FRENCH CLEFT SENTENCES
AND THE SYNTAX-PHONOLOGY INTERFACE[*]

Fatima Hamlaoui
University of Ottawa

In this paper, I provide an account of French clefts at the syntax-phonology interface. I claim that the clefting strategy adopted by French to answer a subject *wh*-question is meant to satisfy the stress-focus correspondence principle (Reinhart 1995, Szendrői 2001) originally formulated for Dutch, English, Italian and Hungarian. I adopt Clech-Darbon et al.'s (1999) syntactic analysis of French cleft sentences. I demonstrate that there is no need to postulate a specific stressing rule for this type of construction, as it would be the case in approaches which maintain that focused constituents occupy a dedicated focus position either in the left periphery of VP (Belletti 2005) or in the left periphery of CP (Kiss 1998 for English cleft sentences). I assume that in cleft sentences, neither the focused constituent nor the main stress moves to a position from where it is normally banned by the grammar (*contra* Lambrecht 2001). On the contrary, the point is that the focused constituent is directly merged in the position where grammar assigns main stress. I also pursue the idea that the characteristic flat intonation of the post-focal relative, in contexts where a cleft is used to answer a *wh*-question, follows from its discourse status only. Finally, I argue that cleft sentences are used in contrastive contexts because they offer two focus positions.

Section 1 gives the necessary background to my analysis. Section 2 introduces my account of French cleft sentences. Section 3 focuses on contrastive cleft sentences and section 4 concludes this paper.

1. Background

Cleft formation is a way for a language "to have its cake and eat it too": it results in the placement of syntactic constituents and prosodic accents in cognitively preferred positions from which the grammar of the language normally bans them, without causing ungrammaticality. [Lambrecht 2001: 488]

Cleft sentences have received several analyses inside and outside the Generative Framework (Akmajian 1970, Jackendoff 1972, Chomsky 1977, Jespersen 1949, Lambrecht 2001). As mentioned by Belletti (2005), they constitute the most natural way to answer subject *wh*-questions in French.

(1) a. Qui est-ce qui a mangé un biscuit?
       who is-it that has eaten a cookie
       'Who ate a cookie?'

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b. C'est **Ella** (qui a mangé un biscuit).
it-is Ella that has eaten a cookie
'**Ella** ate a cookie.'

When a cleft sentence is used as a reply to a *wh*-question, it can either appear in a complete form (matrix 'C'est XP' + relative clause 'que/qui YP') or in a reduced one (matrix 'C'est XP').

The clefted XP (in the matrix clause) is the focus in the sense of Rooth (1992), that is, an element is selected from a set of contextually relevant alternatives. On the prosodic level, it has been noticed that a focused constituent in a given sentence receives the most prominent stress (Chomsky 1971, Selkirk 1984 among others). This is illustrated in (2) for Italian, (3) for English and (4) for Hebrew.

(2) a. Chi ha parlato?
who has spoken
'Who spoke?'

b. Ha parlato **Gianni**.
has spoken Gianni
'**Gianni** spoke.'

(3) a. Who ate the cookie?
b. **John** ate the cookie.
c. **John** did.

(4) a. Mi axal et ha-uga?
who ate$_{3Msg}$ Acc the-cake
'Who ate the cake?'

b. **John** axal et ha-uga.
John ate$_{3Msg}$ Acc the-cake
'**John** ate the cake.'

c. **John** hu ze še-axal et ha-uga.
John he this that-ate$_{3Msg}$ Acc the-cake
'**John** is the one that ate the cake.'

This is also true for French clefts, where the clefted XP bears the main stress.

Belletti (2005) proposes an analysis of French clefts similar to the one she offers for Italian VS sentences, which appear in the same context.

(5) [$_{TP}$ c'est [$_{TOP}$ [$_{FOC}$ Ella [$_{TOP}$ [$_{VP}$ <être> [$_{SC}$ <Ella> [$_{CP}$ qui a mangé un biscuit]]]]]]]]

This analysis, which assumes a cartographic approach (Cinque 2002, Belletti 2004, Rizzi 2004) is consistent with the view of cleft sentences advocated by Lambrecht (2001): a constituent moves to a dedicated focus position where it is interpreted as focus and consequently assigned a certain prominence at the

prosodic level. In the structure in (5), this dedicated position, i.e. FOC, is located in the left-periphery of VP. Belletti's account therefore predicts that in a cleft, main stress is assigned to a constituent located in the left-periphery of VP. This attempt of making use of a Focus projection in order to account for clefts' structure is not the first one in the cartographic framework. Kiss (1998) proposes the following structure (in relation to English).

(6)   [$_{CP}$[$_{IP}$ C'est [$_{FP}$ [$_{DP}$ Ella] <être> [$_{CP}$ <Ella> qui [$_{IP}$ <Ella>[$_{VP}$ a mangé [$_{DP}$ un biscuit]]]]]]]

This account makes the prediction that in the case of a cleft sentence, main stress is assigned to a constituent in the left-periphery of CP. However these predictions are not consistent with the prosodic descriptions of French. As for stress, French is usually described as a rightward oriented language. Following Selkirk's (1984) prosodic hierarchy (intonation phrase (IntP) > phonological phrase (φ) > prosodic word (ω)), main stress is normally assigned to the rightmost constituent in the intonation phrase.
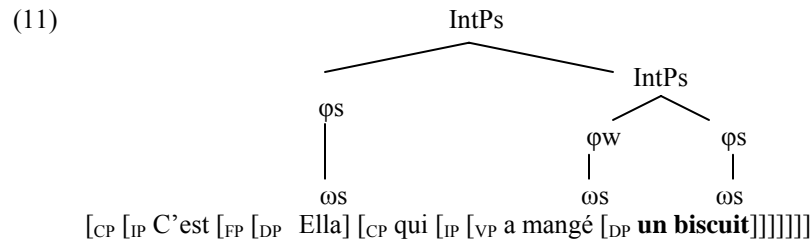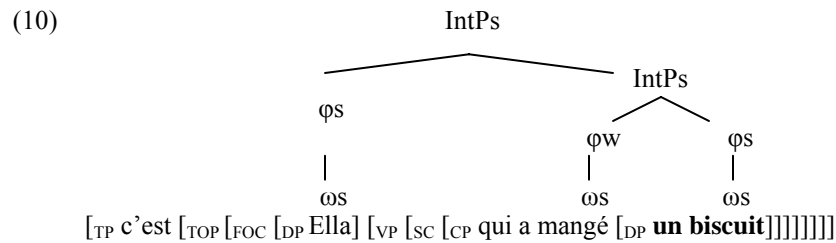
(7)   French stress rule
   a.   Assign a Strong label to the rightmost phonological word in the phonological phrase. Assign Weak to the other phonological words

   b.   Assign a Strong label to the rightmost phonological phrase in the intonation phrase. Assign Weak to the other phonological phrases

   c.   Assign a Strong label to the intonation phrase

The rule in (7) is based on Szendrői's (2003) stress rule for English and Italian and formulated in a metrical tree notation *à la* Liberman (1979). Nodes are assigned Weak (W) and Strong (S) labels. The node that is only dominated by Strong labels is the one that bears the main stress. Szendrői follows Selkirk (1984, 1986) and Nespor & Vogel (1986) (*contra* Cinque 1993) concerning main stress assignment. In her approach, main stress is directly assigned in the prosodic structure. Prosodic structure and syntactic structure are related *via* the following mapping rules.

(8)   Syntax-phonology mapping rules for phrases
       Align the right edge of a syntactic phrase with the right edge of a phonological phrase

(9)   Syntax-phonology mapping rules for clauses
   a.   Align all the left-edges of the largest extended projection of the verb with the left-edge of an intonation phrase

   b.   Align all the left-edges of the intonation phrase with the left-edges of the largest extended projection of the verb

   c.   Align all the right-edges of the largest extended projection of the verb with the right-edge of an intonation phrase

   d.   Align all the right-edges of the intonation phrase with the right-edges of the largest extended projection of the verb

In French, the most extended projection of the verb is TP. Assuming that the syntax-phonology mapping rules in (8) and (9) apply, it is difficult to show that either Belletti's left-periphery of VP or Kiss' left-periphery of CP are aligned with the right-edge of the intonation phrase taken into account for main stress assignation. This is illustrated in the following diagrams.

(10)

IntPs

φs   IntPs

φw   φs

ωs   ωs   ωs

[$_{TP}$ c'est [$_{TOP}$ [$_{FOC}$ [$_{DP}$ Ella] [$_{VP}$ [$_{SC}$ [$_{CP}$ qui a mangé [$_{DP}$ **un biscuit**]]]]]]]]

(11)

IntPs

φs   IntPs

φw   φs

ωs   ωs   ωs

[$_{CP}$ [$_{IP}$ C'est [$_{FP}$ [$_{DP}$ Ella] [$_{CP}$ qui [$_{IP}$ [$_{VP}$ a mangé [$_{DP}$ **un biscuit**]]]]]]]]

In both Belletti's analysis in (5) and Kiss' analysis in (6), the relative clause is a complement of the projection hosting the focused constituent. On the prosodic level, the relative clause is therefore mapped into an intonation phrase embedded into another one. These structures are very similar to identificational TPs whose DP contains a restrictive relative clause, as in (12). In this type of construction, the left boundary of the embedded intonation phrases seems invisible to the rule assigning main stress, and the last constituent of the restrictive relative clause is the constituent that gets assigned the main stress (see Truckenbrodt 2005 on embedded clauses and intonation phrases boundaries).

(12)

IntPs

φs   IntPs

φw   φs

ωw   ωs   ωs   ωs

[$_{TP}$ C'est [$_{DP}$ la fille [$_{CP}$ qui connaît [$_{DP}$ **ma soeur**]]]]
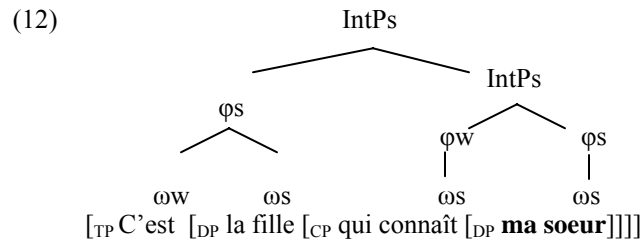
The prosodic structures in (10) and (11) do not naturally account for the fact that in cleft sentences the main stress falls on the constituent located in the right periphery of the matrix clause. It seems that in order to account for this property, some extra mapping rules or a stress-shifting rule such as the one existing in English (Neeleman & Reinhart 1998) are needed. I depart from this view and follow Reinhart's (2006) hypothesis that the system always assigns stress in a consistent way. My point is that in French main stress is always assigned in the right-periphery.

2.   An account at the interface level

Clech-Darbon, Rialland & Rebuschi (1999) account for the syntactic structure of clefts in the following way.

(13)   [TP [TP C'est [VP [DP Ella]]]   [CP Op qui <Op> a mangé [DP un biscuit]]]]

Taking into account syntactic, semantic and intonational contours (Pierrehumbert 1981) of French cleft sentences, these authors maintain that the focused constituent, here [DP Ella], is directly merged as the complement of an identificational TP to which a CP is right-adjoined. The CP is a classical relative clause in which a relative operator (Op) moves from Spec,TP to Spec,CP.

The present account follows Clech-Darbon et al.'s insight concerning the syntactic structure of clefts. However, my prosodic analysis is slightly distinct from theirs. I take the stress-focus correspondence principle formulated by Reinhart (1995) for Dutch and English and extended to Hungarian and Italian by Szendrői (2001) to apply in French.

(14)   Stress-focus correspondence principle [Szendrői 2003:47]
       The focus of a clause is a(ny) constituent containing the main stress of the intonation phrase, as determined by the stress rule.

I claim that cleft sentences are the most natural way to answer subject *wh*-questions because they allow subjects to appear in the position where main stress is assigned, that is, the right-periphery of the clause. Contrary to what Lambrecht (2001) says about clefts, there is no *prosodic accent* appearing in a position from which the grammar normally bans it, just the opposite. Clefting the subject is meant to satisfy the principle in (14). Following the mapping rules in (8) and (9), I propose to map Clech-Darbon et al.'s syntactic structure into the following prosodic structure.

(15)

[TP [TP C'est [VP [DPElla]]]   [CP qui a mangé [DP un biscuit]]]]
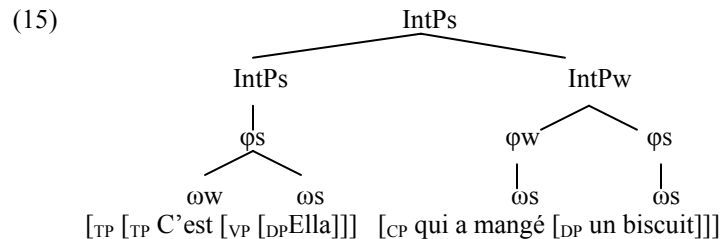
Each TP is aligned with an intonation phrase. In this structure, the intonation phrase corresponding to the relative clause adjoins to the intonation phrase corresponding to the matrix clause. Consequently, the adjoined intonation phrase receives a Weak label and is extrametrical: it is not taken into account for the assignation of main stress at the level of the highest intonation phrase (cf. Truckenbrodt 1999 and Szendrői 2001, 2003 for a similar treatment of topics). Although the stress-rule normally applies inside both intonation phrases, the main stress falls on the right-periphery of the matrix clause. The phonological phrase [$_\varphi$un biscuit] receives the main stress in the intonation phrase to which it belongs. At the level of the highest intonation phrase however, it receives secondary stress.
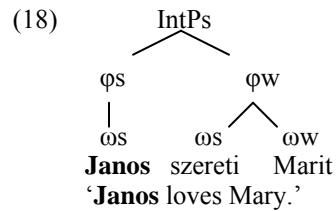
When a cleft sentence is used as an answer to a *wh*-question, which is the case for subject wh-questions in French, the relative clause is characteristically pronounced on what is described as a 'flat intonation' (Clech-Darbon et al. 1999; Rialland et al. 2002). In contrast to Clech-Darbon et al.'s proposal that this follows from the fact that the relative clause has no predicational or argumental status, I argue that the relative clause is destressed because of its status at the level of discourse. The material appearing in the relative clause is discourse-linked (Neeleman & Reinhart 1998) or given (Schwarzschild 1999), as it is a part of the *wh*-question. This material does not need to be stressed and, as mentioned in section 1, it does not even need to be expressed for the answer to be felicitous and the sentence to be grammatical. The following destressing rule (Reinhart 2006) applies to the relative clause and turns all its nodes into weak nodes.

(16)   Destressing
       Apply W to an anaphoric node

From a typological perspective, French is similar to Hungarian in that its prosody is flexible in a very limited way. Hungarian is well-known for its syntactic 'focus-movement'. This language is described as a left-oriented language with respect to stress. In the neutral sentence in (17), the verb is the constituent which is assigned the main stress.

(17)   IntPs
         ╱   ╲
      φs   φw
      │   ╱   ╲
     ωs   ωs   ωw
   Szereti Janos   Marit
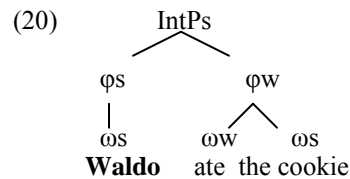   'Janos loves Mary.'
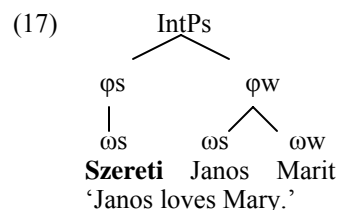
When a constituent is focused, it moves to the left of the verb. This operation is analysed by Szendrői as a stress-driven movement: the focused constituent moves towards the position where main stress is assigned in order to pick it up. This structure is illustrated in (18).

(18)
```
            IntPs
           /     \
         φs        φw
         |        /  \
        ωs      ωs    ωw
      Janos  szereti Marit
```
'**Janos** loves Mary.'

      Although French does not employ a focus-movement in order to place the focused constituent in the right-periphery of the IntP/TP to which it belongs, this language resorts to a construction that allows it not to relocate the main stress. Both Hungarian and French are distinct from English in this respect. In order to focus the subject, English relocates the main stress on this constituent. In order to do that, the following stress-shifting rule (Neeleman & Reinhart 1998, Reinhart 2006) applies.

(19)   Main-stress shift
        Assign S to a node α and every node dominating α.

This stress-shifting rule yields the following structure.

(20)
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            IntPs
           /     \
         φs        φw
         |        /  \
        ωs      ωw    ωs
      Waldo    ate  the cookie
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The same rule, when applied to the French neutral sentence, yields a marginal result. It is admitted that in French, a canonical sentence with the main stress on the subject is a marked structure in Reinhart's (1995) sense: it is not the best way to satisfy the interface needs related to the operation of focusing. Stress-shifting is therefore a costly operation to the French grammar.

3.   A note on contrastive cleft sentences

A cleft sentence is the most natural way to answer a subject *wh*-question. However, in the case of objects and adjuncts, a cleft sentence constitutes a non felicitous answer.

(21)   a.   Qu' est-ce que Juan a   mangé?
                what is-it   that Juan   has eaten
                'What did Juan eat?'

        b. ? C'est un biscuit (que Juan a   mangé).
                it-is   a   cookie   that Juan has eaten

        c.   (Juan a   mangé) un biscuit.
                 Juan has eaten   a   cookie

(22) a. Quand est-ce qu' Ella a mangé un biscuit?
         when is-it that Ella has eaten a cookie
         'When did Ella eat a cookie?'

      b. ? C'est hier   (qu' Ella a mangé un biscuit).
          it-is yesterday   that Ella has eaten a cookie

      c. (Ella a mangé un biscuit) hier.
           Ella has eaten a cookie yesterday

This follows from Economy (Reinhart 1995): the constituents appearing in right-peripheral positions in canonical sentences such as (21)c and (22)c do not need to appear in a cleft construction in order for the stress-focus correspondence principle to be satisfied. In this context, a cleft sentence is more costly than its canonical counterpart and as a result the cleft sentence constitutes a marked output.

The interesting fact is that the sentences in (21)b and (22)b are perfectly felicitous in another context, namely a contrastive context. When objects and adjuncts are contrastive foci, they naturally appear in cleft sentences. In this context however, their canonical counterpart appears to be less felicitous, as illustrated in the following examples.

(23) a. Juan a mangé **une prune**.
          Juan has eaten a plum
          'Juan ate a plum.'

      b. Non, c'est **un biscuit** que Juan a mangé.
          no it-is a cookie that Juan has eaten

      c. ? Non, (Juan a mangé)   **un biscuit**.
          no Juan has eaten   a cookie.

(24) a. Ella a mangé un biscuit **ce matin**.
          Ella has eaten a cookie this morning
          'Ella ate a cookie this morning.'

      b. Non, c'est **hier**   qu' Ella a mangé un biscuit.
          no it-is yesterday that Ella has eaten a cookie

      c. ? Non, (Ella a mangé un biscuit) **hier**.
          no Ella has eaten a cookie yesterday

As both cleft sentences ((23)b and (24)b) and canonical sentences ((23)c and (24)c) satisfy it, it seems difficult to account for the preference of one over the other by resorting to the stress-focus correspondence principle. However, I pursue the idea that this preference also results from this principle.

One major difference between the subject cleft sentences discussed in section 2 and contrastive cleft sentences is that in the former, the relative clause is optional. In contrastive cleft sentences, the relative clause seems obligatory.

Although the material contained in this IntP is usually discourse-linked, it seems that it has to appear and, in addition, it has to be stressed (moreover, this is consistent with what has been observed by Rialland et al. 2002). I claim that the particularity of the cleft sentence is that it offers two right peripheries, as it contains two distinct intonation phrases. This is not the case for the canonical SVO sentence in French, which only has one intonation phrase, and consequently one right-periphery. In French contrastive cleft sentences, there are two constituents that need to occupy a strong position with respect to stress: the focus has to bear the main stress of the highest IntP, and the remaining of the sentence also has to appear in a strong position, as show in the example (25)b.

(25) a. Juan a   rencontré **Ella**.
          Juan has met   Ella
          'Juan met **Ella.**'

      b. Non, c'est **Frédé** que **Juan a   rencontré**.
          no   it-is   Frédé   that Juan has met

The fact that the material appearing in the post-focal part of the cleft sentence sometimes has to be stressed is even clearer in the following example inspired by Lambrecht (2001).

(26) a. Pourquoi vous   intéressez-vous tellement à Paris?
           'Why are you so interested in Paris?'

      b. C'est à   Paris/ là   que j'ai   rencontré ma femme.
          it-is in Paris there that I-have   met   my wife
          'I met my wife in Paris/there.'

The alternatives to *Paris* are rejected in the reply formulated in (26)b, whose equivalent is *C'est à Paris et nulle part ailleurs que j'ai rencontré ma femme* 'It is in Paris and nowhere else that I met my wife'. This suggests that [à Paris], although discourse-linked, is the focus of this sentence. The post-focal part is new and it also needs to be stressed. (27)b shows that the canonical equivalent to (26) does not seem felicitous in this context, as it only offers one focus position.

(27) a. Pourquoi vous intéressez-vous tellement à Paris?
      b. ? J'ai rencontré ma femme à Paris. (unless [à Paris] is completely destessed, but in that case some part of the meaning expressed by (26)b is lost)

Finally, although the cleft sentence potentially offers two focus positions, the one in the first IntP is stronger than the one in the second IntP. As shown by the following example, switching constituents from one position to the other does not yield a felicitous answer to the same question.

(28) a. Pourquoi vous intéressez-vous tellement à Paris?
      b. ? C'est ma femme que j'ai rencontré à Paris.

This is consistent with the asymmetrical prosodic structure in (15), in which one intonation phrase is adjoined to the other.

4.   Conclusion

In this paper, I showed that cartographic approaches of focus and cleft sentences (Belletti 2005; Kiss 1998) do not naturally account for the fact that French always assigns main stress to a constituent located in the right-periphery of the intonation phrase/TP. I claimed (*contra* Lambrecht 2001) that the aim of a cleft sentence is to locate the focused constituent(s) in the position(s) where the grammar normally assigns the main stress, satisfying the stress-focus correspondence principle. Although the cleft sentence offers two potential focus positions, as it is made of two clauses and therefore two intonation phrases, these positions are not equivalent. This follows from the prosodic structure I suggested, in which one intonation phrase is adjoined to the other and therefore skipped by the rule assigning the main stress at the level of the highest intonation phrase. The characteristic flat intonation of the relative clause in certain contexts is only a consequence of its discourse status.

References

Akmajian, Adrian. 1970. On Deriving Cleft Sentences from Pseudo-Cleft Sentences. *Linguistic Inquiry* 1:149-168.
Belletti, Adriana. 2004. Aspects of the low IP area. In *The Structure of CP and IP. The Cartography of Syntactic Structures, Volume 2*, ed. Luiggi Rizzi, 16-51. New York: Oxford University Press.
Belletti, Adriana. 2005. Answering with a cleft. The role of the null subject parameter and the VP periphery. In *Proceedings of the XXX Incontro di Grammatica Generativa*. Venezia: Cafoscarina.
Chomsky, Noam. 1971. Deep structure, surface structure and semantic interpretation. In *Semantics: an interdisciplinary reader in philosophy, linguistics and psychology*, ed. D. D. Steinberg and L. A. Jakobovits, 183-216. Cambridge: Cambridge University Press.
Chomsky, Noam. 1977. On wh-movement. In *Formal Syntax*, eds. Peter Culicover, Thomas Wasow and Adrian Akmajian, 71-132. New York: Academic Press.
Cinque, Guglielmo. 1993. A null theory of phrase and compound stress. *Linguistic Inquiry* 24(2):239-298.
Cinque, Guglielmo. 2002. Functional Structure in DP and IP *The Cartography of Syntactic Structures, Volume 1*, ed. Guglielmo Cinque. New York: Oxford University Press.
Clech-Darbon, Anne, Rialland, Annie, and Georges Rebuschi. 1999. Are there Cleft Sentences in French? In *The Grammar of focus*, eds. Laurice Tuller and Georges Rebuschi, 83-118. Amsterdam ; Philadelphia, PA : John Benjamins.
Jackendoff, Ray S. 1972. *Semantic Interpretation in Generative Grammar*. Cambridge, MA & London: The MIT Press.
Jespersen, Otto. 1949. *A Modern English Grammar on Historical Principles, Part VII. Syntax*. Copenhagen: Ejnar Munksgaard; London: Allen and Unwin.
Kiss, Katalin E. 1998. Identificational versus Informational focus. *Language* 74 :245-273.
Lambrecht, Knud. 2001. A framework for the analysis of cleft constructions. *Linguitics* 39:463-516.

Liberman, Mark. 1979. *The intonational system of English*. Doctoral dissertation, MIT, 1975. New York: Garland Press.

Neeleman, Ad and Tanya Reinhart. 1998. Scrambling and the PF interface. In *Projecting from the Lexicon* CSLI, ed. W. Geuder and M. Butt. Stanford, California: Standord University Press.

Nespor, Marina and Irene Vogel. 1986. *Prosodic phonology*. Dordrecht, The Netherlands: Foris.

Pierrehumbert, Janet. 1980. *The Phonology and Phonetics of English Intonation*. Doctoral dissertation, MIT.

Reinhart, Tanya. 1995. Interface Strategies. *OTS Working Papers in Linguistics* TL-95-002. Utrecht University. Utrecht: Utrecht University.

Reinhart, Tanya. 2006. *Interface strategies : optimal and costly computations*. Cambridge, MA: MIT Press.

Rialland, Annie, Doetjes Jenny, and Georges Rebuschi. 2002. What is focused in C'est XP qui/que cleft sentences in French? In *Proceedings of Speech Prosody 2002*, eds. B. Bel and I Marlien, 595-598.

Rizzi, Luiggi. 2004. *The Structure of CP and IP. The Cartography of Syntactic Structures, Volume 2*. New York: Oxford University Press.

Rooth, Mats E. 1992. A theory of focus interpretation. *Natural Language Semantics* 1:75-116.

Schwarzschild, Roger. 1999. Givenness, AvoidF and other constraints on the placement of accents. *Natural Language Semantics* 7: 41–177.

Selkirk, Elisabeth O. 1984. Phonology *and syntax: the relation between sound and structure*. Cambridge, Mass.: MIT Press.

Selkirk, Elisabeth O. 1986. On derived domains in sentence phonology. *Phonology Yearbook* 3:371–405.

Szendrői, Kriszta. 2001. *Focus and the syntax-phonology interface*. Doctoral dissertation, University College London, London.

Szendrői, Kriszta. 2003. A stress-based approach to the syntax of Hungarian focus. *The Linguistic Review* 20(1): 37-78.

Truckenbrodt, Hubert. 1999. On the relation between syntactic phrases and phonological phrases. *Linguistic Inquiry* 30: 219-255.

Truckenbrodt, Hubert. 2005. A short report on intonation phrases boundaries in German. *Linguistische Berichte* 203: 273-296.