

Prosody and syntax of marked word orders in the Prosynt project
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1. Introduction

In recent years much work has pursued the aim to better understand the relations between the syntactic component and the phonological component. Since marked construals, such as focalization and topicalization, are associated with peculiar intonational patterns, the “left periphery” has become a privileged empirical field to inquire into the relation between syntax and phonology. While answering the above questions, studies within this domain of research turned out to be very promising even from a syntactic viewpoint, as they appear to foster a deeper understanding of the functional structure of the CP.

The *Prosynt* project aims to contribute to our understanding of the relation between prosody and left periphery in two respects:

- (i) to explore the relevance of Benincà and Poletto’s (2004) proposal about the cartography of the left periphery from a phonological viewpoint;
- (ii) to discuss the link between null subjects and constituents in the left periphery.

2. Syntactic background (Benincà and Poletto 2004)

Rizzi’s (1997) split-CP:

- (1) [_{ForceP} [_{TopP*} [_{FocP} [_{TopP*} [_{FinP}

B&P focus on two properties of the structure in (1):

- (a) there are two topic projections;
- (b) TopP is recursive.

2.1 Property (a)

B&P claim the lower TopP is in fact a focus (more specifically, an information focus).

- (2) QUESTO a Gianni, domani, gli dovremmo dire!
 this to Gianni, tomorrow, to-him should tell
 ‘Tomorrow we should tell this to Gianni’

Rizzi (1997) assumes that intonation distinguishes between focus and topic. *QUESTO* displays contrastive stress, whereas *a Gianni* and *domani* are unstressed. Thus, he assumes that *QUESTO* is a focus whereas *a Gianni* and *domani* are topics.

B&P: intonation is not a reliable test to distinguish focus and topic. LD elements can be contrastively stressed.

- (3) A: Mi ha detto che il tappeto, lo compra l’anno prossimo. (= B&P’s (8))
 ‘He has told me that the carpet he will buy *it* next year’
 B: No, ti sbagli, il divano *lo* compra l’anno prossimo.
 ‘No, you are wrong, the sofa he will buy *it* next year’

They point out that while stressed constituents are not necessarily focalized, unstressed constituents are not necessarily topicalized.

Question: If constituents lower than focus are not topics, what are they?

B&P: they are focuses (following Benincà 2000).

- Focused constituents, though not topicalized ones, behave semantically as operators binding a variable (Cinque 1991).

- (4) a. Gianni₁, suo₁ padre l₁’ha licenziato LD (= B&P’s (9))
 Gianni₁, his₁ father has fired him₁
 ‘Gianni has been fired by his own father’
 b. *GIANNI₁, suo₁ padre ha licenziato Focus
 Gianni₁, his₁ father has fired t₁

WCO obtains in (4)b, not in (4)a. Hence, topics are not sensitive to WCO effects, whereas foci are.

- preposed constituents appearing at the immediate right of the contrastive focus behave like foci and not like topics.

- (5) a. *A MARIA, Giorgio₁, sua₁ madre presenterà (= B&P’s (11))
 to Maria, Giorgio, his mother will introduce
 ‘His mother will introduce Giorgio to Maria’
 b. *A MARIA₁, Giorgio, sua₁ madre presenterà
 to Maria, Giorgio, her mother will introduce
 ‘Her mother will introduce Giorgio to Maria’
 c. *A MARIA, Giorgio₁, sua madre lo₁ presenterà
 To Maria, Giorgio, his mother will introduce him

Preposed constituents following contrastive focus they are sensitive to WCO. Examples (5)a and (5)b: both *a Maria* and *Giorgio* cannot be coindexed with the adjective *sua*. Hence, they must be foci.

Example (5)c: *Giorgio* cannot be associated with a resumptive clitic. Hence, it cannot be a LD topic.

Corollary: FocP is a field, not a single functional projection.

(6) [_{cFocP} [_{iFocP} [_{IP} ...

(7) [_{cFocP1} adverbs/objects [_{cFocP2} circum./QAdv [_{iFocP} [_{IP} ...

2.2. Property (b)

B&P assume that there is a one-to-one relation between specific pragmatic functions and syntactic positions.

- Recursion of the same projection is not an option;
- There are as many functional projections related to topicality as pragmatic functions (if more than one topic occurs, they cannot encode the same pragmatic function);
- There is a finite set of distinct functional projections occurring instead of the higher syntactic position identified by the star in (1).

Question: How many topics?

LD topics are not the only topicalized constituents (i.e. constituents lacking a relation to variable in the clause and being 'given' – known information in some sense):

- hanging topics (HT);
- scene setting adverbials (SS);
- list interpretation topics (LI).

- HT vs. LD (*Cinque 1982, Benincà 1988*)

(i) If HTs are associated to prepositional arguments, they drop the preposition, whereas CLLDs do not.

- (8) a. Mario, non ne parla più nessuno. HT (=B&P's (33)a)
Mario, not of-him talks anymore nobody
'Mario, nobody talks of him anymore'.
b. Di Mario, non (ne) parla più nessuno. LD (=B&P's (33)b)
Of Mario, not (of-him) talks anymore nobody
'Of Mario, nobody talks of him anymore'.

- (9) a. Mario, gli amici gli hanno fatto un brutto scherzo. HT (=B&P's (34)a)
Mario, the friends to-him have done a bad joke
'Mario, his friends made him a nasty trick'.
b. A Mario, gli amici (gli) hanno fatto un brutto scherzo LD (=B&P's (34)b)
to Mario, his friends to-him have made a bad joke.

(ii) There can be more than one LD constituent, but there cannot be more than one HT.

- (10) a. *Gianni, questo libro, non ne hanno parlato a lui. (B&P's (35))
Gianni, this book, they of-it haven't talked to him
b. A Gianni, di questo libro, non gliene hanno mai parlato.
to Gianni, of this book, they of it haven't talked to him

'They did not talk to Gianni about this book'.

(iii) LD constituents require a resumptive pronoun only when they correspond to direct objects. When they correspond to an indirect object, the clitic is optional. HTs always require a resumptive pronoun expressing the type of argument.

- (11) a. Mario, *(l') ho visto ieri.
Mario, *(him) saw yesterday
'Mario, I saw him yesterday'.
b. A Mario, (gli) dirò la verità.
To Mario, (to-him) will-say the truth
'To Mario, I will say all the truth'.

- (12) a. Mario, nessuno *(gli) dirà la verità.
Mario, no one *(to-him) will-say the truth
'Mario, no one will tell him the truth'.
b. Mario, non *(ne) parla più nessuno.
Mario, not talks anymore nobody
'Mario, nobody talks of him anymore'.

(Since both object LD and HT constituents require a resumptive pronoun, it cannot be decided if a topicalized object is a LD or an HT).

- (iv) The resumptive pronoun agrees in Case with the LD topic (see (11)). The pronoun does not agree in Case with the HT (see (12)).
(v) HT can be associated with a clitic pronoun, a strong pronoun or an epithet. LD can only be associated with a clitic pronoun (examples adapted from B&P's (37)).

- (13) a. Mario, non {gli} darò più soldi {a lui/quell' imbecille}.
Mario, not {to-him} give anymore money {to him/that idiot}
'Mario, I won't give money to him/that idiot anymore'.
b. A Mario, non {gli} darò più soldi a quell' imbecille {*a lui/quell' imbecille}.
To Mario, not {to-him} give anymore money {*to him/that idiot}
'To Mario, I won't give him money anymore'.

→ LD an HT can cooccur. When they do, they display a fixed ordering (HT > LD).

- (14) a. Giorgio, ai nostri amici, non parlo mai di lui. (B&P's (38))
Giorgio, to the our friends, not talk never of him
'Giorgio, to our friends, I never talk of him'
b. *Ai nostri amici, Giorgio, non parlo mai di lui
To our friends, Giorgio, not talk never of him

→ the projection hosting an HT must dominate the projection hosting a LD.

(15) [_{TopP1} HT [_{TopP2} LD ...

- 'Scene setting' adverbials

(16) [TopP1 HT [TopP2 SS [TopP3 LD ...

Data from Italian show that SS adverbials can only follow HT constituents.

- (17) a. Mario, nel 1999, gli hanno dato il premio Nobel
 Mario, in the 1999 to-him have given the Prize Nobel
 'Mario, in 1999, they gave him the Nobel Prize'.
 b. ??Nel 1999, Mario, gli hanno dato il premio Nobel
 in the 1999, Mario, to-him have given the Prize Nobel

Italian also shows that SS adverbials can precede LD topics, as exemplified in (17).

- (18) Nel 1999, a Mario, gli hanno dato il premio Nobel.
 In-the 1999, to Mario, to-him have given the Nobel Prize
 'In 1999 they gave Mario the Nobel Prize'.

- 'List interpretation' topics

- (19) La frutta la regaliamo, la verdura la vendiamo
 the fruit it give for free, the vegetables it sell
 'We give fruit for free, while we sell the vegetables'

Sentences including LI topics can be conjoined by means of the conjunction *e* 'and' or *invece* 'while'.

- (20) a. La frutta la regaliamo e la verdura la vendiamo. (B&P's (47)b)
 the fruit it give for free and the vegetables it sell
 'We give fruit for free, while we sell the vegetables'.
 b. La frutta la regaliamo, invece la verdura la vendiamo. (B&P's (47)c)
 the fruit it give for free while the vegetables it sell
 'We give fruit for free, while we sell the vegetables'.

→ LI constituents follow real topics.

- (21) a. Agli amici, la frutta la vendiamo, invece la verdura la regaliamo.
 (B&P's (56))
 to the friends, the fruit it sell, while the vegetables it give for free
 'We sell fruit to the friends, while we give them vegetables for free'.
 b. ??La frutta, agli amici la vendiamo, invece la verdura la regaliamo.
 the fruit, to the friends, it sell, while the vegetables it give for free

(22) [TopP3 LD [TopP4 LI ...

2.3. An overview

- no single functional projection dedicated to the focus;
- no topic projection under the focus projection;

- the number of topic projections is not virtually unlimited.

(23) [TopP1 HT [TopP2 SS [TopP3 LD [TopP4 LI [cFocP1 [cFocP2 [iFocP [IP ...

3. An alternative proposal

3.1. Frascarelli & Hinterhoelzl (2007)

Methodology:

- the criteria F&H adopt to distinguish different types of topic are semantic and pragmatic rather than syntactic.
- intonation can be taken as a diagnostics to single out different syntactic positions; different intonational patterns are associated to different syntactic positions.

Main claims:

- there is a series of projections dedicated to different, hierarchically ordered types of topic;
- topics can occur under focus;
- the left periphery of the clause hosts different types of topic, which encode different pragmatic functions and are associated with different intonational contours: "aboutness/shift topic", "contrastive topic", and "familiar topic".

- Aboutness/shift topic: "what the sentence is about" (Reinhardt 1981, Lambrecht 1994), L*+H contour.

(24) Il materiale era tantissimo. L'ultima unit la sto preparando solo adesso.

(adapted from F&H's (4))

'The material [to study for the exam] was quite a lot. I'm doing the last unit now'.

- Contrastive topic: "an element that introduces an alternative which has no impact on the focus value and creates oppositional pairs with respect to other topics" (Kuno 1976b, Büring 1999), H*-contour.

(25) Il francese lo conosco bene. Con l'inglese invece ho sempre avuto problemi.

'I speak well French, while I have always had problems with English'.

- Familiar topic: a given or accessible constituent (cf. Chafe 1987), continuing topic (textually given and d-linked with a pre-established aboutness topic, Givón 1983), L* contour.

(26) Pietro è proprio bravo in matematica. Capisce tutto subito e risolve sempre gli esercizi. Io invece non riesco a proprio a sopportarla, la matematica.
 'Pietro is very good in Maths. He understands everything at once and always solves the exercises. As for me, I cannot lump maths'.

- aboutness/shift topic > contrastive topic > familiar topic

(27) La situazione è questa: **l'insegnante** come ho detto **ai ragazzi** è in maternità ha una gravidanza difficile e sta usufruendo di quella legge particolare della maternità anticipata per ora ha avuto un mese **io** penso che non tornerà però **lei** m'ha detto ah di non dirlo ancora **ai ragazzi** perché per motivi suoi – comunque **io** signora penso di

chiudere l'anno [...] **questo comunque io ai ragazzi non l'ho detto direttamente.**
 'This is the situation: the teacher, as I told students, is pregnant, she's having a difficult pregnancy and she is now having benefit from a specific law that allows for an early maternity-leave. So far, I was given one month of teaching supply. I don't think she is coming back this year, however she told me not to tell students, because well, she has her reasons. However, I think I will keep the class till the end of the year [...] anyway I did not tell this fact to students directly.'

- (28) Questo, io ai ragazzi non l'ho detto direttamente.
 this I to.the boys not it(CL) have. 1SG told directly
 'I did not tell that fact to my students directly.'

- aboutness/shift topic > focus

- (29) Quello ANCHE SUL QUESTIONARIO l'ho scritto. (F&H's (v), table 2)
 that also on-the questionnaire it(CL) have. 1SG written
 'I wrote that also ON THE QUESTIONNAIRE.'

- (30) [ShiftP[+aboutness] [ContrP [FocP [FamP* [IP ...

- shiftP and ContrP are not recursive – that is, it is not the case that a virtually unlimited number of ShiftP or ContrP may occur;
- familiar topics can be repeated, as different constituents can be part of the accessible information.

- (31) [ShiftP [+aboutness] [ContrP [FocP [FamP* ...
Higher field *Lower field*
Rising intonation *Non-rising intonation*

3.2. Subjects (Frascarelli 2010)

- overt preverbal subjects occupy an A-position (AgrSP) where the subject is attracted by the uninterpretable φ -features of Agr (Roberts 2004, Holmberg 2005);
- Agr is pronominal and has got interpretable φ -features (Alexiadou and Anagnostopoulou 1998 among others). It does not attract the subject. The subject can stay in situ, which explains the order VS. If it is preverbal, discourse requirements must justify the displacement. This means that overt preverbal subjects occupy an A'-position;
- overt preverbal subjects rise higher than AgrSP, to a dedicated functional projection (SubjP) within the IP domain Cardinaletti (2004);

→ Frascarelli (2010) proposes that preverbal subjects sit in an A'-position, which she identifies with the aboutness-shift topic position.

A quantified subject can only get a specific reading when it serves as an antecedent for a null subject (*pro*) (example adapted from Frascarelli's example (24)).

- (32) Qualche studente_i ha letto ogni libro e *pro*_i è stato premiato. * $\forall > \exists$
 Someone has read every book and *pro* has been awarded
 'Some (specific) student read every book and was awarded'.

This is exactly the case of CLLD (Frascarelli's example (25)):

- (33) Qualche studente_i lo_i ha interrogato ogni professore. * $\forall > \exists$
 some student him have. 3SG interviewed every professor
 'Some (specific) student was examined by every professor.'

The interpretation of referential null subjects depends on an Agree relation with an aboutness-shift topic. Preverbal subjects must be an aboutness-shift topic.

→ Overt subjects should have the same intonational contour as aboutness-shift topics.

4. A comparison between the two approaches

	B&P	F&H
Taxonomic categories	Syntactic	Pragmatic
Syntax	No recursion	Recursion w.r.t familiar topics
	No topic under focus	Familiar topic under focus
	Dedicated position for CLLD	No dedicated position for CLLD
Phonology	No one-to-one syntax-intonation mapping	One-to-one syntax-intonation mapping

5. The Prosynt project: methodology and corpus

Questions to be addressed:

- To what extent is it possible to identify the intonational pattern associated to a specific constituent occupying a position within a layered the left periphery?
- Is there a systematic correspondence mapping the host of a given functional projection to a particular prosodic contour?

Methodology:

- elicited reading.

Corpus:

- short dialogues (4 to 6 turns) built as a frame to the experimental target sentence so to induce the desired interpretation (see Appendix 1 for four sample dialogues);
- 80 target sentences (plus 8 broad focus sentences as a comparison for the baseline intonation); the corpus includes sentences containing a broad focus subject (8 items), a CF (16), a clitic LD (16), an HT (16), LI topics (16), and SS adverbials (16) (see appendix 2 for experimental conditions).
- 44 sentences contain a null subject, so that the target phrase is adjacent to the verb, 44 contain a preverbal overt subject. This experimental condition is meant to test the intonation of preverbal explicit subjects in Italian (see Frascarelli 2010).

- 44 sentences contain a 'short' (4-5 syllables) target constituent, 44 contain a 'long' (up to 10 syllables) target constituent. This condition has been included to make sure that the length of dislocated constituents does not influence the phrasing.
- Three repetitions will be considered for each experimental item, so that in total number 264 sentences will be analyzed.
- Phonological variables:
 - the last word of the target phrase (HT, SS, LD, LI, CF) is consistently proparoxytone;
 - the last word of the target phrase does not contain unvoiced consonants;
 - the first segment of the word following the target phrase is a consonant;
 - the stressed syllable of the last word of the target phrase and is followed by three unstressed syllables:

(34) [CP [... σ_s σ_w σ_w] [IP σ_w σ_s ...

To comply with this condition modal verbs have been often employed.

Appendix 1. Dialogue samples.

- (35) a. *Contrastive Focus, short constituent, verb adjacency*
 - Vieni anche tu alla festa di Stefano?
 - Sì. So che doveva invitare anche Andrea.
 - **MICHELANGELO doveva invitare, non Andrea.**
 - Ah... ma ce l'ha ancora con lui?
- b. *Contrastive Focus, long constituent, preverbal subject*
 - Sei pronto? È ora di andare.
 - Un attimo, devo prendere la relazione. Sai dov'è?
 - Di solito Tommaso la lascia nel cassetto.
 - **SUL TAVOLO Tommaso la lascia di solito, non nel cassetto.**
 - Chissà dove l'ha lasciata questa volta...
- c. *Contrastive Focus, long constituent, verb adjacency*
 - Allora vieni anche tu alle festa di Simone domani?
 - No, ci sarà anche quell'antipatico di Alessandro.
 - Ma Simone non l'ha invitato...
 - **Il fratello di PIERANGELO non ha invitato, non Alessandro.**
 - Ah... quindi dovremo sorbircelo per tutta la serata...
- d. *Contrastive Focus, long constituent, preverbal subject*
 - Possiamo andare?
 - Sì, però prima Tommaso deve avvertire il fratello di Anna che stiamo uscendo.
 - **Il fratello di MARIANGELA Tommaso deve avvertire, non quello di Anna.**
 - Ah, va be', in ogni caso possiamo andare.

Appendix 2. Experimental conditions.

	Length	Adjacency	Cod.
Subject of <i>broad focus</i>	short	-	1.1
Subject of <i>broad focus</i>	long	-	1.2
Focus contrastivo	short	adjacent	2.1.1
Focus contrastivo	short	preverbal S	2.1.2
Focus contrastivo	long	adjacent	2.2.1
Focus contrastivo	long	preverbal S	2.2.2
CLLD	short	adjacent	3.1.1
CLLD	short	preverbal S	3.1.2
CLLD	long	adjacent	3.2.1
CLLD	long	preverbal S	3.2.2
Hanging Topic	short	adjacent	4.1.1
Hanging Topic	short	preverbal S	4.1.2
Hanging Topic	long	adjacent	4.2.1
Hanging Topic	long	preverbal S	4.2.2
Pair List	short	adjacent	5.1.1
Pair List	short	preverbal S	5.1.2
Pair List	long	adjacent	5.2.1
Pair List	long	preverbal S	5.2.2
Scene Setting	short	adjacent	6.1.1
Scene Setting	short	preverbal S	6.1.2
Scene Setting	long	adjacent	6.2.1
Scene Setting	long	preverbal S	6.2.2

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