

The Syntax and Prosody of Focus: the Bantu-Italian Connection¹

María Luisa Zubizarreta

zubizarr@usc.edu

University of Southern California

Abstract: This paper provides an overview of the literature on the syntax and prosody of focus in some of the Bantu languages (Kimatuumbi, Chimwiini, Chichewa) and in Italian, and it argues that, despite their typological distance, they share much in common with respect to both the syntax and prosody of focus: 1) both language types have an active low Focus position (Belletti 2004, Aboh 2007); and 2) the Focus position triggers the insertion of a strong prosodic boundary, which gives rise to a “ripple effect” in that phrases to the right of Foc are similarly flanked by a comparable prosodic boundary. The view outlined here argues in favor of a stronger syntax-prosody connection than is generally recognized in current approaches.

Keywords: prosodic phrasing, strong prosodic boundary, weak prosodic boundary, focus, high focus position, low focus position, functional domain, lexical domain, prosodic emargination, right-dislocation.

Resumen: Este artículo analiza los principales trabajos sobre la sintaxis y prosodia del foco en lenguas bantúes (Kimatuumbi, Chimwiini, Chichewa) y en italiano, proponiendo que, a pesar de la distancia tipológica, ambos tipos de lengua comparten muchas de las propiedades que caracterizan a la sintaxis y prosodia del foco: 1) Comparten la existencia de una posición inferior de Foco activa (Belletti 2004, Aboh 2007); y 2) esta posición de Foco requiere la inserción de una marca prosódica fuerte, que causa un “efecto

¹ This paper was developed within the framework of a seminar taught conjointly with Andrew Simpson (on the interface of prosody and syntax) at USC in the Spring of 2010. I thank the participants of this seminar, as well as the audience of the USC Syntax Plus Group, the audience at the 40th *Linguistics Symposium on Romance Languages* at the University of Washington (Seattle) and the Spring 2010 Linguistics Seminar at *Consejo Superior de Investigaciones Científicas/Centro de Ciencias Humanas y Sociales* (Madrid). Very special thanks to Anna Cardinaletti for generously providing data and insights on Italian.



onda” de manera que los constituyentes situados a la derecha de Foc estarán igualmente flanqueados por una marca prosódica similar. El análisis presentado aquí apoya la existencia de una conexión entre la sintaxis y la prosodia mucho más estrecha de lo que generalmente se asume en los estudios relevantes.

Palabras clave: fraseo prosódico, marca prosódica fuerte, marca prosódica débil, foco, posición superior de foco, posición inferior de foco, dominio funcional, dominio léxico, ‘marginación’ prosódica, dislocación a la derecha.

Resumo: Este artigo apresenta uma visão geral da literatura sobre a sintaxe e prosódia de Foco em algumas línguas bantas (Kimatuumbi, Chimwiini, Chichewa) e no italiano, e defende que, apesar da sua distância tipológica, estas partilham aspectos no que diz respeito à sintaxe e à prosódia de foco: 1) ambos os tipos de línguas têm uma posição de Foco baixa activa (Belletti 2004, Aboh 2007); 2) a posição de foco desencadeia a inserção de uma fronteira prosódica forte, que dá origem a um “efeito onda” no qual os sintagmas à direita do Foco são igualmente acompanhados por uma fronteira prosódica comparável. A visão aqui exposta argumenta a favor de uma conexão sintaxe-prosódia mais forte do que aquela geralmente reconhecida em abordagens correntes.

Palavras-chave: fraseamento prosódico, fronteira prosódica forte, fronteira prosódica fraca, foco, posição de foco alta, posição de foco baixa, domínio funcional, domínio lexical, marginalização prosódica, deslocação à direita.

1. Introduction

This paper has two goals. First, it aims to highlight the similarities between Italian and certain Bantu languages (Kimatuumbi, Chimwiini, and Chichewa) with regards to the syntax and prosody of focus. Aboh (2007) has already proposed to extend to Bantu the type of structures proposed by Belletti (2004) for Italian. Although Aboh’s proposal is a very insightful one, a precise syntactic comparison of the focused structures in the two language types still remains to be articulated, as well as the effects of those structures on prosodic phrasing. This paper is an attempt to begin to fill that gap.² Second, as I advance a proposal of the syntax-prosody mapping for the languages under discussion, I

² As the reader will notice though, there is a certain imbalance between the depth of our knowledge regarding the syntax of the Bantu languages under discussion and the syntax of Italian. At this point, we know much more about the latter than we know about the former.



propose a more direct syntax-prosody connection than is generally assumed in Prosodic Phonology (e.g. Truckenbrodt 1999, Kanerva 1990, Frascarelli 1999, 2000 for the languages under discussion).³

It has long been recognized that rules that affect the durational nature of segments within a word, as well as rules that affect the rhythmical organization of words, are sensitive to the presence and strength of prosodic boundaries. On the other hand, the question of what is the algorithm that determines the positioning of such junctures is still very much under debate. Prosodic phonology assumes that there exists a prosodic constituent hierarchy above the prosodic word, which consists of the phonological phrase (divided into minor and major phrases), the intonational phrase, and the utterance phrase. Within the Edge-Alignment theory of Prosodic Phonology (proposed by Selkirk 1986, 1995, Truckenbrodt 1999), it is assumed that left or right edges of P-phrases (depending on the language) are then aligned with the left or right edges of syntactic phrases. It furthermore assumes a general condition (the *Lexical Category Condition*) that ignores functional categories; only lexical categories are aligned with prosodic constituents.

The view that we put forth here will not assume the existence of prosodic constituencies (independent of the syntax), which are then aligned or matched with syntactic structure. Furthermore, we allow for the existence of gradient p-phrasing, as defined by strength of p-boundaries, and we crucially assume that functional categories are visible to the algorithm that inserts p-junctures. In particular, we will argue that the Focus head (which is a functional head) can trigger insertion of a p-boundary. The proposal we put forth here is tentative to the extent that the data under discussion still awaits an in-depth intonational study, but I hope it will serve the purpose of fostering further thoughts and discussions on this very important and fascinating topic. Indeed, if phonology can cue certain aspects of the syntax, the implications for syntactic acquisition and processing are imminently significant.

The paper is organized as follows. In 2, we introduce some preliminaries on the syntax and prosody of focus. In 3, we discuss the Bantu data, primarily

³ For influential works in Prosodic Phonology, see Selkirk (1986, 1995), Selkirk & Shen (1990), Nespor & Vogel (1986), Inkelas & Zec (1990), and references cited therein.



Kimatuumbi and Chichewa (based on work by Odden 1996, Kanerva 1990), with short references to Chitumbuka (Downing 2006) and Chimwiini (Kisseberth 2010), and propose a reanalysis of Truckenbrodt's (1999) influential proposal (see the Appendix for a short summary and discussion of this work). In 4, we extend the analysis proposed for Bantu to the Italian data (as described by Cardinaletti 2002 and Frascarelli 1999, 2000). In 5, we comment briefly on Spanish and its place in the general typology of p-phrasing. In 6, we conclude and draw the implications of the proposed analysis regarding the domain of application of p-juncture insertion.

2. Some Preliminaries on the Syntax and Prosody of Focus

Clausal structure is assumed to be divided into three main fields: the high CP field, the intermediate Inflectional (IP) field, and the low verbal (vP) field. Within this view of syntax, it has long been recognized by Romance syntacticians that there exists a high focus position, immediately above IP, which is active in many of the Romance languages (see Hernanz and Bruccart 1987, Cinque 1990, Zubizarreta 2001, Rizzi 1997, Belletti 2004, among many others).

- (1) *Qualcosa*, di sicuro, io farò. (Cinque 1990: 15)
SOMETHING, surely, I will-do

Aboh (2007) has shown that the Kwa languages and some of the Bantu languages (all SVO languages, like Italian) also have an active high focus position (example below is from Gungbe, a Kwa language).

- (2) *Mótò wε Dòsú kù wá.* (Aboh 2007)
Car Foc Dosu drive come
'Dosu came by CAR'.

More novel from the Romance point of view is the existence of a low focus position, immediately above the vP (Belletti 2004). As shown by Aboh (2007), the Bantu languages provide strong evidence for such a position. See the examples from Aghem (cited by Aboh 2007: 90 and attributed to Biloa 1997), where the focused phrase appears immediately to the right of the verb. As Aboh shows, this is not a Case-related position and any type of phrase (including Adverbs) appears in this position when focused.

- (3) a. A m̀ zì énáǎ bɛ́-'kó án 'sóm
Expl Past eat Inah fufu in farm
'INAH ate fufu in the farm.'



- b. Fil a-mo-zi ang wo be'-ko
 Friends SM-P2-eat with hands fufu
 'It was with their HANDS that the friends ate fufu.'
- c. Tí-bvú tí-bighà mô zĩ né b'é-kó
 Dogs two Past eat today fufu
 'The two dogs ate fufu TODAY.'

If the low focused position is immediately above vP, then it must be that the Verb has moved out of the vP into the Inflectional field. Aboh suggests that in Aghem, where tense is a free-standing morpheme, the Verb moves to Aspect, which is also part of the Inflectional field, although distinct from Tense. Here we will abstract away from the fine-grained structure of the Inflectional field (which contains Tense, Mood, and Aspect projections), and we will situate the Verb under the generic category Infl for all the Bantu languages under discussion (an assumption for which Kimatuumbi provides some compelling evidence). The structure below shows the two syntactic positions for focus: the high focus, above IP, and the low focus, between IP and vP. A language with a syntactically active high or low Foc position moves the focused constituent of the sentence to the Spec of Foc overtly. Languages with a syntactically non-active Foc position can be assumed to move the focused constituent to Spec of Foc "covertly". As noted by Aboh, many Bantu languages have an overt morphological marker for Foc. In the case of Gungbe, this morpheme is *wɛ*; see (2) above.

(4) [Spec [Foc [Spec [Infl [Spec [Foc [VP

Kimatuumbi, a Bantu language spoken in Tanzania and analyzed by Odden (1996), provides an interesting argument in favor of the view that the low focus position is selected by the inflectional node Tense. It is noted there that in Kimatuumbi, focal distinctions are marked in the tense system, which is a fundamental part of the inflectional system of Kimatuumbi verbs (Odden 1996: 60–66). More precisely, the type of tense may impose particular focusing requirements on the clause. Thus, noun-focal tenses require that some non-verb in the clause be the focus of the clause, and *the focused constituent must appear immediately after the verb*. On the other hand, verb-focal tenses select the verb as the focused constituent of the clause. Such selectional relations between type of tense and focus type is immediately captured by the syntactic structure in (4), where the low Foc position is selected by Tense, and Tense is part of the fine-



grained structure of Infl. In this paper, we will be mainly concerned with the low Foc position.

On the prosodic side, it is known that there are two main ways of realizing prominence at the post-lexical level: 1) *culminatively*, via main sentence stress (which involves associating the rhythmically strongest element of a metrical structure with the Nuclear Pitch Accent or NPA); and 2) *demarcatively*, via a prosodic juncture (marked via lengthening, pauses, and/or dedicated phrasal tones). Germanic is known to be of the first type, and Japanese and Korean of the latter type. Some languages mark post-lexical prominence by both means (Bengali). See Jun (2005) for detailed discussion.

Many Bantu languages clearly belong in the demarcative type of category. This becomes particularly clear in the manner in which focus is prosodically marked in these languages. As we will see, focus triggers the insertion of a prosodic boundary, namely a right edge prosodic boundary. As remarked by Downing (2006, 2008), in many of the Bantu languages under discussion, the final or penultimate syllable of a phonological phrase (or p-phrase) is long. And the one in the last p-phrase is the longest and can therefore be identified with main sentence (or Nuclear) stress. Yet, it is the p-boundary, and not the Nuclear Stress which serves to prosodically identify the focused constituent. As for Italian, we will argue that it is both a culminative and a demarcative type of language, and that the effects of focus on p-phrasing found in some of the Bantu languages are remarkably similar to those found in Italian.

We propose that in defining the domain of p-boundary insertion, it is useful to distinguish between two distinct syntactic domains: the Fu(nctional) domain and the L(lexical) domain. A syntactic constituent belongs to the L-domain of lexical head H if it is L-related to H and it belongs to the Fu-domain if it is Fu-related to functional head F, as summarized below.⁴

- (5) a. XP is *L-related* to head Y iff XP is a specifier of, complement of, or adjunct to Y, where Y heads a lexical projection YP.
- b. XP is *Fu-related* to function head Fu iff it is a specifier of Fu or adjoined to FuP.

⁴ A precursor of this idea is found in Nespor & Vogel (1986), who suggest that topics and preverbal subjects are flanked by an intonational phrase boundary, unlike postverbal complements, which are flanked by a phonological phrase boundary.

For languages that make a distinction between weak and strong p-boundaries, weak p-boundaries get inserted at the edge of L-related categories and strong p-boundaries get inserted at the edge of Fu-related categories. Following a notation proposed by Truckenbrodt (1999), we will use a single (left or right) p-bracket to annotate a weak p-boundary and a sequence of left and right p-brackets to annotate a strong p-boundary.

- (6) a. Weak p-boundaries: ...XP) YP) ZP) or (XP (YP (ZP...
b. Strong p-boundaries: ...XP) (YP) (ZP...

As we shall see, the (low) Foc head in (4) triggers the insertion of a p-boundary in Bantu and in Italian. Being a functional category, it triggers the insertion of a strong p-boundary. Furthermore, the Foc-triggered p-boundary gives rise to a ripple effect, such that a strong p-boundary gets copied at the left edge of each phrase that follows the focused constituent.

3. Prosodic phrasing in some Bantu languages

We discuss first the case of Kimatuumbi (as described by Odden 1996), then Chimwiini (as discussed by Kanerva 1990), and finally Chichewa (as described by Kanerva 1990). For each of the languages, we discuss the p-phrasing in wide focus contexts and then the p-phrasing in cases of narrow focus.⁵

3.1. Kimatuumbi (Odden 1996)

As we shall see below, Kimatuumbi is a language that makes a distinction between inner strong and weak p-boundaries. The following rules give us the basic p-phrasing:

- (7) *WPB insertion*: applies within an L-domain and inserts a right bracket to the right of an XP in that domain.
(8) *SPB insertion*: applies within a Fu-domain and inserts a sequence of right and left p-brackets between an XP and a Fu-projection.

Furthermore, we assume the general closure convention in (9), which generates p-brackets at the outermost edges of the sentence. (These are

⁵ The Kimatuumbi and Chichewa data discussed here have been analyzed by Truckenbrodt (1999), which we briefly summarize and discuss in the Appendix.



probably the strongest p-boundaries but they are not relevant to our present concerns.)

(9) *Closure convention (for external edges)*: outermost edges of the sentence must be closed by a left/right p-boundary.

Odden (1996) discusses a variety of sandhi rules in Kimatuumbi, two of which are particularly relevant to identify inner p-boundaries (also discussed by Truckenbrodt (1999); see the appendix). Rule (10a) conspires to preserve long vowels at the right-edge of p-phrases. Rule (10b) identifies strong p-boundaries by the presence of a right-edge High tone.

(10)a. *Vowel Shortening* shortens a long vowel of a stem iff it is not right-adjacent to a p-boundary.

b. *Phrase Tone Insertion (PTI)* inserts a High tone at the right-edge of a p-phrase iff followed by a strong p-boundary (i.e. a sequence of right and left p-brackets).

We illustrate the action of the above rules with some examples. As was said earlier, it is assumed that V moves to Infl, an assumption that is supported by the presence of Neg (a functional category) between the verb and the object in (11a). In this example, all the XPs to the right of the verb, including the temporal adverb, are V-related. (Temporal adverbs are known to behave as VP-adverbs; see Pesetsky 1995). The WPB Insertion rule then inserts a right p-bracket to the right of all the V-related XPs; as shown in (11b). Note that the verbal stem of the object does not undergo *Vowel Short*, which testifies to the presence of a p-boundary after the first object. If the second object were to contain a stem with a long vowel, such as *kikóloombe* 'shell' (as in 'I did not give Mamboondo the shell on Friday'), the latter would not undergo *Vowel Short* either, testifying to the presence of a WPB after the second object (Odden 1996: 243). Note that the absence of a right edge-High tone on the first and second objects in the above example indicates that these XPs are right-flanked by a WPB and not by a SPB.

- (11) a. naampéí lí Mamboondo kiwikilyo íjjuma
 I-him-gave neg Mamboondo cover on-Friday
 'I didn't give Mamboondo a cover on Friday.'
- b. [_{IP}Infl-V lí [[_{VP}V DP DP] Adv]]
 (naampéí lí Mamboondo) kiwikilyo íjjuma)

Odden contrasts temporal adverbs with sentence level adverbs, such as modal adverbs. When these are located at the right-edge of the sentence, they

are preceded by a SPB, as in the example below. This is shown by the fact that not only the verbal stem fails to undergo *Vowel Short*, but it also carries a right-edge High tone, inserted by PTI. This is as expected, since the modal adverb belongs to the Fu-domain. The p-phrasing is as in (12b). The sequence of left and right p-brackets at the right edge of the IP is introduced by the SPB Insertion Rule in (8). The outermost brackets are introduced by the *Closure Convention* in (9) (Odden 1996: 241).

- (12) a. aakálaangá kwaáli
he-will-fry perhaps
'He will perhaps fry.'
b. [[_{IP} Infl-V] Adv]
(aakálaangá) (kwaáli)

A preverbal subject in Spec of IP also belongs to the Fu-domain and therefore it is right-flanked by a SPB, as illustrated in (13). Not only the stem of the subject *Mamboondo* fails to undergo *Vowel Short*, but it also carries a right-edge High tone.

- (13) a. Mamboondó aawíjile
'Mamboondo died.'
b. [_{IP}DP [Infl-V[(V)]]]
(Mamboondó) (aawíjile)

Pre-verbal topicalized XPs are also right-flanked by a SPB, as shown by the presence of a High tone at the right edge of these XPs, as shown in (14). This is as expected since they belong to the Fu-domain. (We omit the Top head that heads the TopP projection in the structure below for sake of conciseness.)

- (14) a. Ijǰumá kiyógoyó Mamboondó naaméi lí,
on-Friday kikoyogo-bird Mamboondo I-gave not
'I did not give Mamboondo a kiyogoyo bird on Friday.'
b. [_{Top}DP [_{Top}DP [_{Top}DP [_{IP}Infl-V Neg[(V)]]]]
(Ijǰumá) (kiyógoyó) (Mamboondó) (naaméi lí)

We turn next to the case of focused structures. While Odden does not provide a full prosodic description of the relevant structures, enough is there that we can draw some conclusions. Recall that Kimatuumbi has focus-sensitive tenses, which select either for a verbal focus or a nominal focus. The transitive examples in (15) illustrate cases of verbal focal tenses, in which the verb is focused. These examples suggest that there is a prosodic boundary between the verb and the object (*Vowel Short* fails to apply to the verbal stem). Furthermore,



it appears to be a strong PB, as indicated by the presence of a High tone at the right edge of the verb. Compare these to the examples in (16), which contain nominal focus tenses. In these cases, the object is focused and there is no PB between the verb and the object. The vowel in the verbal stems is short and they lack a right-edge H-tone.

- (15) a. Naatíkalaangáa ñáma
'I *fried* the meat.'
- b. Neendakwǐjkaatá kaámba
'I am *cutting* the rope.'
- (16) a. Tuḱalanga-ee ñáma
'We were frying *meat* (not something else).'
- b. Níkata áanjú
'I am cutting *firewood* (not something else).'

Consider next the example in (17a), where the subject is focused and must appear in postverbal position; compare with (17c). Such example provides further evidence that the Verb in Kimatuumbi is not inside the VP, but has moved up to Infl. The postverbal subject is phrased with the verb, as indicated by the short vowel in the verbal stem of this example. This shows that the postverbal subject is within the domain of the verb and not right-dislocated. It originates in the VP and moves to Spec of Foc; the verb must then be located in Infl.

- (17) a. a-gonj-a Mambóondo (vs. agóonja) (Odden 1996: 60)
3sg.subj.-sleep Mamboondo
'It is Mamboondo who is sleeping'
- b. [_{IP}V[_{FocP}DP [_{VP} (DP)(V)]]]
(a-gonj-a Mambóondo)
- c. *Mamboondó agóonja.

Kimatuumbi also has focus-neutral tenses, which does not impose any restriction as to which constituent (if any) must function as the focus of the sentence. Such tenses allow for a topicalized object and no focused constituent; compare (18a) with (17c). Alternatively, it can be followed by a focused object as in (18b–c). In the latter cases, *Vowel Short* has applied showing that there is no p-boundary between the verb and the object. In (18d), the verb itself is focused. Note that *Vowel Short* has applied to the verb stem in this example (compare with (18b)), indicating that there is no PB between the focused verb and the focus particle. This is an important fact because it suggests that it is not the



focused lexical item itself that triggers the insertion of a PB. We may interpret such facts as indicating that it is the focus position, occupied in this case by the focus particle ‘tú’ *only*, which triggers insertion of a prosodic boundary, i.e. a strong PB.

- (18) a. (Ñamá) (atélijke)
Meat he-cooked
‘As for meat, he cooked.’
- b. (Ateljke ñámani)
he-cooked what
‘He cooked what?’
- c. (Ateljkee ñama tú)
he-cooked meat only
‘He cooked only meat.’
- d. (Ateljke tú)
he-cooked only
‘He only cooked.’

A similar point is made by Downing (2006), who discusses particles that associate with focus in Chitumbuka (a Bantu language spoken in Malawi), such as negation *yáaye* ‘not’ and *péera, wáaka* ‘only’, and makes the important observation that the p-boundary triggered by focus appears not after the focused constituent but after the focus particles.

- (19) a. ([β]a-ku-zénga sukúlu yáaye) (kwéni nyúumba).
2-TAM-build school not rather house
‘They are not building a *school*, rather a house.’
- b. ([β]a-léndo péera) ([β]a-ka-[β]onésya pamúzi páawo)
2-visitor only 2-TAM-show homes their
‘They showed their homes only to the *visitors*.’

We put forth the proposal that there is an active low Foc position in Kimatuumbi, as in other Bantu languages, and that it is this position that triggers insertion of a PB. Because focus is a functional category, it triggers insertion of a strong PB.

(20) Foc head triggers insertion of a SPB (to its right).

If Foc dominates a morpheme, the SPB will appear to its right, as in the Chitumbuka examples in (19). If it is empty, the SPB will appear between the focused constituent to its left and the non-focused constituent to its right. The rule in (20) is active in all of the Bantu languages under discussion.



Kisseberth also discusses a phenomenon of phrasal tone spreading from the leftmost p-phrase headed by the verb onto the following p-phrases within the verb phrase. Thus, if the first p-phrase contains a verb with first or second person subject agreement and therefore a final phrase tone, this final phrase tone is imposed on the following p-phrase(s). See (25a), an applicative construction (from Kisseberth 2010) and its associated p-phrasing in (25b).

- (25) a. [ni-m-tovelele mw-aaná/ maaná/ m-tuzii=ni]
 'I dipped for the child/ the bread/ into the sauce.'
 b. (ni-m-tovelele mw-aaná) maaná) m-tuzii=ni]

As in other Bantu languages, the focused constituent in Chimwiini appears immediately to the right of the verb, as illustrated in the Q&A examples given in (26)–(29) (from Kisseberth 2010). As these examples illustrate, focus blocks the phrasal accent on the first p-phrase (which contains the focused phrase) from determining the type of phrasal accent on the p-phrases to the right of the focused phrase. The focused phrase in these examples carries the marked phrasal accent, while the following p-phrases carry the unmarked phrase accent. In the presence of a focused phrase, there is no “harmony” of phrase accent type. Compare with (25b), where there is no focused phrase and there is a “harmony” of phrase accent type.

- (26) Q: [bigiliile=ni/ l-kutáa=ni]
 'what did you hammer/ into the wall?'
 A: [m-bigilile mu-smaari/ l-kutáa=ni]
 'I hammered a nail/ into the wall.'
 (27) Q: [bigiliile=pi/ mu-smáari]
 'where did you hammer the nail?'
 A: [m-bigilile l-kutaa=ni/ mu-smáari]
 'I hammered into the wall/ the nail.'
 (28) Q: [bigilile ka ni/ mu-smáari/ l-kutáa=ni]
 'you hammered with what/the nail/into the wall?'
 A: [m-bigilile ka n-duundó/ mu-smáari/ l-kutáa=ni]
 'I hammered with a hammer/ the nail/ into the wall.'

The above paradigm suggests that, while in focus-neutral cases, like (25b), the p-junctures are weak, in cases where a focused phrase follows the verb, the p-junctures are strong. To illustrate, consider the syntactic structure and p-phrasing for the answer part of (28), given below.



- (29) [_{IP} Infl [_{FocP} PP_j [(V) DP PP (PP_i)]]]
 (m-bigilile ka n-duundó) (mu-smári) (l-kutáa=ni)

To summarize, the Chimwiini data complements the Kimatuumbi data. The facts from these languages show that Foc triggers the insertion of a strong p-boundary after a focused DP, as well as after a focused verb. We turn next to Chichewa.

3.3. Chichewa (Kanerva 1990)

Chichewa is interesting in that it only has p-boundary insertion within the Fu-domain. In focus-neutral cases, no p-boundary appears within the L-domain.

Kanerva (1990) discusses three sandhi-rules that are relevant in identifying the presence vs. absence of p-boundaries in Chichewa, given in (30). The conjoint action of *Penultimate Lengthening* and *Final H-tone retraction* gives rise to a HL (falling) contour at the right-edge of a p-phrase. On the other hand, *H-tone doubling* gives rise to a sustained High tone phrase-internally.

- (30) a. *Penultimate Lengthening*: A vowel in the penultimate syllable of a p-phrase is lengthened.
 b. *Final H-tone Retraction*: An underlying H tone is retracted from the final mora of a p-phrase to the penultimate mora.
 c. *H-tone Doubling*: A H tone is doubled (spread one mora to the right) except when the target of spreading is within the p-phrase-final foot.

The examples in (31)–(32) illustrate the action of these rules. The lack of p-boundary after the verb in (31) is shown by the lack of penultimate lengthening and the application of H-tone doubling. The lack of right p-boundary after the first complement in (31a) is shown by the fact that they do not undergo *Penultimate Lengthening* and, furthermore, the final H tone does not undergo retraction. Compare with (31b), where the object has been right-dislocated. In this case, the object is flanked by a p-boundary on its right; therefore, the penultimate vowel is lengthened and High-tone retraction applies. Note furthermore that the lengthening of the penultimate vowel is maintained on the second VP complement, indicating the presence of a p-boundary to the left of the dislocated object. This clearly shows that the right-dislocated object is within a functional domain and, consequently, the Fu-domain Insertion Rule applies, inserting a p-boundary between the PP complement and the right-dislocated object.

- (31) a. [IP I- V[_{VP} (V) NP PP]
 (anaményá nyu^mbá ⁿdí mwáála) Cf. /anaménya/
 he-hit house with rock
 'He hit the house with a rock.'
- b. [IP I- V [_{VP} (V) (NP_j) PP] NP_j]
 (Ana-í-ményá ndí mwáála) (nyuú^mba)
 he-it-hit with a rock the house
 'He hit with a rock, the house.'

The example in (32) below shows that the preverbal subject is also in a functional domain, i.e. in Spec of IP. Therefore, the penultimate vowel is lengthened and High Tone retraction applies.

- (32) [IP DP [I-V [_{VP} (V)]]]
 (kagaálu) (kanáafa) Cf. /kagalú/
 (small) dog died
 'The (small) dog died.'

As in the other Bantu languages, Foc triggers the insertion of a p-boundary, as illustrated in the examples below. In (33), the verb is focused and is flanked to its right by a p-boundary. In (34), the object is focused and also right-flanked by a p-boundary. As usual, this is shown by the presence of vowel lengthening and High tone retraction.

- (33) [What did they do in Mavuto's house?]
 (anagóona) (mnyu^mbá yá mávúuto)
 they-slept in-house of Mavuto
 'They *slept* in the house of Mavuto.'
- (34) [What did he hit with the rock?]
 (anaményá nyuú^mba) (ⁿdí mwáála)
 he-hit house with rock
 'He hit *the house* with a rock'

As Kanerva shows, the prosodic effects of focus in Chichewa are even more dramatic. Not only is a p-juncture inserted at the right edge of Foc, this p-juncture triggers the insertion of p-junctures to the right of the focused constituent:

- (35) Each L-related constituent that follows the focused constituent is also flanked by p-boundaries.⁶

⁶ Downing (2004), who describes the Ntcheu dialect of Chichewa, remarks that in a neutral sentence the first p-phrase has the widest pitch range. Every p-phrase is downstepped with respect to the previous one, thus creating a downdrift. A



(38) If a PB is inserted at the edge of a constituent C in domain D (e.g. L-domain), then all constituents within that domain must be equally flanked by the same type of PB.

One more property of Chichewa that is worth mentioning is that, in this language, overt movement of a focused constituent to the low Foc position is more parsimonious than in other Bantu languages (Kimatuumbi, Chimwiini, Aghem). While VP medial XPs, when focused, must move to Spec of Foc, a focused XP in VP-final position in Chichewa stays in-situ, as exemplified in (39). In this example, the VP final instrumental focused PP remains in-situ.

(39) What did he hit the house with?
(anaményá nyumbá ndí mwáála)
He-hit the house with a rock
'It is with a rock that he hit the house.'

It thus appears that Chichewa is a language in which the syntactic licensing of a focused constituent may be covert or overt. If VP medial, the licensing must be overt; i.e. it must move to Spec of FocP. The reason is that this is the only way that it can be prosodically licensed by a SPB to its right. In that position, Foc rule (20) ensures just that. On the other hand, if it is VP-final, the syntactic licensing is (or may be) covert, because in that position, it is already right-flanked by a "strong" boundary, introduced either by the Fu-domain rule (5b), if the VP is followed by IP-level material, as in the cases with right-dislocated XPs, or otherwise by the Closure Convention in (9). To recapitulate, the proposal put forth here is that in Chichewa, *an in-situ VP medial phrase cannot be prosodically identified as focused, but a VP-final phrase can*. Consequently, the former but not the latter must move overtly to Foc position.

3.4. Summary

To summarize, we have provided an analysis of the Bantu facts that assumes an intimate relation between the syntax and the prosody. We have suggested that the insertion of prosodic boundaries is sensitive to the functional/lexical distinction. More precisely, we proposed that within the inner domain of the clause, strong PBs typically identify the functional-domain and weak PBs typically identify the L-domain of the clause. This is not to say that we never find SPBs within the L-domain, nor does it mean that we never find

Uniformity Condition applies selectively as to maximize the contrast between focus neutral and narrow focused cases.



WPBs within the Fu-domain. In fact we have already seen that the ripple effects of focus give rise to SPBs within the L-domain. And as we shall see in the case of Italian, fast speech can also weaken a SPB within the Fu-domain.

In the Bantu languages, there is a low Foc position that is syntactically active. The Verb, when it is focused, moves through it on its way to Infl. When a DP is focused, it moves to Spec of FocP. Bantu being a demarcative type of language, Foc systematically triggers the insertion of a PB, in fact a SPB, given its status as a Fu-category.

The case of Chichewa furthermore illustrates the prosodic ripple effects of focus, in that the p-boundary insertion triggered by Foc is copied onto the left edge of each XP that follows it. We attributed this copying phenomenon to the *Uniformity Condition* on p-phrasing (38) and suggested that this condition might be derivable from more general eurythmicity considerations.

We turn next to Italian, which also appears to have an active low Foc position. We argue that in Italian, as in Bantu, the Foc position triggers insertion of a SPB, which also gives rise to a ripple effect with respect to p-phrasing.

4. Italian low Foc position: syntax and p-phrasing

The question arises as to whether Italian, a Romance language with an active low Foc position (Belletti 2004), also makes a distinction between “strong” and “weak” prosodic boundaries, like Kimatuumbi. Frascarelli (1999, 2000) discusses two sandhi rules that seem to provide evidence for “strong” PBs: *Gorgia Toscana (GT)* and *Intervocalic Spirantization (IS)* –both are lenis rules found in Tuscan and other Central varieties of Italian. Following Nespor & Vogel (1986), the author refers to them as Intonational-domain rules and contrasts them with two other sandhi rules that are said to be sensitive to phonological phrase boundaries: *Radoppiamento Sintattico (RS)*, found in most central and southern varieties of Italian, and the *Rhythm Rule (RR)*, typical of Northern Italian but also found in other varieties (as reported by Frascarelli). *RS* and *RR* apply in exactly the same environment. *RS* strengthens an initial consonant of a word when it is immediately preceded by a word that ends with final stress; *RR* applies to a word with final stress (shifting stress left-ward) when it is immediately followed by an initially stressed word. For the purpose



of illustration, we will only use the *GT rule* (an Intonational- phrase domain rule), formulated in (40), and the *RR rule* (a phonological-phrase domain rule), formulated in (41).⁸ We refer the interested reader to Frascarelli's work for illustration of the other two rules.⁹

(40) *Giorgia Toscana (GT)*: It changes the voiceless stops /p, t, k/ into the fricatives [ϕ, θ, h] between two sonorants both within and across words.

(41) *Rhythm Rule (RR)*: in a sequence of two words, when the last syllable of the first word and the first syllable of the second word carry main stress, the main stress of the first word shifts leftward.

The so-called phonological phrase boundaries are “weaker” than the so-called Intonational Phrase boundaries in that GT and IS can apply across phonological phrase boundaries, but not across Intonational Phrase boundaries. On the other hand, RS and RR only apply across phonological phrase boundaries (but see note 9). In order to enhance the similarities between the Bantu languages discussed earlier and Italian, we will represent the sentence internal “weak” PB as a single p-bracket (which typically applies within the L-domain) and the sentence internal “strong” PB as a sequence of left and right p-brackets, which typically appears within the Fu-domain. Furthermore, we will show that thinking of junctures in terms of relative strength (rather than in terms of categorical I-domain and Phonological phrase-domain junctures) will allow us to reconcile the syntactic and prosodic properties of Italian “emarginazione” phenomenon.¹⁰

⁸ RR has been reported to exist in many other languages, including English. There is some dispute as to whether the Rhythm Rule is a stress retraction or a stress enhancement rule. For our present purposes, this is not important. What is important is that the phenomenon is sensitive to phrasing.

⁹ Frascarelli mentions that there is dialectal variation as to the context of application of some of these rules, such as the *GT rule*. This author also mentions that RS applies obligatorily at the Phonological phrase level (independently of speech rate), but that it may optionally apply at the Intonational phrase level in fast speech.

¹⁰ We hasten to add that the intonational properties of the Italian “strong” PB and “weak” PB still remain to be investigated and would require careful investigation of the suprasegmental features associated with each of them. Therefore, the proposal put forth here is tentative, but hopefully, in the right direction.



4.1. Italian p-phrasing in focus-neutral contexts

Italian has variable p-phrasing, subject to rate of speech and weight considerations (Nespor & Vogel 1986, Ghini 1993, Frascarelli 1999, 2000). Thus, in an out-of-the blue context, the sentences below are said to have the following two types of p-phrasing (depending on rate of speech). These give rise to an audible intonational hiatus, and their presence is manifested by the fact that in (42c), but not in (42b), *RR* applies to the verb, and in (43c), but not in (43b), *RR* applies to the head of the NP object.

- (42) a. Questa sera mangero pasta per cena.
This evening eat-Fut-1sg pasta for dinner
b. (questa sera) (mangero) pasta) per cena)
c. (questa sera) (mangero pasta) per cena)
- (43) a. Non mi piacciono le citta nordiche.
b. (non mi piacciono) le citta) nordiche)
c. (non mi piacciono) le citta nordiche)

As we can see in (42b) and (43b), a right PB can appear after the lexical head in Italian (unlike Kimatuumbi). We will therefore assume that in Italian *the L-domain rule may insert a right p-bracket either to the left or to the right of an XP, where the choice is dependent on weight considerations as well as rate of speech*. Frascarelli notes though that, in normal speech rate, the lexical head tends to get phrased with its complement (on its right side) unless there are rhythmical factors that favor the alternative phrasing; see also Ghini (1993).

In the functional domain, in particular those involving topics, the nature of the PB is also dependent on weight and rate of speech considerations (Frascarelli 2000: 45-52). In particular, Frascarelli notes that the *GT lenis* rule does not apply between topics or between a fronted topic and the adjacent verb in slow speech (44a), but it may do so at faster speech rate (44b). Thus, it would seem that *SPB (represented here as a sequence of left and right p-brackets), introduced by the Fu-domain rule, may be "weakened" into a single (right) p-bracket in relatively fast speech*. This is the case in (44b), where the left p-bracket has been deleted and only the right p-bracket between the topicalized object and the following verb survives, allowing for [k] to turn into the fricative [h].

- (44) a. (questo libro) ([k]onosco) l'autore) che l'ha scritto)
b. (questo libro) [h]onosco) l'autore) che l'ha scritto)
'This book (I) know the author that has written it.'



We turn next to the effects of focus on prosodic phrasing.

4.2. Italian focus and prosodic “emarginazione”

Since the classic paper by Antinucci and Cinque (1977), it is known that focus (i.e. contrastive focus) has an effect on prosodic phrasing in Italian. Antinucci and Cinque referred to this phenomenon as “emarginazione” (or marginalization). The emarginated constituent typically follows a *contrastive* focused constituent, as the example below illustrates (from Cardinaletti 2002: 40). In (45B), the postverbal subject *Mara* is contrastively focused (pronounced with emphatic stress) and is separated from the direct object *la macchina* by an intonational hiatus or short pause (indicated by the author with a comma). Cardinaletti argues that the emarginated constituents (pronounced with reduced pitch) are in-situ and are distinct from right-dislocated constituents. (We indicate the contrastive focused constituent with caps and the emarginated one with italics.)

- (45) A: Posso guidare io durante il viaggio?
 Can drive I during the trip
- B: No, non mi piace come guidi: porterà MARA, *la macchina*.
 No, [I] not like [you] as driver: will-drive Mara, the car

Informational focus does not appear to be compatible with the construction that involves prosodically “emarginated” constituents. Examples that contain an emarginated object, but with no contrastive presupposition, are said to be unnatural (Cardinaletti 2002: 40). This is illustrated by the example below, where the context question is naturally interpreted as giving rise to an informational type of focus in the corresponding answer-statements (indicated by underlines). (46B), where the informational focused subject is followed by an emarginated object, is said to contrast, on the one hand, with (46B’), where the focused constituent is followed by a right-dislocated object (as indicated by the fact that it is doubled by a verbal pronominal clitic) and, on the other hand, with (45B), where the focus is contrastive/emphatic in nature.

- (46) A: Chi porterà la macchina?
 Who will-drive the car?
- B: ??Porterà Mara, *la macchina*. (Emarginated object)
- B’: La porterà Mara, *la macchina*. (RD object)
 It will-drive Mara, the car.



In Italian, informational focused constituents are prosodically indentified by virtue of being located in the position that gets assigned Nuclear Stress (NS), namely the rightmost position in the VP (Cinque 1993, Zubizarreta 1998). The contrastive/emphatic nature of the focused constituent that precedes the emarginated phrases then suggests that such constituent is not located at the right-most edge of the VP (i.e. adjacent to the right IP boundary), but rather that it is located in a sentence internal position. This in turn entails that the “emarginated” constituents are located in-situ (within the VP).

Yet, it has been a matter of debate whether the prosodically emarginated phrases are indeed in-situ. Frascarelli (2000) assumes that they are right-dislocated (RD). On the other hand, Cardinaletti (2002) argues that they are in-situ (within the VP). One of the arguments provided by Cardinaletti is that emarginated phrases, unlike right-dislocated ones, must respect the base word order (Cardinaletti 2002: 34–35). In (47) the complements are RD (as indicated by the presence of pronominal clitics) and these may appear in either order. Compare with (48), where only the base word order is natural.

- (47) a. *Ce l’ha nascosto il bambino, il libro, sotto il letto.* (RD)
 There it-has hidden the child, the book, under the bed
- b. *Ce l’ha nascosto il bambino, sotto il letto, il libro.* (RD)
- (48) a. *Ha nascosto il BAMBINO, il libro, sotto il letto.* (EMARG)
 Has hidden the child the book, under the bed.
- b. *??Ha nascosto il BAMBINO, sotto il letto, il libro.* (EMARG)

The examples in (49) further exemplify the base word order requirement in the case of emarginated constituents. The emarginated DO and the infinitival complement must appear in that sequence when prosodically marginalized; cf. (49a–c) and (49d–e).

- (49) a. *Che cosa hai convinto MARIO, a fare?*
 What have (you) convinced Mario to do?
- b. *Che cosa hai CONVINTO, Mario, a fare?*
 What have (you) convinced Mario to do?
- c. *Che cosa hai convinto TU, Mario, a fare?*
 What have YOU convinced Mario to do?
- d. **Che cosa hai CONVINTO, a fare, Mario?*
- e. **Che cosa hai convinto TU, a fare, Mario?*

Cardinaletti gives a number of other syntactic tests that distinguish emarginated from right-dislocated constituents. Emarginated constituents can be quantified, while right-dislocated ones cannot. The genitive clitic can be extracted from an emarginated object but not from a right-dislocated one. With respect to pronominal binding, an emarginated complement clause is shown to be within the scope of the postverbal subject, as opposed to a RD complement clause.

A particularly compelling argument for the view that an emarginated phrase is within the VP is provided by the postverbal subject in the Ancona dialect of central Italy (Cardinaletti 2002: 50–52). In this dialect, postverbal subjects within the VP do not agree with the verb (50). Emarginated postverbal subjects do not agree with the verb either and, as expected, these must obey the base word order. This is illustrated by the contrast between (51a), in which the emarginated constituents obey the base word order, and (51b), in which the emarginated constituents do not obey the base word order. Also, compare (51b) with (51c), where the object and the subject are right-dislocated, and need not obey the base word order.

- (50) Questo disegno l'ha fatto *quei bambini lí*.
this drawing it has done those children there
- (51) a. Questo disegno l'ha fatto IERI, *quei bambini lí*.
b. *Ha fatto IERI, *il disegno, quei bambini lí*.
has done yesterday, this drawing, those children there
c. L' hanno fatto IERI, *il disegno, quei bambini lí*.
it- have done yesterday, this drawing, those children there
Cf. *Quei bambini hanno/*ha fatto il disegno ieri*.

When a postverbal unaccusative subject is emarginated, it has the typical properties of unaccusative postverbal subjects, namely genitive cliticization from the postverbal subject is possible, as illustrated in (52b); compare with the RD counterpart in (52c). Furthermore, an emarginated postverbal subject may be quantified (53a), but not so a RD subject; see the reply part in (53b).

- (52) a. Ne è venuto uno. (in-situ, VP-internal subj, neutral intonation)
Of-them has come one
b. Ne è venuto IERI, *uno* (EMARG subj)
of-them has come yesterday, one
c. ??Gliene è stato regalato, a Gianni, uno (RD subj)
to-him of-them has been given, to Gianni, one



- (53) a. Può già RITIRARE, ogni ragazzo, la (sua) macchina. (EMARG subj)
 Can already go-and-take, every boy, the (his) car
- b. A: Chi ha incontrato, ogni studente?
 Who has met, every student?
 ‘Whom has every student met?’
- B:*Ha incontrato il preside, ogni studente. (RD subj)
 [he] has met the dean, every student
 ‘Every student has met the dean’

It is to be noted that, while emarginated constituents must obey the base word order, the contrastive focused constituent, which appears right-adjacent to the verb, does not do so necessarily. This is exemplified in (54a), where the PP locative complement is contrastively focused and precedes the emarginated object. Compare also (48b) and (54b), where a temporal adverb is contrastively focused and precedes both the emarginated object and locative complement (Cardinaletti 2002).

- (54) a. Il bambino ha nascosto sotto il LETTO, il libro.
 b. Il bambino ha nascosto IERI, il libro, sotto il letto.

To the extent that emarginated constituents are in-situ and appear immediately to the right of a (contrastive) focused constituent and that the focused constituent in turn appears immediately to the right of the inflected verb or the verbal participle (known to be outside the VP and in the Inflectional field; see Belletti 1990), it is tempting to conclude that Italian has an active low focus position, located below Infl and above the VP (Belletti 2004).¹¹ If indeed the constituents that follow the contrastive focused constituent (located in the low Foc position) are within the VP (as argued by Cardinaletti), the “prosodic emargination” properties of these post-focal constituents would seem to be comparable to those found in the Bantu languages. We elaborate on this below.

4.3. Italian focus and the nature of the p-boundary

Frascarelli (2000) notes that the p-boundary between the focused and the emarginated constituents blocks the application of *RR*. Recall that *RR* is blocked

¹¹ Belletti (2004) suggested that the low focus position only lodges informational focused phrases and the high focus position (above IP) lodges the contrastive focused position. But this does not square with what we know to be the case in other languages, in particular the Bantu languages. Furthermore, it is unlikely that syntactic positions are labelled for type of focus.



by any type of PB, including “weak” PB. Compare (42c) with (55b), where the verb is focused.

- (55) a. Questa sera, MANGERÓ, pasta, per cena.
 b. * Questa sera, MÁNGERO, pasta, per cena.

As was mentioned earlier, Frascarelli argues that *GT* can apply across a “weak” PB. This is exemplified by the focus-neutral sentence in (56a) (Frascarelli 2000: 35). In this example, *GT* weakens the first consonant of the preposition that heads the PP *con gli amici*, which is separated by a WPB from the preceding locative complement. On the other hand, *GT* fails to apply in the context of a contrastively focused constituent, as shown in (56b). This suggests that the PB that follows the contrastively focused constituent is indeed a “strong” PB boundary, comparable to the PB that precedes right dislocated phrases; see (57) (Frascarelli 2002: 29). In this example, the object is an informational focused constituent, which bears NS, followed by a right-dislocated PP complement. *GT* does not apply to the preposition that heads this PP complement either. (Note that the PP in (57) is a case of RD, despite the absence of an anticipatory clitic. Indeed, right-dislocated PPs are only optionally doubled by a clitic, and for this PP in particular, there is no corresponding clitic.)

- (56) a. (andró al cinema) [h]on i miei amici
 Go-FUT-1SG to-the cinema with the my friends
 b. (andrò al CINEMA) ([k]on i miei amici) *[h]on

- (57) Q: Cosa mangerà Carlo con i suoi amici?
 ‘What will Carlo eat with his friends?’
 A: (mángerá pásta) ([k]on gli amici) *[h]on
 eat-FUT-3SG pasta with his friends

It is this similarity between the PB that precedes right-dislocated elements and the PB that precedes emarginated constituents that led Frascarelli to conclude that “emarginated” constituents are syntactically right-dislocated, in that they are both flanked by strong PBs, of the type associated with the functional domain.

We propose to resolve this apparent contradiction between the non-dislocated properties of emarginated constituents and its prosodic properties by assimilating the case of Italian to that of the Bantu languages. The contrastively focused constituent is located in the spec of low FOC and it is the FOC functional head that triggers the insertion of the strong PB. To summarize,



- (58) a. Italian has an active low Foc position.
 b. Foc triggers the insertion of a “strong” PB

Furthermore, in Italian, like in Chichewa, we can observe the “ripple” effects of focus when there are multiple postfocal constituents within the VP: all of them undergo “prosodic emargination”; see examples in (49a-c), (53a), (54), and (55). Recall that we had attributed this ripple effect to the *Uniformity Condition* in (48) and furthermore suggested that this condition might ultimately be due to eurythmicity considerations, i.e. a pressure to have balanced and comparable p-phrases within the VP.

The question that arises is why in Italian (but not in the Bantu languages) the focused phrase that triggers “emarginazione” must be contrastive. The explanation for this fact, as was hinted at the beginning of the preceding section, has to do with the fact that “informational” focus in Italian (as in Spanish) must be prosodically identified by Nuclear Stress (NS), and NS in these languages is rigidly assigned to the rightmost word in the VP (Cinque 1993, Zubizarreta 1998). A sentence internal focused constituent in Italian and Spanish is assigned main prominence by the Emphatic Rule (rather than by the NS) and is associated with an expanded pitch range.¹² It is therefore necessarily interpreted

¹² Word order such as VOS, which imposes narrow focus on the subject both in Italian and Spanish, is compatible with an informational focus interpretation; e.g. *ha mangiato la mela Gianni*. ‘Gianni ate the apple’ as an answer to *Who ate the apple?* As was suggested in Zubizarreta (1998), such structures could be generated by fronting the focused subject to the Spec of the high Foc position, and moving the IP around it. Zubizarreta (1998) analyzed the movement around the Foc position as a case of prosodically-motivated movement (although the proposed syntactic derivation is equally compatible with a view whereby the fronting of the IP around Foc is a case of “IP topicalization”). If that is indeed the structure of VOS sentences, it further supports the view that syntactic Foc positions are not specified as contrastive or as informational. Rather, this follows from prosodic considerations (as mentioned in the text).

It has been suggested that the above syntactic analysis is not tenable because postverbal subjects in VOS constructions can be NPIs licensed by what must be a c-commanding negation; e.g. *Non ha mangiato la mela nessuno* ‘Nobody ate the apple’ (Samek-Lodovici 2005), but it is possible that the negation in such cases is higher in the sentence, in a Polarity Phrase (above IP); see Laka 1990. When the NPI subject is preverbal, it moves all the way to Spec of PolP, in which case Neg in the Pol head does not get morphologically realized; e.g. *Nessuno ha mangiato la mela*). On the other hand, in the case where IP moves around FocP, the focused subject remains in Spec of FocP.



as contrastive or emphatic. See also Cardinaletti (2002), section 3.8 for an account along the same lines.

We turn next to the grand finale. Italian shows uncontroversially that it is the syntactic Foc position that triggers insertion of the PB, rather than the focused constituent itself. The relevant data, presented below, are discussed by Cardinaletti (2002: 52–54), although this author does not discuss their implications with respect to the syntax/prosody of focus.

The examples below are cases of *wh*-questions and *wh*-exclamations. What is remarkable about these facts is that the PB does not appear immediately to the right of a fronted *wh*-phrase, but rather immediately after the verb. Furthermore, if there are XPs following the verb, these are “prosodically emarginated” as well. The in-situ status of these “prosodically emarginated” constituents is shown by the fact that in the examples (59)–(60) from the Ancona dialect, there is no verbal agreement with the postverbal subject. In the examples (61)–(62) from Standard Italian, it is shown by the fact that genitive cliticization has applied from the postverbal subject, and in (63) by the fact that the postverbal subject is quantified.

- (59) a. *Cosa ha fatto, i bambini?*
What has done, the children
b. *Cosa ha fatto, i bambini, a scuola?*
What had done, the children, at school?
- (60) a. *Che bel disegno ha fatto, quei bambini!*
How nice drawing has done, those children!
b. *Che bella casa ha comprato, ogni tuo parente, ai propri genitori?*
What a nice house has bought, every your relative, to-the his parents!
- (61) *Quando ne è arrivato, uno?*
When of-them has arrived, one?
'When has arrived one of them?'
- (62) *Come ne è arrivato presto, uno!*
How of-them has arrived early, one.
'How one of them has arrived early!'
- (63) a. *Quando è partito, ogni ragazzo?*
When has left, every boy?
b. *Quando è andato, ogni ragazzo, in montagna?*
When has gone, every boy, to the mountains

The analysis that I propose here is that the *wh*-fronted phrases in questions and in exclamatives move through the low Foc position on its way to

Finally, we note that, as expected, the postverbal PB in Italian wh-questions also arises when the subject or the direct object are questioned (examples due to Cardinaletti personal communication).

- (69) a. Chi ha nascosto, *il libro, sotto il letto*?
'Who has hidden the book under the table?'
- b. Cosa ha nascosto, *sotto il letto*?
'What has he hidden under the bed?'

While the p-phrasing shown in (69) is said to be the most natural one, an alternative p-phrasing to (69a) is possible, namely with a PB after the object. But this alternative intonation is only possible in a marked –echo-question- type of context and with emphatic stress on the object. An example is given below, where Speaker B is not sure he/she heard Speaker's A statement correctly and then utters an echo-question as an answer.

- (70) Speaker A: Piero ha nascosto il libro sotto il letto.
Speaker B: Chi ha nascosto il LIBRO, *sotto il letto*?

To summarize, focus in Italian is identified not only culminatively but also demarcatively. Like the Bantu languages, Italian has an active low focus position. This Foc position triggers the insertion of a "strong" PB, which gives rise to a "ripple" effect, namely the constituents that follow the focused constituent are each flanked by a strong PB. We have attributed this "ripple" effect of focus to the *Uniformity Condition* in (48).¹⁴ Italian fronted wh-questions furthermore provide evidence for the proposal that it is the FOC position that triggers the insertion of a strong PB, and not the focused lexical item.

5. The case of Spanish: a few remarks

It is important to mention that the languages examined here do not, by any means, exhaust the typology of p-phrasing. Within the Romance variety, Spanish is worthy of mention. While some studies on Spanish p-phrasing have been conducted (e.g. Nibert 2000, Prieto 2007), we do not yet know to what

¹⁴ Note that Italian also has a high FOC position and it also triggers insertion of "strong" PB; see (i) and Frascarelli (2000: 56–58) for discussion. We observe the "ripple" effect of focus in this case as well.

(i) Solo PASTA, *mangeró, per cena, questa sera*.
Only PASTA, eat-FUT-1SG, for dinner, tonight.
'I will eat only PASTA for dinner, tonight.'



extent sentence internal PBs are differentiated in terms of “strength”. Investigation of this issue is rendered particularly difficult because (Standard) Spanish appear to lack sandhi-rules that can reveal such distinctions. It is possible that because there is no phonological effects of boundary strength in Spanish (of the type that have been shown to exist in Italian), Spanish does not “care” about distinguishing internal PBs in terms of strength.

Prieto (2007)’s seminal work on Spanish reveals the role of eurythmicity and speech rate in Spanish phrasing. Particularly interesting is the existence of p-phrasing such as the one in (71c), alongside (71a-b), and which the author reports is the preferred one in normal/fast speech rate.

- (71) a. (Mi hermano) (vende) (mermelada de naranja)
 b. (Mi hermano) (vende mermelada) (de naranja)
 c. (Mi hermano vende) (mermelada de naranja)
 my brother sells marmalade of orange
 ‘My brother sells orange marmalade.’

Prieto also mentions the impossibility of p-phrasing such as the ones in (72b) and (73b).¹⁵

- (72) a. (La hermana de mi madre) (sufre)
 b. *(La hermana) (de mi madre sufre)
 the sister of my mother suffers
 ‘My mother’s sister suffers.’
- (73) a. (Compramos) (mermelada de naranja) (para María)
 b. *(Compramos) (mermelada) (de naranja para María)
 bought-3rd pers.pl. marmalade of orange for María
 ‘(We) bought orange marmalade for María.’

The ill-formedness of (72b) and (73b) suggests that, besides eurythmicity constraints (which favor balanced p-phrasings in terms of weight) and speech rate considerations (which favor smaller number of p-phrasings), the following grammatical constraint on Spanish p-phrasing applies:

¹⁵ Note that (73b) becomes possible in a contrastive, gapping-type construction:

(i) (Compramos mermelada) (de naranja para María) (y de limón para Susana).

The syntactic structure of such forms may be analyzed as involving Across-the-Board (ATB) movement.

(ii) (Compramos mermelada de naranja para María y (mermelada) de limón para Susana.



(74) A Y(P) and XP constituents can constitute a p-phrase iff they are (in)directly L-related.

We have already appealed to the notion of *direct L-relatedness* (between an XP and a lexical head) in defining L-domains in (5a), which we repeat in (75a) below. The notion of *indirect L-relatedness* (between two XPs) is defined in (75b).

(75) a. XP is *directly L-related* to head Y iff XP is a specifier of, complement of, or adjunct to Y, where Y heads a lexical projection YP.

b. XP and YP are *indirectly L-related* iff they are L-related to the same lexical head.

Finally, we would like to mention that Spanish contrastive focused phrases do not seem to be identified by a PB as in the Bantu languages and in Italian. Work on lab speech by Face (2001, 2002) has revealed no or few p-junctures after sentence-internal focused phrases, which as mentioned earlier, are always contrastive in Spanish (as in Italian). In fact, Spanish lacks the “prosodic emargination” phenomenon of the type that has been uncovered in Italian (Zubizarreta 1998). Contrastive focus in Spanish seems to be identified by emphatic stress, which is manifested phonetically as enhanced pitch range, in conjunction with early pitch-alignment, especially in sentence initial position (Face 2001, 2002). Thus, Spanish appears to be a culminative-type language par excellence.

6. Summary and implications

In this paper we have suggested that distant languages –a variety of Bantu languages and Italian, a Romance language– share much in common with respect to the syntax and prosody of focus. We have seen evidence that these languages argue for a distinction between “weak” and “strong” PBs, although their respective suprasegmental properties are still to be fully investigated. Weak PBs are generally found in the L-domain and strong PBs are generally found in the functional domain. The Foc position, being a functional node, naturally triggers the insertion of a strong PB in the Bantu languages and in Italian. Although the above-mentioned dichotomy between weak and strong PBs is often associated with two distinct domains (the L-domain and the Fu-domain, respectively), there are cases of weakening of strong PBs in the functional domain in fast speech (cf. Italian topics) and there are also strong PBs in the L-domain in certain cases, namely in those structures where we see the



“ripple” effect of focus, due to the action of the *Uniformity Condition* on p-phrasing.

The question arises as to why in Italian (but not in Bantu) the sentence internal low Foc position only hosts contrastive focused constituents and not informational focused ones. The answer offered to this question is as follows. Because Italian, unlike the Bantu languages, is both a culminative and a demarcative language, the focused constituent must carry main sentential stress (which corresponds to the Nuclear Accent at the intonational level). In Italian, as in other Romance languages, informational focus must carry Nuclear Stress (NS) and furthermore, NS is assigned to the last constituent within the VP in these languages; i.e. the constituent right-adjacent to the IP boundary. On the other hand, sentence-internal focused constituents receive stress from the Emphatic Rule, which applies freely (including at the subword level), thus associating sentence internal focus with an emphatic/contrastive interpretation. The low Foc position in Italian, when strictly sentence-internal, can only receive main stress via the Emphatic rule.

Two syntactically active positions for focus have been identified: immediately above IP and immediately above vP. It is possible that these two syntactic positions for focus are not accidental. There could be interpretational reasons. On the LF side, if focus is quantificational (Herburger 2000, Rizzi 1997), then the domain of focus is expected to be the same as that of other (strong) quantifiers, namely, the big clause (IP) or the small clause (vP) (May 1985). On the PF side, possibly these two domains correspond to the phase-domains (in the sense of Chomsky 1995).

The question of whether phases, namely CP and vP, are the domain where p-phrasing should be defined (as proposed by Kratzer & Selkirk 2007, Ishihara 2007) will not be resolved here. I will simply remark that the p-phrasing triggered by Focus in languages like Chichewa, Chimwiini, and Italian cannot be readily captured by a phase-based theory if we assume that vP (or its complement) constitutes the domain of spell-out. In these languages, we observe that the low Foc position, located above vP, triggers the insertion of a (strong) p-boundary and that this has an effect on the micro-prosody of the material contained within the phase itself. Therefore, if we are to assume that phases are relevant in defining the domain of p-phrasing, it must be the case



that these include operators (like Foc), which immediately dominates the vP. We leave this question unresolved. Further and more in-depth intonational analysis of the languages discussed here and of other languages is yet needed, one that includes other operators than focus, such as the standard strong quantifiers with variable scope.

In this paper, I have examined here only a small subset of languages and other typologically different languages remain to be examined in light of the proposal put forth here. Particularly relevant are the head final languages, like Korean, Japanese, and Bengali (see Jun 2005 and references cited therein). It would seem that head final languages may, to some extent, violate the constraint in (74) (Jun 2010). If this typological correlation turns out to be correct, it has important implications for the theorizing of the syntax/prosody interface.

APPENDIX

Truckenbrodt's (TR's) analysis of Kimatuumbi and Chichewa.

A short summary.

TR's proposal is couched within an OT version of Prosodic Phonology (along the lines put forth by Selkirk & Chen 1990 and Selkirk 1995). The basic assumption of Prosodic Phonology is that phonological rules apply to prosodic constituents and not to syntactic constituents (the so-called Indirect Reference hypothesis). It is furthermore assumed that prosodic categories are organized along a bottom-up hierarchy of syllables and feet below the Prosodic Word, on the one hand, and Phonological Phrases (or p-phrases), Intonational Phrases, and Utterance Phrase above the Prosodic Word. Under the End-based theory proposed by Selkirk (1995), it is assumed that the rules that align prosodic (P) constituents with syntactic constituents only make reference to edges of syntactic phrases (and not to syntactic relations). Two basic alignment rules are proposed:

- (76)a. Align-XP, R: For each XP, there is a P such that the right edge of XP coincides with the right edge of P.
- b. Align-XP, L: For each XP, there is a P such that the left edge of XP coincides with the left edge of P.

The End-based theory, couched within an Optimality Theoretic approach, postulates that there are undominated (inviolable constraints), such



as the *Exhaustivity Constraint* (77). Other constraints, such as the *Non-Recursivity Constraint* (78) and **P-phrase* constraint (79) are said to be violable¹⁶ and are variably ranked across languages. Ranking of **P-phrase* below (76a) and above (76b) renders a right-alignment grammar, and the reverse renders a left-alignment grammar. TR adds yet another (violable) constraint, namely *Wrap XP* (80). Note that the function of *Wrap XP* overlaps with that of the *Align, XP* rules in (76), giving rise to a partial redundancy within the system.

(77) *Exhaustivity Constraint* (Selkirk 1995): Parsing on every prosodic level must be exhaustive.

(78) *Non-Recursivity* (Selkirk 1995): punishes a prosodic constituent that contains another prosodic constituent of the same level.

(79) **P-phrase constraint*: Avoid P-phrases.

(80) *Wrap XP*: Each XP is contained in a phonological phrase.

It is furthermore assumed that, as stated in the *Lexical Category Condition* below, the rules and constraints that govern the mapping between prosodic and syntactic constituents do not apply to functional heads and their projections, an assumption that we have challenged.

(81) *Lexical Category Condition* (LCC) (Truckenbrodt 1999, based on Selkirk 1995)

Constraints relating syntactic and prosodic categories apply to lexical syntactic elements and their projections, but not to functional elements and their projections, or to empty syntactic elements and their projections.

In the Bantu languages under discussion (Kimatuumbi and Chichewa), *Align-XP, R* is ranked higher than **P-phrase* and *Align-XP, L* is ranked lower than **P-phrase*. Consider the p-phrasings possibilities in (82a-d) for a lexically headed phrase. The p-phrasing in (82a) violates *Exhaustivity* and is not an option. On the other hand, the options in (82b-d) are all attestable p-phrasings. The p-phrasing in (82c) is obtained under the ranking given in (83a), and it is argued to be the case of Kimatuumbi. The p-phrasing in (82d) is obtained under the ranking given in (83b), and it is argued to be the case of Chichewa.

¹⁶ Truckenbrodt proposes a gradient formulation of Non-rec: Any two-phrases that are not disjoint in extension are identical in extension. See his work for motivation and details.



(82) [_{XP} X YP ZP]

- a.* () () non-exhaustive phrasing: violates Exhaustivity
- b. () () () phrasing with additional structure: violates Wrap XP
- c. (()) violates Non-Rec, but obeys Wrap XP
- d. () obeys Non-rec & Wrap XP; violates Align-XP,R

(83) a. Align-XP, R > Wrap XP > Non-recursivity. (Kimatuumbi)

b. Non-Recursivity > Wrap XP > Align XP, R. (Chichewa)

In TR's system, the *Align-XP* rule accomplishes the same action as our L-domain insertion rule does, and *Wrap XP* accomplishes, to some extent, what our Fu-domain insertion rule does.

From the empirical point of view, the main problem with TR's analysis is that it assumes the wrong syntax. We have given two pieces of evidence that in Kimatuumbi the verb is not in the VP but in Infl. The postverbal focused subject is phrased with the verb, clearly showing that the subject is within the scope of the verb; it is not right-dislocated. Assuming that subjects are generated higher than the verb within the verbal phrase, it must be the case that the verb has moved out of the VP and into an Infl projection. The other piece of evidence that the verb in Kimatuumbi is in Infl is provided by the fact that the Neg functional category (located above the VP) can surface between the verb and the object. If the verb is indeed in Infl, *Wrap XP* will fail to insert the left p-bracket to the left of the verb in all the verbal structures discussed in 3.1. Indeed, because of the LCC, functional categories (such as Infl) are invisible to prosodic rules and constraints. Samek-Lodovici (2005), who carries over TR's system to Italian, notices this problem but does not propose a solution. I submit that this is a non-trivial problem that cannot be fixed without sabotaging the LCC.

As for focused structures, TR proposes that focused constituents are marked with a focus-feature and that this focus-feature triggers the insertion of a p-boundary:

(84) *Align-focus*: a focused constituent is right-aligned with a p-boundary.

Align-focus is highly ranked. The p-phrasing in (82b) obeys both *Align-focus* and *Non-Rec*, while violating *Wrap XP*. This is a possible p-phrasing in Chichewa



given that in this language *Wrap XP* is ranked lower than *Non-rec*; see (83b).¹⁷ TR's proposal crucially assumes that the p-boundary that flanks the focused constituent is triggered by a feature on the focused phrase. As we have shown in 4, Italian provides crucial evidence against this assumption.

REFERENCES

- Aboh, Enoch Oladé. 2007. Leftward focus versus rightward focus: the Kwa-Bantu conspiracy. *SOAS Working Papers in Linguistics* 15, 81–104.
- Antinucci, Francesco & Guglielmo Cinque. 1977. Sull'ordine delle parole in italiano: l'emarginazione. *Studi di Grammatica Italiana* 6, 121–146.
- Belletti, Adriana. 1990. *Generalized Verb Movement. Aspects of Verb Syntax*. Torino: Rosenberg & Sellier.
- Belletti, Adriana. 2004. Aspects of the low IP area. In Luigi Rizzi (ed.), *The Structure of CP and IP*. 16–51. Oxford/New York: Oxford University Press.
- Biloa, Edmond. 1997. Functional categories and the syntax of focus in Tuki. *Lincom Studies in African Linguistics* 02. München: Lincom Europa.
- Cardinaletti, Anna. 2002. Against optional and null clitics. Right dislocation vs. marginalization. *Studia Linguistica* 56 (1), 29–57.
- Chomsky, Noam. 1995. *The Minimalist Program*. MIT Press.
- Cinque, Guglielmo. 1990. *Types of A'-dependencies*. MIT Press.
- Cinque, Guglielmo. 1993. A null theory of phrase and compound stress. *Linguistic Inquiry* 24, 239–298.
- Downing, Laura, Al Mtenje & Bernd Pompino-Marschall. 2004. Prosody and information structure in Chichewa. *ZAS Papers in Linguistics* 37, 167–186.
- Downing, Laura. 2006. The prosody and syntax of focus in Chitumbuka. *ZAS Papers in Linguistics* 43, 55–79.
- Downing, Laura. 2008. Focus and prominence in Chichewa, Chitumbuka, and Durban Zulu. *ZAS Papers in Linguistics* 49, 47–65.
- Face, Timothy. 2001. Focus and early peak alignment in Spanish intonation. *Probus* 13, 223–246.
- Face, Timothy. 2002. Local intonational marking of Spanish contrastive focus. *Probus* 14, 71–92.
- Frascarelli, Mara. 1999. The prosody of focus in Italian. *Probus* 11 (2), 209–238.

¹⁷ Note that such micro-prosody violate **P-phrase*, so this constraint must be ranked lower than both *Non-Rec* and *Wrap XP*.



- Frascarelli, Mara. 2000. *The Syntax-Phonology Interface in Focus and Topic Constructions in Italian*. Dordrecht: Kluwer Academic Publishers.
- Ghini, Mirco. 1993. Ø-formation in Italian: A new proposal. *Toronto Working Papers in Linguistics* 12, 41–78. Department of Linguistics, Toronto, Ontario.
- Hayes, Bruce & Aditi Lahiri. 1990. Bengali Intonational Phonology. *Natural Language and Linguistic Theory* 9, 47–98.
- Herburger, Elena. 2000. *What Counts: Focus and Quantification*. MIT Press.
- Hernanz, María Luisa & José María Brucart. 1987. *La Sintaxis* (1). Barcelona: Editorial Crítica.
- Inkelas, Sharon & Draga Zec. 1990. *The Phonology-Syntax Connection*. The University of Chicago Press.
- Ishihara, Shinichiro. 2007. Major phrase, focus intonation, multiple spell-out. *The Linguistic Review* 24, 137–167.
- Jun, Sun-Ah. 2005. Prosodic typology. In Sun-Ah Jun (ed.), *Prosodic Typology: The Phonology of Intonation and Phrasing*. Chapter 16. Oxford/New York: Oxford University Press.
- Jun, Sun-Ah. 2010. Prosodic markings of complex NP focus and pre-/post-focus string. Paper presented at the 28th West Coast Conference on Formal Linguistics, University of Southern California, Los Angeles, Ca.
- Kanerva, Jonni. 1990. Focusing on phonological phrases in Chichewa. In Sharon Inkelas & Draga Zec (eds.), 145–161.
- Kisseberth, Charles W. 2010. Optimality theory and the theory of phonological phrasing: The Chimwiini evidence. In Nomi Erteschik-Shir & Lisa Rochman (eds.), *The Sound Patterns of Syntax*, 217–246. Oxford/New York: Oxford University Press.
- Kratzer, Angelika & Elisabeth Selkirk. 2007. Phase theory and prosodic spell-out: the case of verbs, *The Linguistic Review* 24, 93–135.
- May, Robert. 1985. *Logical Form*. MIT Press.
- Nespor, Marina & Irene Vogel. 1986. *Prosodic Phonology*. Amsterdam: Foris Publications.
- Nibert, Holly. 2000. Phonetic and Phonological Evidence for Intermediate Phrasing in Spanish Intonation. Unpublished Phd Dissertation, University of Illinois at Urbana-Champaign.
- Laka, I. 1990. *Negation in Syntax: On the Nature of Functional Categories and Projections*. Ph.D. dissertation, MIT.
- Odden, David. 1996. *The Phonology and Morphology of Kimatuumbi*. Oxford: Oxford University Press.



- Pesetsky, David. 1995. *Zero-Syntax: Experiencers and Cascades*. MIT Press.
- Prieto, Pilar. 2007. Phonological phrasing in Spanish. In Fernando Martinez-Gil & Sonia Colina (eds.), *Optimality-Theoretic Studies in Spanish Phonology*, 39–61. Berlin/New York: John Benjamins Publishing Co.
- Rizzi, Luigi. 1997. The Fine Structure of the Left Periphery. In Liliane Haegeman (ed.) *Elements of Grammar*, 281–337. Dordrecht: Kluwer.
- Samek-Lodovici, Vieri. 2005. Prosody-syntax interaction in the expression of focus. *Natural Language and Linguistic Theory* 23, 687–755.
- Selkirk, Elisabeth. 1986. On derived domains in sentence phonology. *Phonology Yearbook* 3, 371–405.
- Selkirk, Elisabeth & Tong Shen. 1990. Prosodic domains in Shanghai Chinese. In Sharon Inkelas and Draga Zec (eds.), 313–337.
- Selkirk, Elisabeth. 1995. The prosodic structure of function words. *University of Massachusetts Occasional Papers 18: Papers in Optimality Theory*, 439–469. GLSA, University of Massachusetts, Amherst.
- Truckenbrodt, Hubert. 1999. On the relation between syntactic phrases and phonological phrases. *Linguistic Inquiry* 30: 219–256.
- Zubizarreta, María Luisa. 1998. *Prosody, Focus, and Word Order*, MIT Press.
- Zubizarreta, María Luisa. 2001. The constraint on preverbal subjects in Romance interrogatives: A minimality effect. In Aafke Hulke & Jean-Yves Pollock (eds.), *Subject Inversion in Romance and the Theory of Universal Grammar*, 183–204. Oxford/New York: Oxford University Press.

María Luisa Zubizarreta

zubizarr@usc.edu

Department of Linguistics, GFS 301

University of Southern California

Los Angeles, Ca. 90089-1693