Rightwardho!*

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1. Introduction

An economical account of Focus in the right periphery in Romance languages can be offered if rightward movement is allowed in the PF component. In this paper I redefine p(rosodic)-movement as a postsyntactic phenomenon that does not care about directionality (cf. Erteschik-Shir and Strahov 2000), thus challenging accepted wisdom (Zubizarreta 1998). P-syntactic rules target clausal edges and are restricted in terms of locality. Nothing prevents movement to the right in p(rosodic)-syntax, since it has no recourse to syntactic hierarchical structure and both the leftward and rightward positions are available for Focus in Romance. But what is crucial is that they can be empirically distinguished. This gives rise to what look like edge effects, and can be taken as a powerful justification for the existence of a special area at the edge of each derivational cycle. After exploring the syntax-phonology interface, I argue that the relationship between syntax and phonology is not always isomorphic (Camacho Taboada 2005), since there are disparities between the two components. I argue that the architecture of the grammar, in which the discourse is taken into account, is more adequate from a descriptive point of view than the classic model, in which syntax is the only component that has the capacity to generate expressions. Every component of the grammar must have its own properties and rules (modular hypothesis), and at the same time the discourse, which acts as an "umbrella" over the whole model, must feed these modules.

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¹ The cycle or phase is the unit that interfaces with interpretive systems. See López (2009) for further evidence that information structure in southern Romance languages is determined at the phase level and Kandybowiz (in press) for support for edges in both the narrow syntax and the syntax-phonology interface.

2. Focus: Syntactic Position and Sentence Stress

It was already pointed out in the 1970s (Chomsky 1971, Jackendoff 1972) that there is a correspondence between the position of sentence Focus and that of sentence stress in English; both occur at the end of the clause. As Brunetti (2003) showed, it was proposed that the location of Focus depended on the prosodic rule that assigns main stress to the sentence; one of the main characteristics of focused elements is that they must be aligned with the main stress of the sentence (Chomsky and Halle 1968). Stress is then determined by the syntactic position of elements in the sentence (Chomsky and Halle's Nuclear Stress Rule (NSR)). According to the NSR, focused elements must receive stress, which is assigned by a stress assignment rule to the most embedded constituent (Chomsky and Halle 1968, Cinque 1993). Thus the idea that certain sentences bear "unmarked" or "normal stress" is proposed (i.e., if the entire sentence is in Focus). On the other hand, contrastive stress is marked and therefore not signaled by the NSR. Chomsky (1976) abandons this approach in favor of a semantic approach; based on the idea that the position of Focus is dependent on its semantics (Focus undergoes a Quantifier Raising operation). Cinque (1993) goes back to the idea of Focus as a prosody-related phenomenon. As indicated by Göbbel (2002), there is a growing awareness lately that certain movement types may have a prosodic trigger (Zubizarreta 1998), or occur in the PF component (Holmberg 1999).

As Büring and Gutiérrez-Bravo (2002) note, in much recent work Focus-related constituent order variation has been linked to the need for foci to receive prominence via sentential stress. Sentential stress in turn determines the location of the nuclear pitch accent. In other words, the target position of the focused items is not a specific Focus position, but simply a (nuclear) stress position. I concur with Domínguez (2004) in that prosody-based accounts, which in fact depend on the syntactic requirement that Focus has to be aligned with nuclear stress, are unable to account for Focus in a position other than final.

2.1. Focus and Prosodic Prominence

It has been proposed (mainly for Romance and Germanic languages) that Focus must receive sentence stress, which is assigned by Rightwardho! 165

the (NSR) (Chomsky and Halle 1968, Cinque 1993, Reinhart 1996, Zubizarreta 1998, Feng 2003) to the rightmost or most embedded constituent in a sentence. Consider the following sentence from Domínguez (2004:11):

(1) Bostonians eat in sophisticated [restaurants]

In this example sentence stress is assigned by the NSR to *restaurants*, which is the last element. The prosody-based approach to Focus assumes that word order variation is determined by the requirement that the Focus must be aligned with main stress. This is assigned by the NSR to the most embedded element. In this account word order variation is the result of the constraint that the focused elements must appear in positions where they can receive stress. This applies even if the canonical word order is consequently altered. However, Domínguez (2004) also points out that in many languages it is also possible to find focused elements in positions where the nuclear stress rule cannot assign prominence. English, for example, uses stress shifts (Reinhart 1997) to move the intonational prominence from its basic (last) position (2a) to any other position, to ensure that the focused element is stressed (2b) (Domínguez 2004:12):

- (2) a. Bostonians eat [in sophisticated <u>restaurants</u>]²
 - b. [Bostonians] eat in sophisticated restaurants.

The truth conditions of (2a) and (2b) are identical but their use is not random, since they fit into different discourse types. In Domínguez's words, "although they share the same propositional content, they are felicitous in different contexts". Accordingly, only (2a), with the locative in Focus, would be a valid answer for a question such as (3):

(3) Where do Bostonians eat?

There is no structural difference in the syntactic layout of (2a) and (2b), but there are differences in the way these two sentences are pronounced (i.e., pitch and accent). Since in (2b) the focused element receives prominence in situ by a stress shift to the subject, Domín-

² Focused phrases appear in between brackets. Phrases which receive nuclear stress are underlined.

guez concludes that it is possible to provide an account of Focus in English which is prosodically determined. She determines that this is possible because no change in word order is necessary in any of the Focus strategies applied in (2) above.

2.2. Zubizarreta's P(rosodic)-Movement

Zubizarreta (1998) claims that word order variation in Romance languages, such as Spanish and Italian, amounts to the product of a complicated interaction between the Focus Prominence Rule (FPR) and the Nuclear Stress Rule (NSR), which she revises, as defined below:

- (4) Focus Prominence Rule: Given two sister categories C_i (marked +F]) and C_j (marked [-F]), C_i is more prominent than C_j .
- (5) (Revised) Nuclear Stress Rule: C-NSR (constituent-driven NSR): Given two sister categories C₁ and C₁, the one lower in the asymmetric c-command ordering is more prominent.

The coexistence of these two rules in the grammar triggers situations in which the output of the NSR contradicts the output of the FPR. In these circumstances p-movement operates to repair the prosodically inconsistent condition generated by the two rules. Consider the following sentences from Spanish:

- (6) a. *[Juan] comió una manzana.³

 Juan ate an apple
 - b. Comió una manzana [Juan]
 Ate an apple Juan
 Juan ate an apple

As explained by Zubizarreta (1998:89), in (6a) the NSR applies to the sister nodes (DP, VP), assigning main prominence to the VP (which will become visible on *una manzana*, as a result of the reapplication

³ Zubizarreta (1998:20) points out that (6a) with main prominence on a phrase-internal constituent is only possible if it is interpreted as contrastive or emphatic, e.g., JUAN comió una manzana (no Pedro). (Juan ate an apple, not Pedro).

of the NSR inside the VP). The FPR operates between the sister nodes (DP, VP), and allocates main prominence to the DP subject (which will become visible on Juan, as a result of the reapplication of the NSR inside the DP subject). This creates an inconsistency. Nonetheless, according to Zubizarreta (1998) this inconsistency is only deceptive. In Romance languages where all phonologically overt constituents are metrically visible, the defocalized constituent undergoes movement; i.e., these languages have recourse to a particular strategy to avoid the clash between the output of the FPR and that of the NSR. Thus, in (6b) the defocalized constituent *comió una manzana* undergoes movement in order to leave the focused phrase Juan in a position to receive NS via the NSR. In this way, the focused phrase ends up being the lowest constituent in the asymmetric c-command ordering. Zubizarreta (1998) assumes this kind of movement to be prosodically motivated, and thus she calls it p-movement, as opposed to traditional movement types that are triggered by feature-checking requirements. For this reason the purpose of p-movement is to repair a prosodically conflicted situation. In Zubizarreta's approach, nonfocused constituents are allowed to move to ensure that the focused phrase always appears in final position. This type of movement is then prosodically motivated (p-movement). Let us consider the following sentences from Domínguez (2004:13-14):

- (7) Basic Word Order (S-V-O-PP) Susana leyó el libro en la biblioteca. Susana read the book in the library.
- (8) Application of p-movement (S-V-PP-O)
 - a. What did Susana read in the library?
 - b. Susana leyó en la biblioteca [Fel libro] t;
 - c. *Susana leyó [Fel libro] en la biblioteca.

In example (8b) the prepositional phrase *en la biblioteca* must move out of its final position so that the object receives stress. This analysis accounts for the availability of VOS in Spanish. However, as Domínguez (2004) points out, an element marked with contrastive Focus can appear in final position or in initial position:

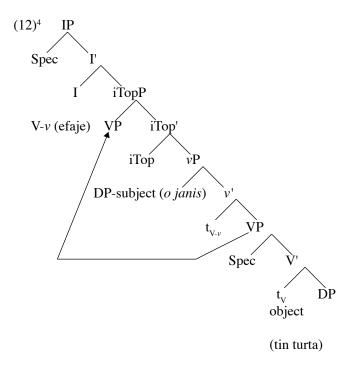
- (9) a. Was it Antonio that saw the accident?
 - b. No, lo vio [F Carlos]
 no, it saw Carlos (No, Carlos saw it.)

(10) No, [F Carlos] vio el accidente. no Carlos saw the accident No, Carlos saw the accident.

Zubizarreta's model cannot account for this phenomenon unless we assume an additional rule for stress assignment: the "Emphatic Stress Rule," which would assign stress to contrastively focused elements in any position (Domínguez 2004).

Zubizarreta's approach has many adherents. For example, Georgiafentis (2001) maintains that the VOS order with subject Focus in Greek is derived in the following manner: he starts from the basic VSO order, where the subject has been generated in [Spec, vP] (vP internal hypothesis, Koopman & Sportiche 1991), as in the derivation for sentence (11) in (12) below:

(11) efaje tin turta <u>o janis</u> ate-3sg the cake-acc the Janis-nom *John ate the cake*.



⁴ Cf. Georgiafentis (2001) for further details on this derivation.

Georgiafentis' movement procedure is similar to Zubizarreta's p-movement. In this configuration the verb has already moved from its original position to v, and then to I in order to license its features. According to Zubizarreta (1998), p-movement applies in cases where two nodes α and β have contradictory prosodic properties. Such a case arises in a well-defined situation: 1) α and β are metrical sisters (only maximal projections can be metrical sisters) and 2) the FPR assigns main prominence to one node (say to α) and the NSR assigns main prominence to the other node (say to β). In this case, Georgiafentis (2001) explains that the NSR would assign main prominence to the VP (and more specifically to the DP-object), given that the verb has already moved), since the VP is in the lowest node in the c-command ordering. Yet this outcome would contradict the outcome of the FPR, according to which main prominence should be assigned to the DP-subject (information Focus). The outcome of the two rules (i.e., the NSR and the FPR) would produce a prosodically contradictory situation, and the purpose of p-movement is to undo this contradiction. This applies in particular to the VP, which contains only the DP-object p-moved to a position immediately above the DP-subject, namely to [Spec, iTop]. Thus the DP subject ends up in the lowest position in the c-command ordering, and receives main prominence via the NSR.

Zubizarreta (1998) and Zagona (2002) claim that although there is no explicit division between [+FOCUS] and [-FOCUS] constituents, there is nevertheless a systematic association between [+FOCUS] and intonation, and between these and word order. Zagona (2002:210) illustrates the relationship between Focus and intonation with the following examples. Note first that the normal position for the intonation peak (Nuclear Stress) in non-emphatic declaratives is the rightmost stressed syllable of the predicate:

- (13) a. José fue a CAsa. *José went HOME*.
 - b. Su hermano comió una manZAna. *His brother ate an apple*.
 - c. María baiLÓ. *María danced*.

2.2.1. Problems with Zubizarreta's Notion of P-Movement

Zubizarreta (1998:130) characterizes p-movement as local (immediately to the left of the focused phrase) and that it left-adjoins a constituent to VP. She characterizes this type of movement as copying and deleting the moved phrase, as in the following example:

- (14) What did Ana hide under the bed?
 - a. Ana escondió debajo de la cama [LA MUÑECA] Ana hid-3s under of the bed the doll
 - b. $[_{\text{TP}} \text{Ana}_{j} [\text{escondió} [_{\text{VPi}} e_{j} [V_{1} [_{\text{VP2}} [_{\text{PP}} \text{debajo de la cama}]_{i}]_{\text{VP2}}]$ la muñeca $[V_{2} [e_{i}]]]]]]]$

Domínguez (2004) raises the following question: in what sense is p-movement different from scrambling in Germanic? Both operations are used to remove elements from the main stress position so that the stress falls on a different constituent. However, as she points out, in Germanic languages scrambling is usually described as A-movement, whereas p-movement has some of the properties of A'-movement. Zubizarreta does not, however, supply a thorough description of the main properties of this type of movement.

P-movement in Zubizarreta's sense is problematic for syntactic theory. First of all, it predicts that the element in sentence-final position is always focused, which is not the case in example (15) taken from Domínguez (2004:77):

(15) [La mesa]i ha roto Javi ti the table has-broken Javi It is the table that Javi has broken

Second, there is no syntactic motivation for the p-moved constituent to move. Since this movement is not triggered by feature valuation/ checking, Zubizarreta implies that the constituent moves leftward to leave the item that should be focused in a Focus position. I assume that if a constituent moves it has to be the one in Focus, since it is the only one that has a prosodic reason to move. Third, Zubizarreta presupposes that p-movement happens pre-Spell-Out. For Zubizarreta, Focus is mainly a syntactic phenomenon. Although prosodic prominence constrains the F-structure, the assignment of the NSR and the

application of p-movement are carried out at a certain point in the derivation before branching happens (PF and Assertion Structure, cf. Zubizarreta (1998:83)). However, since the motivation for such movement is prosodic and not syntactic (feature checking), I posit that p-movement does not affect the narrow-syntax and that it is not hierarchical in nature. Fourth, Zubizarreta's p-movement can only account for Focus in the right periphery, since that is the position where the nuclear stress falls. Cases of Focus in situ and Focus in the left periphery (see 15 above) pose a problem for this approach; in these cases prominence cannot be assigned by the NSR.

One further problem, as noticed by Domínguez (2004), for this type of movement is that it is not clear from Zubizarreta's account where p-movement applies. She claims that p-movement applies in the syntax, however it is not clear how the interface between syntax and prosody works. According to Zubizarreta, p-movement applies late in the derivation, once other grammatical operations have been applied. Therefore, it looks like certain prosodic characteristics of Focus are effective after the syntax provides the right configuration for them to apply.

Lastly, Zubizarreta's p-movement only affects non-focused material. This is unavoidable since she assumes that all movement is leftward (along the lines of Kayne 1994). Domínguez (2004) suggests an alternative analysis, which would allow rightward movement of the focused phrase to a position where it can receive stress. This analysis would still account for the alignment between Focus and main stress, without assuming p-movement. However, this movement would only be possible if we allow rightward movement in the syntax. In section 3, I will develop a notion of p-movement that does not run into these problems. I consider p-movement to be a post-syntactic phenomenon and, as such, it does not care about directionality. Consequently, rightward movement of the focused element would be allowed in p-syntax (not in the narrow syntax).

2.2.2. Summary of the Prosody-Based Approach to Focus (largely from Domínguez 2004)

The following are the main characteristics of the prosody-based approach to Focus:

- a) The Focus contains the most prominent rhythmical element, which receives main stress via the NSR.
- b) Stress shifts are a marked (i.e., uneconomical) strategy for focusing constituents which are not in final position.
- c) Sometimes scrambling is necessary to ensure that the final constituent receives prominence.
- d) Focus marking is dependent on the c-commanding relations between two phrases.
- e) Focus presupposes a link between stress and syntactic constituency.
- f) Focus is realized and interpreted by receiving stress in final position (no feature-checking movement applies).

3. P-Syntax Revisited

I now turn to the main task of this paper: the definition of a new notion of prosodic syntax. In this section I will answer the main questions about p-syntactic movement: what its trigger is, what its landing sites are, and whether it has structure at all.

- 1. What triggers movement in P-syntax? Movement is triggered by f-structure requirements/prosody. According to Erteschik-Shir and Strahov (2000), all movement prompted by TOP/FOC status is p-syntactic. However, I am assuming that some TOP/FOC movement can be narrow-syntactic (see Parafita 2005 for details).
- 2. What are the landing sites of movement in p-syntax? P-syntactic rules target edges and peripheral (language dependent) TOP and FOC positions. Nothing prevents movement to the right in p-syntax.
- 3. What "structure" is available in p-syntax? Erteschik-Shir and Strahov (2000) suggest a structure stripped of syntactic constituent structure. Since it is not "narrow syntactic" movement, it doesn't care about constituency.

4. In addition, p-syntactic movement is local. Narrow-syntactic A'-movement is known to be unbound.

- 5. P-syntactic movement is not interpretable at LF (McCloskey 1999), but in the Discourse, following Wiltschko (1995) and Kidwai (1999). They posit that the there is a Domain Discourse level at which presuppositionality and focusing effects are interpreted.
- 6. Furthermore, we can still view the syntactic component as phonology-free.

Further research shall be done in syntactic theory to show whether additional syntactic edges must be marked. This might be a language specific parameter. If we assume, for example, that Hungarian, say, marks VP edges, we might be able to derive the designated preverbal Focus position. A language that does not mark VP edges will only allow movement of Topic and Focus to sentence initial and sentence final position, respectively.

Erteschik-Shir and Strahov (2000) propose that scrambling languages such as Russian employ p-syntactic scrambling to position foci VP-finally. Non-scrambling languages, or Topic-in-situ languages such as Scandinavian, may employ a different strategy: they incorporate destressed elements prosodically. The scrambling effect in Scandinavian is due to the fact that the incorporated constituent moves along with its host. As Erteschik-Shir and Strahov (2000) say "...we propose that F-structure features are checked at p-syntax by morphology, intonation and/or scrambling, which are all subject to characteristic nonconfigurational p-syntactic constraints such as adjacency, edge and direction (left/right)." They make use of the PF stress rule:

(16) The PF stress rule:

Assigns stress to the Focus constituents.

P-syntactic rules apply to f-structure, the output of narrow syntax to which TOP/FOC features have been assigned. Narrow syntax merges structures and, movement in narrow syntax is triggered by the need for feature checking. In view of the fact that p-syntax has no recourse to syntactic hierarchical structure, Erteschik-Shir and Strahov suspect that movement to edge locations might best be accounted for in p-syntax. A consequence of this is that p-movement

is not interpretable at LF (McCloskey 1999) but in the discourse domain. In the next section I will exemplify p-syntactic movement with Galician data.

3.1. P-Movement in Galician

In Parafita (2003), I showed that in Galician inflected infinitive constructions, when the subject is at the very end of the clause, the Focus on the subject is even more prominent than when the subject is preverbal.⁵ But what moves to ensure that the subject is in the focused position? Is it the subject that moves to the end of the sentence (rightward?), or is it the complement that moves upwards as a constituent? According to Arregui (2001:18) "...given the standard assumption that there is no lowering, a given phrase XP cannot be focused by movement. Rather, other phrases more embedded than XP must move to a position higher than XP." But what would be the motivation for this movement? There is nothing obvious that can cause the upward movement of the constituent, or the movement of the subject to the right edge of the sentence. Moreover, if Kayne (1994) is correct, neither rightward movement nor rightward adjunction are a part of the syntax. Kayne (1994:71) concludes that "no movement rule can adjoin anything to the right of anything," since rightward adjunction is generally prohibited in the theory.⁶ Kayne's theory of Antisymmetry suggests that rightward movement cannot exist, since it would imply downward movement in the tree. This means, in essence, that what looks like an element that has been moved rightward is either base-generated in its surface position or it is actually moved leftward, but all its surrounding materials have been moved leftward even further. But we have explained already that this type of movement would be unmotivated in the syntactic component, and therefore not possible.

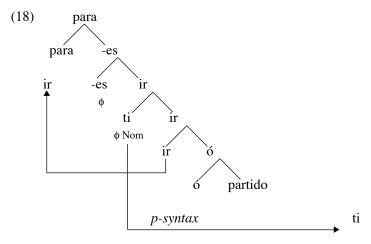
The problem now is how to account for the position of the focused subject in sentences like (17) below. Erteschik-Shir (2001:2) propounds a kind of phonological movement: "Motivation for psyntactical movement arises when the subject-predicate structure is misaligned with the Topic-Focus structure. Lack of alignment is

⁵ Cf. Acoustic analysis in Parafita (2002).

⁶ Cf. Van Riemsdijk & Williams (1986:202) for further arguments supporting the idea that an element cannot be moved to a position that is lower in the tree than the position it originates.

thus viewed as an imperfection, remedied by movement." In Parafita (2003) I proposed that there must be some kind of p-movement that triggers the movement of the subject to the right of the sentence. Let us examine this in the following sentence (17):

(17) Para ir-es ó partido **ti,** tiñan que ser as entradas For go-2nd p. sg. to-the game you, had that be the tickets ben baratas good cheap *For you to go to the game, the tickets had to be very cheap.*



Galician sentence-final focused subjects move to the right p-syntactically in order to pick up main stress. In other languages, like Chinese, prosody also plays an important role in syntax; as a function of its influences on syntax, prosody can even invalidate an entire type of legitimate syntactic structure (Feng 2003). In Chinese, prosody can make a sentence grammatical. Therefore, syntax must react to structures on the basis of their prosodic properties. Feng (2003) explains, for instance, that the verb+object and verb+resultative constructions are not formed freely in syntax and they must be constrained by prosody as well. For example, the [VV O] (a disyllabic verb with a monosyllabic object) forms are generally not acceptable. However, there are acceptable [VV O] forms with the second syllable neutralized (i.e., V.v). Compare:

(19) General Constraint

[VV]+*[Ojb]

a. **zhong-zhi** *shu plant trees

- Acceptable Cases [V.v]+[Obj] a'. xi.huan qian
- plant trees like money
- b. **yue-du** *shu b'. **xia**.hu ren read books threaten people
- c. **jiao-guan** *hua c'. **hai**.pa she water flowers fear snake

[V-RR]+*[Ojb] [VR.R]+[Obj]

- d. V-**quan-mian** *wenti d'. V-**ming**.bai wenti V-thorough questions V-clear questions
- e. V-**lao-gu** *jichu e'. V-**gan**.jing zhuozi V-firm foundation V-clean table

In this sense, prosody seems to work in the same way for both Chinese and Galician, since the Galician sentence in (17) would be ungrammatical without the subject in Focus, as we can see below in (20):

(20) *Para ir-es ó partido ti,... For go-2nd p. sg. to-the game you. For you to go to the game,...

The ungrammaticality of these forms must be checked by prosody, just as the ungrammaticality of Chinese forms is checked by prosody. According to Feng, there is nothing wrong with those forms syntactically, so the unacceptability can only be attributed to prosody. Thus, in both Chinese and Galician, prosodic constraints are operating in the language. Since Galician subjects move to the end of the clause to pick up main stress, we can assume that an edge-based constraint is functioning in Galician. Since both the Chinese and the Galician forms are generally unacceptable in the language, and since this unacceptability is due to prosody and not syntax, it follows that prosody must have invalidated (or overridden) the legal processes of syntax in prosodically sensitive environments in both Chinese and Galician. As a result, the sentence acceptability is not only determined

by applying standard syntactic operations, but also by applications of prosodic rules after the syntactic derivation has been completed.⁷ Van Gelderen (2003) also concludes that the MP architecture must be relaxed to allow syntax to be sensitive to both PF and LF, since according to her, information structure is part of the PF interface and is free to order the various constituents linearly as it sees fit. With the definition of p-movement proposed in this paper, syntax can still be viewed as phonology-free (supporting Erteschik-Shir's (2005, 2007) division of labor between syntax and phonology. P-movement could also be interpreted as a sort of PF linearization (see López 2009: 183).

3.2. P-Movement in Spanish

In her 2004 dissertation, Domínguez defends the argument that cases of Focus in the right periphery are not associated with a syntactic feature. This consequently assumes that Focus, at least in these situations, is not a syntactic phenomenon, but a prosodic one. She also shows that Focus that is not in the right periphery must be analyzed as fulfilling a syntactic requirement. This is in accordance with my analysis (Parafita 2002, 2003) of leftward and rightward Focus in Galician. The natural question to ask now is this: can rightward movement be narrow-syntactic? This issue is addressed in section 4.2.8

4. On Rightward Movement Properties

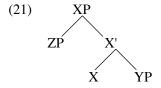
While there are recent studies that tackle constructions like Heavy NP Shift and Right Node Raising directly (Cann et al. 2004), in general such phenomena have received scant regard. Right periphery effects are indeed given barely a mention in theoretical works. To some extent this is unsurprising, since right peripheral constructions tend to be more marked than left peripheral ones and less frequent

⁷ However, Feng's (2003) approach is different from mine in that he suggests that prosody not only motivates but also blocks syntactic operations of various kinds. This, he says, results in strict grammatical constraints not only enforcing word order, but also systematically blocking well-formed syntactic outputs. According to Feng (2003), Chinese data challenges the hypothesis of "phonology-free" syntax (Zwicky and Pullum 1986).

⁸ For examples of p-movement in other languages, see Parafita 2005.

in corpora. However, as pointed out in Cann et al. (2004), the fact that rightward dislocation is possible requires explanation. Rightward movement presents us with a captivating enigma. It has been assumed for a long time that movement to the right is quite distinct from movement to the left. According to van Riemsdijk (1997:1), rightward movement resists all attempts to derive its upward boundedness (Right Roof Constraint) from a general theory of subjacency or bounding. Moreover it affects elements different from those that undergo movement to the left. Relative clauses, for example, can be extraposed but not topicalized or scrambled. The same holds for resultative and comparative clauses.

As Holmer (1995:72) notices, Kayne's (1994) antisymmetry hypothesis, ⁹ assumes that XP structure must invariably have the same appearance, with the specifier to the left and the complement to the right, as below:



Kayne (1994) follows Wexler and Culicover (1980) and suggests a deletion treatment of right dislocation, since rightward movement is disallowed in his framework. A more conventional account requires a right-displaced constituent to be adjoined to VP, IP or CP, rather than be accommodated in the specifier position of a functional projection (Culicover 1997). Kayne believes that phrase structure completely determines linearity, hence his Linear Correspondence Axiom (LCA). He claims that it is acceptable to map c-command relations onto linear precedence relations with a universal SVO order. As Van Riemsdijk (1997) explicates, since Kayne's system rules out any adjunction to the right, it makes massive leftward movement necessary to an extent that was not previously thought to exist. Essentially, an LCA approach to Rightward Movement is equal to the statement that those items that used to be believed to have moved (or to be base-adjoined) to the right are now the only constituents that remain in situ. As Van Riemsdijk (1997:1) puts it: "In a minimalist

⁹ This was first presented at the GLOW Colloquium in Lisbon.

approach, movement is exclusively triggered by the checking of morpho-syntactic features which takes place in functional projections whose heads and specifiers are located on the left. Given this new line of thinking, Rightward Movement simply cannot be triggered, hence it cannot exist."

In section 3.1 (see also Parafita 2003), I provided evidence that the movement of the focused element to the right does not happen in the narrow syntax, as opposed to the movement of the focused element to the left. If this movement were narrow-syntactic we should be able to classify it as either A-movement (movement to an A position) or A'- movement (movement to an A'-position). Let us see then whether the type of movement we are observing is A-movement or A' movement. A-positions are positions in which arguments occur, they are positions which are assigned grammatical functions (i.e., subject positions and object positions). Usually we assume that subjects originate in a θ -marked specifier position within VP, and typically move into a specifier of an inflectional functional position for feature checking (Agree). Move raises items, merging them into new (higher) structure to check features. Here we are talking about rightward movement, so this is not a case of raising (it is actually a case of lowering). A-movement is also said to be obligatory, and this type of movement is optional in the sense that the DP can either be moved for Focus or not. A-movement does not show reconstruction effects and is not subject to WCO (weak cross-over) either. Conversely, A'-movement is not movement triggered by case-checking, and it should show reconstruction and Cross-Over effects. Büring (1997) adjusts the interaction between binding and movement, assuming that A'-movement carries a superscript along, but A-movement doesn't:

(22) Movement

a. ...A'-:

[...XPⁿ...] XP [
$$\lambda_i$$
[...[t_i]ⁿ...]]

b. ...A-:

[...XPⁿ...] XPⁿ [λ_i [... t_i ...]]

As a result of this, only A-movement enlarges the binding domain of a moved item (that is, as long as we make sure that the numbers used within indices and the numbers used for superscripts are disjoint sets). The Weak Crossover Effect is then just failure of binding. The problem is that the movement in question here does not seem to fit either the A-movement or the A'- movement type. As has been said, it behaves like A'-movement because it shows reconstruction effects and it is not movement triggered by the necessity to check case. However, it does not show the typical Weak Cross-Over effects of A'- movement, since any movement from subject position to a higher A'-adjoined position would not create a WCO construction. Let us look at the following inflected infinitive clauses with all different subject positions:

- (23) Unmarked word order
 Para ler cada neno, o seu, libro,...
 For read each boy the his book
 For each boy to read his book,...
- (24) Leftward movement
 Para cada neno ler o seu libro,...
 For each boy read the his book
 For each boy to read his book,...
- (25) Rightward p-syntactic movement

 Para ler o seu, libro cada neno, ...

 For read the his book each boy.

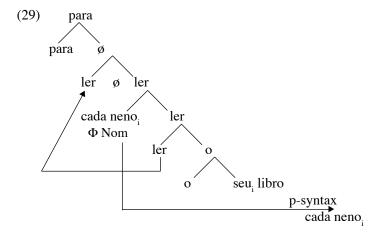
 For each boy to read his book....
- (26) Unmarked word order

 Para ler Xan_i o seu_i libro,...

 For read Xan the his book

 For Xan to read his book,...
- (27) Leftward movement
 Para Xan, ler o seu, libro,...
 For Xan read the his book.
 For Xan to read his book,...
- (28) Rightward p-syntactic movement Para ler o seu, libro Xan,... For read the his book Xan For Xan to read his book,...

We can see that in all these examples the bound constituent is c-commanded by its antecedent. We can observe this in the derivation of (25) as in (29):



The following chart summarizes the diagnosis, that shows that Focus movement of the subject to the right in Galician inflected infinitive clauses is not consistent with either A-movement nor A'-movement:

(30) Diagnosis of A and A' movement

	Yes	(?)	Yes
Behaves			
like A'-movement?	Movement is not for case	Shows WCO	Shows reconstruction effects
	No	(?)	No
Behaves	Movement	Doesn't	No
like A-movement?	is for case	show WCO	reconstruc- tion effects

It seems that movement to the right is not A-movement. Is it A'-movement then? The problem in answering this question is that WCO arises when we A'-move a constituent over a pronoun co-indexed

with the constituent; and here we are dealing with movement of the subject, so it is difficult to create the WCO situation. However, it is like A'-movement in view of the fact that the movement is not for case, and it shows reconstruction effects (i.e., the moved subject is "placed back" into the original site for purposes of binding). This last section has shown that providing evidence for what type of movement we are dealing with here is quite a difficult task (and may imply that the distinction between A-movement and A'-movement should be re-defined). The fact that we cannot clearly classify this movement as either type of narrow syntactic movement (A-movement or A'-movement) can be used to support our evidence that the rightward movement mentioned here is in fact not even syntactic movement. I submit that the inconsistent behavior of the rightward movement points to its p-syntactic properties.¹⁰

Since A-movement is movement to an A POSITION, or argument position, Focus movement should be A'- movement (movement to a *non*-argument position) (Svenonius 1998). While A'-movement to the left is unbound, rightward movement is far more local. This is due to the fact that p-syntactic movement targets edges. Let's have a look at the following Galician data:

- (31) a. **Manolo** creo que foi ó partido. Manolo believe-I that went to-the game *Manolo, I believe he went to the game*.
 - b. Creo que foi ó partido ["Manolo].

 Believe-I that went to-the game Manolo

 I believe that Manolo went to the game.

In (31a) we see how *Manolo* has A'- moved to the left across a clausal boundary. In (31b) *Manolo* has moved to the right p-syntactically without crossing any clausal boundary. This is supporting evidence for treating leftward movement in the narrow syntax and rightward movement in the p-syntax. Further evidence comes from the following data, which illustrates the same effect:

¹⁰ Scrambling in German exhibits the same inconsistent behavior. Büring (1997) assumes that scrambling is A-movement. The main reason for this is the complete absence of Weak Crossover effects in German (just as in Hindi, discussed by Mahajan). However, there is also evidence to the contrary; scrambling circumvents Weak Crossover effects because it is an untypical instance of A-movement. My question then is whether scrambling is a post-syntactic phenomenon in German.

(32) a. Pedro pensa que Manolo foi ó partido.

Pedro thinks that Manolo went to-the game

- b. Pensa [, Pedro] que Manolo foi ó partido.
- c. *Pensa t, que Manolo foi ó partido [, Pedro].
- (33) a. Creo que o Manolo comeu a tarta que a María fixo Believe-I that the Manolo ate the cake that the Maria did onte pola noite yesterday for-the night.

 I believe that Manolo ate the cake that Maria did yesterday night.
 - b. [O Manolo]_i creo que comeu t_i a tarta que a María fixo onte pola noite.
 - c. *Creo que comeu t_i a tarta que a María fixo onte pola noite [_F o Manolo]_i

5. Prosodic Movement to the Left?

The proposed difference between p-syntactic and narrow syntactic movement leads to the question of directionality: Can prosodic movement happen to the left? If prosodic movement to the left exists it must be immune to restrictions normally imposed upon syntactic displacement, such as island constraints, locality conditions, weak crossover effects (WCOs) and the like. Putnam (2006) investigates whether or not we can make a case for leftward *P-syntax*. Based largely on data from Grewendorf (1999, in press), van Gelderen (2003), and consultation with native speakers of German, Putnam (2006) claims that it appears that the argument can be made that *P-syntax* does exist to the left. Putnam's first example of possible prosodically-stimulated movement is what Haider and Rosengren (1998) label as T-scrambling, which permits long extraction from finite clauses. Putnam agrees with Grewendorf that what Haider and Rosengren (1998) inaccurately label as *T-scrambling* (for *Topic-scrambling*) is in fact an instance of Focus movement. The following example (Putnam 2006) illustrates that, unlike Japanese, scrambling in German cannot under normal circumstances take place out of an embedded finite clause. However, when prosody is involved, the aforementioned constraint is not respected, yet grammatical sentences occur.

(34) *dass dieses Buch, Hans dem Studenten gesagt hat dass t_i ' that this book_{ACC} Hans_{NOM} the student_{DAT} said has that Maria t_i besitzt.

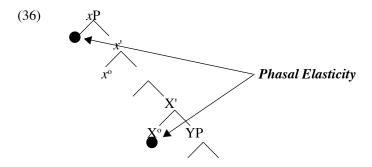
Maria owns

That book, Hans said to the student that Mary has.

(Grewendorf & Sabel 1999)

- (35) a. dass just DIEse Frage, alle glaubten dass sie that exactly this question everyone believed that they unbedingt t_i beantworten müssten. absolutely answer must that everyone believed that they had to answer exactly this question.
 - b. dass [hier zu verLIEren], erfreulicherweise NIEmand that here to lose fortunately no one glaubt, dass sie t, sich leisten können. believes, that they themselves afford can that fortunately no one believes, that they can afford to lose.

Such basic assumptions led Parafita and Putnam (in progress) to postulate that *P-syntactic* movement targets the edges of derivational units. Our concept of *Phasal Elasticity* elucidates that non-hierarchical movement to the edge of these units functions as a quasi-landing site for constituents participating in leftward *P-syntax*.



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Te Velde (2003) analyzes right and left-edge coordinate ellipsis. Te Velde arrives at the conclusion that "the right edge of the clause is a prime area for prosodic manipulation, since intonational features at that point in PF realization signal the status of the foregoing structure (this prosody occurs independently of coordination). Because movement is leftward in a minimalist model, movement exists inter alia to create functional syntactic domains. Left-edge elements are hierarchically superior by the Linear Correspondence Axiom (Kayne 1994) vis-à-vis the rest of the clause.... The left edge, in contrast to the right edge, is unsuitable for prosodic manipulation."

The verdict is still out as to whether there is a difference between right-periphery and left-periphery P-syntactic effects. However one thing is certain: movement for prosodic purposes should not obey restrictions on syntactic operations (e.g., Move and Merge) established for thematic, agreement and discourse features.

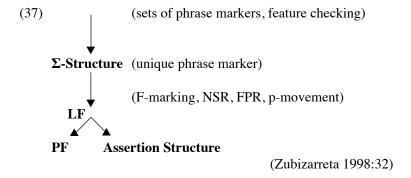
6. Problems with the Prosodic Approach to Focus

Certainly, there are problems with the prosodic-based approach to Focus. A property pertaining to PF, like stress, determines Focus interpretation of a constituent at LF. Thus, the two interfaces see each other after Spell-Out (contra the T-model of grammar). A possible solution to this problem is to modify the present T-model of grammar (several proposals have been made by Zubizarreta 1998 and Feng 2003, among others), which I review thoroughly next. Prima facie, the line of thought I follow would seem to indicate that some determinants of Focus marking are not syntactic (along the lines of Fodor 2000), and that there is no computing involved. However, what the next section shows is the importance of discourse effects in syntactic processing.

7. Consequences for the Model of the Grammar

In the 1990s, the classic model of the 1980s, which consisted of a set of representations linked by the application of the movement rule Move-α, started to change. Only the last pair of representations (LF and PF) was interpreted and the others remained fully module-internal. But as syntactic derivations began to be explored in more

detail, alternatives to the standard model started to appear (see López 2009 for details). Zubizarreta (1998) maintains the main structure of the T-model, proposing some modifications prior to Spell-Out. Under Zubizarreta's approach, items are marked [+F] or [-F] early in the derivation. She assumes that Focus structure and prominence must be assigned at some point before the division (PF-LF) takes place. This is what she calls Σ - Structure. Domínguez (2004: 220) expresses Zubizarreta's ideas very concisely: "If the assignment of prominence is crucial in determining word order (even in languages with flexible word orders), both prosodic and syntactic operations which determine Focus structure must have access to each other at one point before LF." Syntax has access to PF in a stretch of the derivation prior to Spell-out (i.e., it takes place in the domain of syntax):



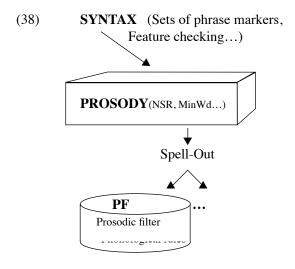
Syntax and PF communicate within the syntax, since the NSR is determined by syntactic constituency and not by prosodic matters. According to Zubizarreta, nuclear stress is assigned in the following manner: Given two sister categories the one lower in the asymmetric c-command ordering is more prominent. Domínguez (2004:221) recapitulates the implications of Zubizarreta's Focus prominence rule in two basic points:

- a) Syntax has access to some part of PF before Spell-Out. If a mismatch between the Focus and prominence happens, p-movement (which is syntactic) applies to correct it.
- b) Prominence is relative to word order, not prosodic structure. Therefore, the syntax has direct access to PF.

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Nonetheless, so far in this article we have shown that embracing a position of Focus prominence controlled by syntactic structure is inappropriate.

Feng (2003) bases his model on Zubizarreta's model. In his model there is a stretch in the derivation (what he calls prosody), similar to Zubizarreta's Σ - Structure. The only difference between the two models is that Feng's model is bi-directional in nature. The output of the syntax is not accepted in the prosody since it is not licensed prosodically. Therefore, this syntactic output is sent back to the syntax, where it is fixed and sent again to the prosody:



(Feng 2003)

Nevertheless, why would the syntax component have to fix what is ungrammatical prosodically? If a derivation is syntactically acceptable, why should syntax fix it? If a derivation is not prosodically acceptable, should not the prosody be the one to fix it? Also, as observed by an anonymous reviewer, having phrase markers not licensed prosodically sent back to syntax to be fixed runs counter to a number of principles of grammar such as Full Interpretation, Inclusiveness and Economy. Thus, I believe Feng's model runs into inconsistencies and contradictions with respect to the syntax-prosody bidirectionality. Van Valin and LaPolla (1997:199) claim that

... whenever a sentence is uttered or written, it is done so in a particular communicative context, and for the addressee to cor-

rectly interpret the communicative intent of the speaker/writer, the addressee must interpret the sentence in that same context. But as this context goes far beyond the immediate linguistic context to include assumptions of many different types, identification of the proper context by the addressee is not always possible, and so misunderstandings can take place. In order to decrease the chance of misunderstanding, the speaker, in creating the sentence, tailors the form of the sentence to allow the hearer to create the proper context for interpretation with minimal processing effort.

This needs to be taken into account when we create a model of the grammar.¹¹ We may picture then a model of the grammar in which discourse is umbrella-like (i.e., it can affect all the modules of the grammar, depending on how much you open the "umbrella"). In a language like Hindi, for example, the discourse can affect all modules of the grammar at the same time (prosody, morphology and syntax) for Focus formation (Kidwai 1995, p.c.). In such cases, the discourse will be like a totally opened umbrella over the grammar model.



We could rethink this model by supposing that each (relevant) syntactic combination is immediately interpreted by both phonology and semantics (probably "relevant" means something like "each phase"), where the phonological and semantic interpretations must be compatible. The particular semantic interpretation required will depend upon the exigencies of the discourse (so in this sense Discourse Structure is an umbrella) which we could conceive of as

¹¹ An anonymous reviewer pointed out that if we are going to consider grammar as an evolved cognitive-biological system, and if it grew out as a system with characteristics pertaining to both cognition and perception or rhythm, but crucially, not communication, then creating a model of the grammar could in principle be irrelevant to communicative and discourse factors.

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having a DRT¹² (Discourse Representation Theory¹³) type structure (e.g., Parafita and Punam 2008a, 2008b). This would encode the shifting flux of speakers' attitudinal statuses to information (new,old, contrastive, etc.). The syntax would be striving to create structures that would properly encode these relations, and it would do so rather straightforwardly, since formatives of syntax would come with the appropriate bits of meaning attached. Pushing this to its extreme, you could even allow some languages to have specific information structure markers, which could be merged with interpreted constituents to create a particular syntax/semantics structure. However this would not be necessary; the language could instead co-opt other units with appropriate meanings, such as pronouns.¹⁴

My argument rests on the fact that the mind is modular because of the nature of the representations it recovers (its "domain specificity"), and because of the relationship that representations bear to each other in formal systems (Caplan 1985:6). I move in line with Kinsbourne (1985:23), who believes that Fodor's concept of the module's informational encapsulation gains credibility in the context of input analysis. We can keep the traditional model of the grammar¹⁵ and have the discourse feeding all the interfaces (which interfaces get affected by discourse information is a language dependent characteristic), as represented in (40) and (41).

¹² Thanks to David Adger (p.c.) for this idea.

¹³ Hans Kamp's Discourse Representation Theory (DRT), which is a theory of natural language semantics. It originated as a relatively small extension of the predicate calculus. Its aim is to associate sentences with expressions in a logical language which represent their meaning. DRT represents the discourse context as a discourse representation structure (DRS). A DRS is:

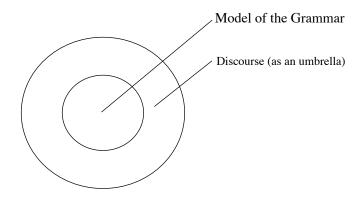
a. a set of referents: the entitites which have been introduced into the context;

b. a set of conditions: predicates which are known to hold of these entities.

In DRT, a sentence's meaning is taken to be an update operation on a context. Each sentence is interpreted in a context. The result of interpretation is a new context. The current context is merged with the sentence DRS to yield the new context ((Knott 2004:8).

¹⁴ As an alternative to DRT-style explanations, an anonymous reviewer suggests Relevance Theory, where the interpretation grammar yields is underspecified and pragmatics must start by enriching the LF output to make it truth-evaluable (i.e., for the sentence to take a True/False reference) (Carston 1998, 2000).

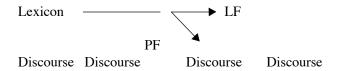
(40) Grammar model: Top View



(41) Discourse feeds the interfaces

Spell-Out

Computational System (Syntax)



Crucially, as we see in (41), the non-modular discourse information gets into the system at the interfaces; and the outcome of p-syntactic movement is not interpretable at LF (McCloskey 1999), but in the discourse (Wiltschko 1995 and Kidwai 1999). I argue, along with Fodor (2000:25), that "simplicity is a convincing example of a context-dependent property of mental representations to which cognitive processes are responsive."

8. Conclusions

To return to the main line of discussion, I have argued that a more economical account of Focus in the right periphery can be offered if rightward movement is allowed in the PF component. I have proposed to redefine p-movement as a post-syntactic phenomenon that does not care about directionality (cf. Erteschik-Shir and Strahov 2000). P-syntactic rules target edges and peripheral positions. Nothing prevents movement to the right in p-syntax since it has no recourse to syntactic hierarchical structure. Further evidence that rightward Focus movement in Galician does not happen in the narrow syntax comes from a display of mixed properties of both A- and A'- movement. In addition, rightward p-moved constituents were shown to be subject to locality, while A-movement is known to be unbound. I submit that the inconsistent behavior of the rightward movement points to its non-syntactic properties. Does this approach fare better? Properties of rightward Focus movement are not predicted to cluster as they do under current approaches of p-syntax. In contrast, they follow easily if we are willing to take p-movement as a PFcomponent phenomenon.

I have also offered a theory of the model of the grammar, which allows syntactic processes to be compatible with having global determinants (along the lines of Fodor (2000:21). This is what, as a result of this study, I consider the most plausible diagnosis. I have also discussed other possibilities, but I believe that they are far more complex and less economical than the one proposed here. Syntactic theory often makes mental processes too local, and that cannot be true in the general case. Fodor (2000:38) claims that in general it appears that the properties of a representation, though they may be exhaustively syntactic, needn't be either local or insensitive to context. As things now stand, I have tried to reconcile the traditional model of the grammar with other cognitive capacities that people actually have.

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