Lingua* 75.25-54.
- Horvath, J. 1986. *FOCUS in the Theory of Grammar and the Syntax of Hungarian*. Dordrecht: Foris.

- Jackendoff, R. 1972. *Semantic Interpretation in Generative Grammar*. Cambridge: MIT Press.
- Kiss, K.É. 1981. Structural relations in Hungarian, a 'free' word order language. *Linguistic Inquiry* 12.185-213.
- Kuno, S. 1972. Functional Sentence Perspective. *Linguistic Inquiry* 3.269-320.
- Kuroda, S.-Y. 1972. The categorial and the thetic judgment. Evidence from Japanese syntax. *Foundations of Language* 9.153-185.
- Lambrecht, K. 1987. Sentence focus, information structure, and the thetic-categorial distinction. *BLS* 13.366-382.
- Prince, E.F. 1986. On the syntactic marking of presupposed open propositions. *CLS (Parasession)* 22.208-222.
- Reinhart, T. 1982. Pragmatics and linguistics: An analysis of sentence topics. *Philosophica* 27.53-94.
- Rochemont, M. 1986. *Focus in Generative Grammar*. Amsterdam/Philadelphia: John Benjamins.
- Rochemont, M. 1989. Topic islands and the Subjacency Parameter. *Canadian Journal of Linguistics* 34.145-70.
- Sasse, H.-J. 1987. The thetic/categorial distinction revisited. *Linguistics* 25.511-580.
- Schmerling, S.F. 1976. *Aspects of English Sentence Stress*. Austin: University of Texas Press.
- Selkirk, E. 1984. *Phonology and Syntax*. Cambridge: MIT Press.
- Sgall, P., E. Hajičová & J. Panevová. 1986. *The Meaning of the Sentence in its Semantic and Pragmatic Aspects*. Dordrecht: Reidel.
- Välilmaa-Blum, R. 1988. *Finnish Existential Clauses: Their Syntax, Pragmatics, and Intonation*. Ohio State University Ph.D. Dissertation.
- Vallduví, E. 1990a. Information Structure: The pure representation of informational meaning. Paper presented at 1990 GLOW, Cambridge-London.
- Vallduví, E. 1990b. *The Informational Component*. University of Pennsylvania Ph.D. Dissertation.
- Ward, G. 1985. *The Semantics and Pragmatics of Preposing*. University of Pennsylvania Ph.D. Dissertation.

A UNIFIED EXPLANATION OF DEPONENT VERBS IN ANCIENT GREEK  
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One salient property of Ancient Greek grammar is a relatively intricate system of verbal morphology. Various affixes, often operating in tandem with stem modifications, signal person, number, tense/aspect, mood, and voice (1a-d).<sup>1</sup>

- |   |                |  |                  |
|---|----------------|--|------------------|
| (1)a. <i>leip-s-o:</i><br>leave-FUT-1S      | 'I will leave' | b. <i>e-leiph-the:n</i><br>AOR-leave-PASS:AOR:1S | 'I was left'     |
| c. <i>le-loip-enai</i><br>PFT-leave:PFT-INF | 'To have left' | d. <i>lip-oi</i><br>leave:AOR-3S:OPT             | 'He might leave' |

The examples provided in (1) comprise only a modest portion of a verbal inflectional system that exhibits over seventy permissible inflectional combinations. However, this fragmentary representation of the system does illustrate the sometimes complex ways in which affixes interact with other affixes and with verb stems. For instance, a comparison of (1b) and (1d) reveals that the stem diphthong is shortened for the aorist optative form, but not for the aorist passive form. Moreover, while the optative does not require an aorist augment, the indicative verb does. (1c) depicts a process of reduplication that is unique to the perfect<sup>2</sup>--in this example, it must be accompanied by yet another stem alternant.

Although Ancient Greek verbs are typically found to display the full range of possible amalgamations of these categories, a rather glaring deficiency marks the paradigms of a significant number of verbs, the so-called "deponents". While deponent verbs pattern regularly in most ways, they lack an active form; consequently, they necessarily appear with middle/passive morphology--even when they carry an active meaning (2).

- |                    |                    |                      |                  |
|--------------------|--------------------|----------------------|------------------|
| (2) <i>keimai</i>  | 'I lie (down)'     | <i>geuomai</i>       | 'I taste'        |
| <i>hallomai</i>    | 'I well up'        | <i>epistamai</i>     | 'I understand'   |
| <i>poreuomai</i>   | 'I go'             | <i>eklanthanomai</i> | 'I forget'       |
| <i>kathe:mai</i>   | 'I sit'            | <i>bdelussomai</i>   | 'I detest'       |
| <i>politeuomai</i> | 'I conduct myself' | <i>kauchaomai</i>    | 'I pride myself' |
| <i>deomai</i>      | 'I beg'            | <i>o:neomai</i>      | 'I buy'          |

A cursory look at this list suggests that the deponent verbs are a very disparate group. Some of them are transitive, but others intransitive. Some denote volitional activity, some non-volitional activity, and others psychological processes. In many ways, the list appears to be largely ad hoc.

In this paper, I argue that membership in the class of deponent verbs exemplified in (2) is not arbitrary, but is defined by a common syntactic property. Specifically, using the multistratal conception of syntax provided by Relational Grammar (RG), it is shown that deponent verbs in Koine Greek<sup>3</sup> head clauses that contain a 2/1-NOMINAL (3).

- (3)a. 2/1-NOMINAL (definition, Whaley 1990a):

A nominal node, A, is a 2/1-NOMINAL of clause b if and only if:  
i) it heads a 2-arc with tail b, and  
ii) it heads a 1-arc with tail b in the final stratum.