

# A SYNTACTIC ANALYSIS FOR FRENCH LIAISON

Vania Masutti  
*Università degli Studi di Padova*

**Abstract:** *French liaison consists in the pronunciation of a normally mute consonant in final-word position, which arises when the following word begins with a vowel. It is a sandhi phenomenon which produces resyllabification between Word1 and Word2. Liaison seems to be sensitive to the syntactic environment, since purely phonological conditions are not sufficient to trigger it in certain contexts. Following the assumptions of the phonology-syntax interface (Chomsky-Halle 1968; Selkirk 1984), I aim to investigate the syntactic contexts of application for obligatory, optional and impossible liaisons. The liaison data are analysed in the light of cartographic studies (Cardinaletti 2004; Cinque 2010), and three general rules are proposed to account for its application: liaison is obligatorily triggered when two words are in a head-head or in a Spec-head configuration within the same maximal projection; liaison can optionally occur between a head (or the copy of a head) and its complement within the same maximal projection; liaison is ruled out between two words which do not belong to the same maximal projection, when more than one morphosyntactic boundary intervenes between them. Finally, stylistic factors play a role in determining optional liaisons, whereas obligatory and impossible liaisons are exclusively determined by syntactic conditions.*

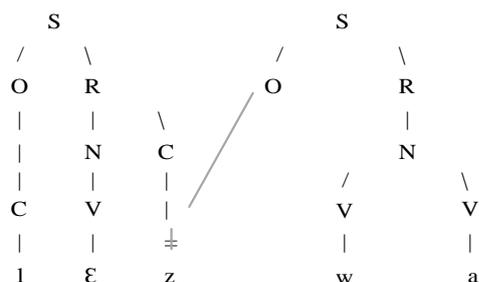
**Keywords:** *French liaison, phonology-syntax interface, direct/indirect modification adjectives, subject clitics*

## 1. Introduction

French liaison is a multifaceted object of study: although it appears as phonological phenomenon in the first place, it is also related to morphology and syntax, and thus requires a broad-spectrum investigation. Moreover, its application also depends on stylistic and sociolinguistic factors. In the last decades, liaison has been widely analysed from both a phonological (Durand 1990; Lyche & Durand 1994, 2008; Nespors & Vogel 2007 among others) and a sociolinguistic point of view (Ashby 1981; Bergen 2005; Booij & De Jong 1987; Howard 2004, 2006). In this article, I will not treat the purely phonological aspects related to liaison, and I will only partly consider the role that stylistic aspects play on its realisation. The purpose of this study is to examine the phonology-syntax interface.

Broadly speaking, liaison can be defined as a sandhi phenomenon that produces resyllabification. In a sequence Word1-Word2, the coda of Word1 – which is normally mute – is realised as the onset of the first syllable of Word2, when the latter begins with a vowel. This process is exemplified in (1), adopting the syllabic structure proposed in Durand (1990, 205):

- (1) les oies  
the geese



Liaison has already been analysed as a phonological phenomenon sensitive to the syntactic environment. The relevance of the syntactic context is proved by the fact that liaison does not always apply when purely phonological conditions are met: in the examples given in (2), liaison mandatorily occurs between the numeral and the following noun in (2a), whereas it is completely ruled out between the numeral and the following preposition in (2b), even though the phonological environment is the same in the two cases:

- (2) a. il a eu deux enfants [døzãfã]  
he has had two children  
b. il a eu deux en maths [dø ãmat]  
he has had two in maths  
'He got two in maths'

Selkirk (1972, 1984) suggests that liaison occurs within a phonological word and not between phonological words. The crucial idea of her analysis, which I endorse, is that phonological words are defined on syntactic grounds, in line with Chomsky & Halle (1968, 366) (cf. Nespor & Vogel 2007). Thus, since the 1970s, it has been observed that French liaison operates between two closely related words, when just one word boundary separates one word from the next (Selkirk 1972; Dell 1980; Durand 1990). Starting from these analyses, I will use more recent syntactic theories \ account for the contexts of application of French liaison within an X-bar template, and my purpose is to investigate the syntactic rules which govern liaison. I will particularly rely on the cartographic analyses put forward in the last two decades. On the one hand, cartographic theories allow us to provide a formal definition of the morphosyntactic boundaries which force, permit or exclude liaison; on the other hand, the liaison information is suggestive about the properties of the underlying syntactic structure, and can contribute to the syntactic investigation. The syntax-phonology interface in liaison gives support to X-bar syntactic theories (cf. Morin & Kaye 1982).

Although I will mainly deal with cartographic studies, I also consider some proposals developed within the Minimalist Program (MP). I examine how the Phase Impenetrability

Condition (PIC, Chomsky, 2000, 2001, 2005) can be applied to some contexts of realisation of French liaison<sup>1</sup>.

The data provided in the present study are partly elicited from French native speakers, partly taken from the data-base of spoken French PFC (Phonologie du Français Contemporain) (Durand et al. 2009), and partly based on previous studies of liaison (Selkirk 1972; Morin & Kaye 1982; Nespor & Vogel 1986). The data from native speakers have been elicited through an oral test. The informants were asked to read texts which focused on the specific liaison contexts under investigation. The contexts of application of liaison taken into account were the following: in the DP, I tested the liaison triggered by determiners, quantifiers and adjectives with the following word; in the IP<sup>2</sup>, I tested liaison between pronominal/lexical subjects and the finite verb; in the vP-VP, I tested how liaison applies between a transitive verb and its internal argument. The contexts of application of liaison have been tested by means of two different series of texts: the first one reproduced an informal style of speech (dialogs between colleagues or friends), while the second one reproduced an elevated style of speech (newscast, formal discourse). I recorded the performances of 12 informants from five different regions of France (Île de France, Lorraine, Alsace, Savoie, Midi-Pyrénées). The group of informants consisted of five men (who ranged in age from 25 to 55 years) and seven women (25 to 40 years).

The article is structured as follows: in section 2, I briefly discuss the stylistic approach proposed by Selkirk (1972), taking into consideration the relation between liaison and the style of speech adopted by the speaker. In section 3, I provide a general overview of the liaison contexts. In section 4, I deal with liaison contexts in the DP: I firstly observe whether liaison is sensitive to the functional vs. lexical nature of the Word 1; I then consider whether liaison data support the internal articulation of the DP proposed in Cinque (1994, 2010). In section 5, the analyses proposed for the DP are extended to the liaison contexts in the IP: specifically, I examine the internal articulation of the subject projection, considering whether the liaison data are compatible with the structure proposed in Cardinaletti (2004). Finally, in the last section, I present data about the liaison contexts in the vP-VP domain: I observe whether the PIC (Chomsky 2000), which has already been used to account for a sandhi phenomenon in Easter Abruzzese (Biberauer & D'Alessandro 2008), can be extended to the analysis of French liaison.

## 2. *The stylistic approach*

Selkirk (1972) distinguishes three styles of speech for French and suggests that each style has its own grammar. The first style, defined as *Conversation familière*, corresponds to an informal register. In this style, liaison mainly involves non-lexical items (determiners and clitics in particular). The second style relates to formal conversation and is classified as *Conversation soignée*. It is characterised by a larger number of liaison contexts, including those in which lexical items located in the specifier (Spec) of a head retain their final

<sup>1</sup> I would like to thank in particular Adam Ledgeway and Theresa Biberauer for discussing my data with me and for suggesting me to take the PIC into account.

<sup>2</sup> In the present study, I will adopt the more traditional label IP (Inflection Phrase), instead of TP (Tense Phrase). I will use it as a general label including the split between Tense Phrase and Agreement Phrase. The liaison between a subject clitic and a finite verb is particularly evocative of the presence of person features encoded under the node IP.

consonant (Selkirk mainly refers to liaison between adverbs and adjectives, and to liaison between auxiliaries and past participles). Finally, the third style concerns reading and discourse, and is indeed referred to as *Lecture ou discours* in Selkirk's classification. This style displays the largest range of liaison contexts, since inflected nouns, verbs and adjectives trigger liaison with their complements. Selkirk also distinguishes a set of readjustment rules which operate to result in a single word boundary where liaison applies, and a double word boundary where liaison is not realised.

In the present study, I adopt traditional labels, such as obligatory, optional and impossible liaison. Despite the fact that the style of speech does influence the realisation of French liaison, as shown in Selkirk, in this study I will not concentrate on stylistic (or sociolinguistic) aspects. Instead, obligatory, optional and impossible liaison contexts will be investigated considering exclusively the syntactic conditions which determine them, irrespective of the style of speech.

As for obligatory contexts, in line with Selkirk's observations, I reflect on how functional categories trigger obligatory liaison with the following word in all styles of speech; moreover, I also account for the (restricted) contexts in which obligatory liaison involves two lexical items. I then deal with impossible liaisons, and observe which contexts of application are necessarily ruled out on syntactic grounds, regardless of the style of speech. I finally consider optional liaisons: I do not treat optionality as a phenomenon which exclusively depends on stylistic factors, but I examine the syntactic conditions which make the realisation of liaison possible, without requiring a compulsory application.

### *3. Overview on obligatory, optional and impossible liaison contexts*

Before analysing the application of liaison in more details, I provide a general overview of the liaison contexts which will be examined in the following sections. As for obligatory liaison, I will analyse those between a determiner (or a quantifier) and the following noun (or adjective) in the DP (3a), and those between a subject clitic and a finite verb in the IP (3b); I will also show that prenominal adjectives trigger obligatory liaison in the DP, as determiners do (3c):

- (3) a. les oncles  
the uncles  
b. ils offrent  
they offer  
c. de bons amis  
of good.PL friends  
'Good friends'

For optional liaison contexts, I will take just two cases into consideration: liaison between a noun and a postnominal direct-modification adjective in the DP (4a), and liaison between a transitive verb and its internal argument in the vP-VP (4b):

- (4) a. un marchand [[de draps] anglais]  
 a merchant of sheets English.PL  
 ‘A merchant of English sheets’ (Selkirk 1972, 235)  
 b. [il portait [un manteau]]  
 he wore a coat

Finally, I will account for impossible liaison, which affect in particular lexical subjects in the IP (5a). Liaison is also impossible between a noun and a postnominal indirect-modification adjective<sup>3</sup> in the DP (5b) (see also Selkirk 1972, 235):

- (5) a. [les enfants] [ont faim]  
 the children have hunger  
 ‘The children are hungry’  
 b. [ [les marchands [de vins]] [italiens]]  
 the merchants of wines Italian.PL  
 ‘The Italian merchants of wines’

I propose three general rules to account for the liaison data:

A. two adjacent words are in an obligatory liaison context when they are in a head-head or in Spec-head configuration within the same maximal projection (XP);

B. liaison is optional when the two words have a “weaker” syntactic relation, provided that they occur within the same (extended) maximal projection; this is the case of a head and its complement;

C. liaison is ruled out when two words are not contained in the same (extended) maximal projection: impossible liaison is the result of the interference of syntactic boundaries between two words, which make them phonologically blind to each other despite their linear adjacency.

I would like to restate that only the optional liaisons and not the obligatory ones depend on sociolinguistic factors. At the same time, even though optional liaisons are influenced by the style of speech, the underlying conditions allowing for them are encoded in the syntax. Although infrequent in my corpus, optional liaisons are indeed possible, and this shows that some syntactic conditions permitting them are at work.

In contrast, impossible liaisons are blocked by syntactic constraints which completely prevent their occurrence (also in very formal contexts of speech). Thus, the distinction between optional and impossible liaisons becomes crucial in the syntactic investigation.

#### 4. Liaison in the DP

##### 4.1. Liaison with functional categories in the DP

Determiners and quantifiers are always in an obligatory liaison context with the following word, which can be either a noun, as in (6a-b) or an adjective, as in (6c-d):

- (6) a. les oranges  
 the oranges

<sup>3</sup> In the next section, I deal with the interpretative differences between direct- and indirect-modification adjectives in detail.

- b. son ennemi  
his enemy
- c. quelques anciens bâtiments  
some old buildings
- d. un intéressant article  
an interesting article

The liaison triggered by a determiner or a quantifier cannot be reduced to the phonological realisation of number features: the examples in (6) demonstrate that liaison obligatorily occurs both in plural and in singular contexts, even though it is generally related to the overt realisation of plural features, and the determiner is mainly responsible for the realisation of plural features in French DP. I do not exclude that morphological conditions can play a role in triggering liaison. However, the trigger for obligatory liaison cannot be only morphological. Also Morin & Kaye (1982) note that liaison occurs in singular contexts where the syntactic conditions for its realisation are met.

Selkirk (1972, 209) proposes that the sequence article-noun is a basic (obligatory) liaison context, since articles have no word boundaries of their own, as shown in (7):

- (7) [# [Art] [ # [Noun] ] # ]  
N'' N' N NN' N''

In line with this proposal, I note the absence of morphosyntactic boundaries which block the realisation of liaison between a functional and a lexical category in a head-head configuration. I thus conclude that liaison is sensitive to the functional nature of the triggering word. This demonstrates that phonological phenomena are not blind to underlying syntactic structure, and that the two levels “communicate” somehow.

#### 4.2. Liaison with adjectives in the DP

When the adjective modifies certain classes of nouns (nationality nouns, for instance), the interpretation of the DP can be ambiguous. In ambiguous contexts, liaison helps to disambiguate the category of the words concerned:

- (8) a. de vieux africains [dəvjøzafrikɛ̃]  
of old.PL Africans  
'Old Africans'
- b. de savants italiens [dəsavɑ̃zitaljɛ̃]  
of clever.PL Italians  
'Clever Italians'
- c. des vieux africains [devjøafrikɛ̃]  
some old.PL African.PL  
'Some African old men'
- d. des savants italiens [desavɑ̃italjɛ̃] (see also Selkirk 1972, 235)  
some scientists Italian.PL  
'Some Italian scientists'

In examples (8), the two elements can be either a noun or an adjective. If liaison is obligatorily realised between them, the first word is an adjective (8a-b); on the contrary, if liaison does not (necessarily) occur between them, the first word is a noun (8c-d). In other words, obligatory liaison only involves prenominal adjectives, while it is infrequently attested when the adjective is postnominal (see also Abeillé & Godard 1999, and Pomino & Stark 2009).

In the following subsections, I present a syntactic analysis which justifies this asymmetry. In order to account for the different liaison patterns with prenominal and postnominal adjectives, I adopt the cartographic approach proposed in Cinque (1994, 2010).

#### 4.2.1. Prenominal adjectives

In line with the cartographic analysis proposed in Cinque (1994) and Crisma (1993), I treat French prenominal adjectives as direct modifiers of the noun, originated in the Spec of prenominal functional projections (FP) in the extended domain of the noun. Each FP is specialised in housing a precise class of adjective, and the FPs are hierarchically ordered. I adopt the adjective hierarchy suggested in Cinque, who draws on the proposal put forward in Sproat & Shih (1991) on the basis of a typological analysis:

- (9) Quantification > Quality > Size > Shape > Colour > Provenance

The proposal in Crisma (1993) and Cinque (1994) is that the base position for adnominal adjectives is the same cross-linguistically, namely to the left of the basic position of the noun. The different linear distribution of adjectives in different languages depends on the movement of the noun across the adjective hierarchy. Hence, the DP in (10) displays the syntactic derivation presented in (11):

- (10) a. le village de Beaulieu est en grand émoi  
the village of Beaulieu is in great agitation  
‘There is a great agitation in the village of Beaulieu’  
[PFC: ID: 243886 Loc: 75ccr2, lecture]

- (11) [DP [FP<sub>quant</sub> F° [FP<sub>qual</sub> [FP<sub>size</sub> grand émoi<sub>i</sub> [FP<sub>shape</sub> t<sub>i</sub> [FP<sub>colour</sub> t<sub>i</sub> [FP<sub>prov</sub> t<sub>i</sub> [NP t<sub>i</sub>]]]]]]]]]
- 

The structure in (11) shows that the landing site for noun movement is the head of the FP which contains the adjective in its Spec. In this structure, the obligatory liaison between a prenominal adjective and a noun arises as a consequence of their Spec-head configuration within the same FP.

A further step in the discussion about prenominal adjectives consists in considering a different type of movement inside the DP. The analysis just provided perfectly holds assuming head movement (N-movement), but it seems to be challenged assuming NP-movement (Cinque 2010). If we exclude N-movement, we have to maintain that the noun does not raise alone to the head of the FP which hosts the adjective in the extended nominal projection:

(12) [DP [FPquant F° [FPqual [FPsize grand [FPshape t<sub>i</sub> [FPcolour t<sub>i</sub> [FPprov t<sub>i</sub> [NP émoi]]]]]]]]]

However, in (12), the liaison is obligatory. This results in the implication that the FPs intervening between the prenominal adjective and the noun do not have any syntactic influence, and do not block the phonological process.

The prediction arises that liaison should be obligatory also when other "silent" FPs (for instance NumberP or GenderP) occur between a D-element or a Q-element and a prenominal adjective. This prediction is confirmed in the examples below:

- (13) a. ces énormes possibilités  
           these huge possibilities  
       b. tous autres commentaires  
           all.M.PL. other comments

Interestingly, prenominal adjectives share many morphosyntactic and semantic properties with functional elements (for instance, in many languages they are a "close-class")<sup>4</sup>. The liaison data give support to the functional nature of the adjectives in prenominal position: prenominal adjectives show the same liaison pattern as determiners and quantifiers, i.e. they are in an obligatory liaison context.

To sum up, if NP-movement is assumed, obligatory liaison has to be accounted for beyond a strict Spec-head configuration: a functional element is in an obligatory liaison context with the following lexical (or functional element) within the same maximal projection, irrespective of the presence of other "silent" FPs occurring between them. These FPs, which are present in the structure at an abstract level, do not constitute a syntactic boundary that blocks the phonological process.

In line with the first general rule proposed in section 3, I conclude that a functional and a lexical element in a Spec-head or in a head-head configuration within the DP are in an obligatory liaison context. Moreover, the possible presence of "silent" FPs between them does not make the two words "blind" to each other in phonological processes<sup>5</sup>.

<sup>4</sup> Weinrich (1966, 85-86) suggests that prenominal adjectives can be treated as morphemes (l'adjectif antéposé fait fonction de morphème) since they form a paradigm (a close class), they are frequent and relatively short (often monosyllables). Moreover, adjectives undergo semantic weakening in prenominal position (ils ont le status sémantique d'un morphème).

<sup>5</sup> Obligatory liaison is also responsible for the phonological realisation of number features on the prenominal adjective. Pollock (1998, 315, fn. 24) argues that prenominal plural adjectives in French license null plural determiners, perhaps because they are in contexts of obligatory liaison (i):

- (i) a. J'ai lu de bons articles  
           I have read of good.PL articles  
           'I read (some) good articles`  
       b. \*J'ai lu d'articles  
           I have read of articles  
       c. J'ai lu \*(des) articles  
           I have read of+the-PL articles (Pollock 1998, 315)

When the adjective occurs in prenominal position in indefinite DPs, plural features are not realised on the determiner (which is null), but on the prenominal adjective. This suggests that both determiners

4.2.2. *Postnominal adjectives*

Selkirk (1972) reserves the liaison between a noun and a postnominal adjective to an elevated style of speech, and also in my corpus this context of application of liaison is infrequently attested. However, this liaison is possible under certain conditions.

In the example (14a), liaison is optional if the DP is interpreted as in (14b) and impossible if it is interpreted as in (14c). Following Selkirk (1972), we can observe that the DP in (14a) is ambiguous if the liaison is not realised: the adjective *amusants* can have either a descriptive (non-restrictive) function, and refer to all films of Jacques Tati – which are considered funny in general; or it can have a restrictive function, and refer only to the funny films of the director. In contrast, (14a) is unambiguous if liaison does occur: in this case, the postnominal adjective can only be interpreted as a descriptive one, and it must refer to all films of Jacques Tati, as in interpretation given in (14b):

- (14) a. (J'ai vu) les films amusants de Jacques Tati  
 (I saw) the films funny.PL of Jacques Tati  
 '(I saw) the funny films of Jacques Tati'  
 b. (I saw) the films of Jacques Tati, which are (all) funny  
 c. (I saw) the films of Jacques Tati which are funny [the funny ones]

The native speakers I interviewed about these delicate liaison contexts agreed with the distinction between the two possible liaison patterns for (14a): liaison between the noun and the postnominal adjective is optional if the phrase entails the interpretation in (14b), whereas it is impossible if the phrase entails the interpretation in (14c). Selkirk (1972, 235) already states that a plural noun will not be in a liaison context with an adjective not in its own complement. I will refer to the cartographic analyses proposed in Cinque (2010) to provide an up-to-date account of the syntactic restrictions that make liaison incompatible with the interpretation in (14c).

First of all, in order to investigate optional and impossible liaisons with postnominal adjectives, the direct vs. indirect opposition must be taken into consideration (see Cinque 2010): postnominal adjectives in French (as well as in other Romance languages) can be either direct or indirect modifiers of the noun, and they display different syntactic and semantic properties in the two cases.

---

and prenominal adjectives are responsible for the phonological realisation of plural features in the French DP, and thus they both are in a context of obligatory liaison. Similar morphosyntactic properties can be found in other Romance varieties. Pomino & Stark (2009) observe that in Occitan (ii) and in spoken Brazilian Portuguese (iii) the noun never inflects for number (number marker occurring on the determiner), while adnominal adjectives are marked for plural only in prenominal but not in postnominal position:

- |       |       |          |           |               |                            |
|-------|-------|----------|-----------|---------------|----------------------------|
| (ii)  | Occ:  | lei      | sournei   | pantai        |                            |
|       |       | det-pl   | dark.M.PL | dream.M       |                            |
| (iii) | Port: | os       | novos     | aluno         |                            |
|       |       | det-m-pl | new.M.PL  | student.M.SG. | (Pomino & Stark 2009, 118) |

The absence of a phonological realisation of number features on the noun across these Romance languages may lead to the conclusion that the noun does not bear number features at all in these varieties. However, as regards the French noun, it is important to underline that the plural inflection clearly emerges in some liaison contexts, despite their infrequency (cf. Morin & Kaye 1982, and Delfitto & Schrotten 1991).

Before examining the direct vs. indirect contrast in detail, I note that this opposition did not systematically emerge in the patterns collected through the elicitation test, which targeted the spontaneous production of liaison. The difficulty to elicit these data arose as a consequence of the fact that the interpretation of the two types of modifier varies in a very subtle way, and native speakers are not immediately sensitive to this distinction. Nevertheless, when the informants were invited to reflect more in depth upon the effects that the modification had on the noun, it clearly emerged that the liaison pattern varied between direct and indirect modification adjectives, even though the informants did not have explicit knowledge of this alternation.

Keeping these premises in mind, we can now start a detailed analysis of the semantic and syntactic properties of direct and indirect modification adjectives. We can firstly consider the direct modifiers. As regards their semantic properties, they have an individual-level, non-restrictive, modal, non-intersective, absolute, evaluative and NP dependent reading, as observed in Cinque (2010). I adopt Cinque's proposal also to define their syntactic properties. As I have already mentioned, he suggests that different classes of direct adnominal modifiers originate in the Spec of various dedicated functional heads in the extended nominal domain. These FPs are higher than the base position of the noun, and the final distribution of adjectives (prenominal or postnominal) depends on N (or NP) movement across the adjectives. In (15), the syntactic derivation for a postnominal direct modification adjective is provided:

- (15)  $[_{DP} [_{FP_{quant}} \text{films} [_{FP_{qual}} \text{amusants} [_{FP_{size}} F^\circ [_{FP_{shape}} F^\circ [_{FP_{colour}} F^\circ [_{FP_{prov}} F^\circ [_{NP} t_i]]]]]]]]]]]$
- 

The derivation proposed in (15) shows that, after N-movement has applied, only one syntactic boundary separates the noun from the postnominal direct modification adjective: the noun, moving from its base position, targets the head immediately higher than the FP which contains the adjective. It follows that, on the one hand, the two words are not in a Spec-head configuration, and thus the conditions for obligatory liaison are not met; but, on the other hand, the two words are both contained within the same extended nominal projection. Consequently, the syntactic conditions which allow for optional liaison are met. In conclusion, the liaison is optional between a noun and its direct postnominal modifier because the syntactic conditions which allow for (non-obligatory) liaison are fulfilled; however, the syntactic relation of the two words is not strong enough to require a compulsory application of liaison, at least in an informal style of speech. The actual realisation of liaison in this context depends on stylistic factors<sup>6</sup>.

<sup>6</sup> We can also note that, in this context, liaison is the phonological realisation of nominal plural features. The optional liaison between a noun and a postnominal direct modification adjective proves that the French noun does bear (abstract) number features, even though their phonological realisation is subject to precise phonological and syntactic conditions. I endorse Selkirk's (1972) analysis, in which the liaison triggered by a noun is considered as the phonological realisation for the nominal plural marker, given that the noun triggers liaison only in plural contexts. Nevertheless, other hypotheses have been proposed against the idea that nominal number features are realised through [z] liaison. For example, Delfitto & Schrotten (1991) claim that the occurrence of postnominal plural [z] liaison is close to statistical insignificance in the input addressed to children who acquire French as

As to indirect modification adjectives, these display opposite semantic properties, entailing a stage-level, restrictive, intersective, relative (to a comparison class), epistemic, discourse-anaphoric, implicit relative-clause reading (Cinque 2010, 19-23). As regards their syntactic properties, I follow Cinque (2010) in locating their source in a position higher than the extended projection of the noun (and lower than NumP), which is specific for (reduced) relative clauses (redRC)<sup>7</sup>: in Cinque's (2010) proposal, this position is an IP containing a PRO and an AP. The postnominal position of indirect modification adjectives is the result of a movement involving the NP plus the projections with the direct modification adjectives in their Spec:

(16)



The structure presented in (16) shows how the indirect modifiers of the noun do not originate within the extended nominal domain, as the direct modifiers do. Moreover, after NP-movement, the derived structure changes for direct and indirect modification: we obtain (17a) for direct modifiers and (17b) for indirect modifiers:

- (17) a. [NP [AP]]  
 b. [NP [IP I° AP]]

their L1. Therefore, they suggest that French nouns and adjectives are not marked for plural “in the core case” and the realisation of number features within the DP exclusively relies on the D position. Although the determiner is mainly responsible for the phonological realisation of number features in the French DP, liaison involving a noun is not impossible. I interpret the possibility to realise the liaison after a noun as evidence of the fact that French nouns bear (abstract) number features, which are realised at the phonological level only in an elevated style of speech. Finally, Morin & Kaye (1982) claim that [z] liaison is not to be considered as the phonological realisation of nominal number features, since the [z] has been re-analysed as an optional, stylistically elevated mark of the plural for postnominal adjectives. According to Morin & Kaye, velours, i.e. liaison “mistakes”, give support to this hypothesis:

- (i) des avions à réaction z-américains  
 some jet planes American.PL  
 ‘American jet planes’ (Morin & Kaye 1982, 321)

However, it is possible that French speakers operate another kind of reanalysis: it is plausible that the NP *avions-à-reaction* has been re-analysed as a compound; in this case the [z] liaison is to be interpreted as the phonological realisation of plural features extended to the whole nominal compound.

<sup>7</sup> Notice that indirect modification adjectives are equivalent to (restrictive) relative clauses:

- (i) un film amusant de Jacques Tati = un film de Jacques Tati qui est/soit amusant  
 a film funny of Jacques Tati  
 ‘A funny film of Jacques Tati’ = a film of Jacques Tati which is funny

In (17b), the noun and the postnominal indirect modifier are not contained in the same extended nominal projection, since the adjective is in the extended projection of I°. Namely, more than one morphosyntactic boundary intervene between the two words.

In line with the third general rule proposed in section 3, we can conclude that the syntactic conditions allowing for liaison are not met in indirect modification, and liaison is thus ruled out irrespective of the style of speech.

#### 4.3. *To sum up: liaison in the DP*

Within the DP, liaison is triggered by functional categories, i.e. determiners, quantifiers and prenominal adjectives: liaison mandatorily occurs between two words which are in a head-head (or in a Spec-head) configuration, both in plural and in singular contexts. Furthermore, functional elements are in an obligatory liaison context with the following lexical element irrespective of the presence of other "silent" FPs occurring between them.

Liaison is optional between two lexical categories which are not in a Spec-head configuration, but still belong to the same extended nominal projection, as in the case of a noun and its postnominal direct modifier. In this context, the application of liaison varies depending on stylistic factors.

Finally, the impossible contexts of application of liaison depend on the presence of syntactic boundaries which separate two lexical categories included in distinct maximal projections: this is the case of indirect modification adjectives.

### 5. *Liaison in the IP*

#### 5.1. *Liaison between a functional and a lexical category in the IP*

In the analysis of the context of application of liaison within the DP, we observed that obligatory liaison particularly involves functional categories, which are in a head-head configuration with the following lexical category. We can extend this analysis to the IP, where liaison is obligatory between a subject pronoun and a finite verb (18):

- (18) a. elles aiment leurs enfants  
      they love their children  
      b. vous invitiez vos amis à déjeuner  
      you invited your friends to lunch

Compulsory liaison applies between a pronominal subject and a finite verb, irrespective of the style of speech: both in Standard and in Colloquial French, subject pronouns trigger obligatory liaison.

Interestingly, it appears that French subject pronouns are undergoing a developmental process which induces them to (partially) lose the syntactic properties of weak pronouns, and to assume those of clitic pronouns (for more details about the classification of pronouns in Romance languages, see Cardinaletti & Starke 1994). This developmental path is clearly revealed in the different syntactic behaviour that subject pronouns assume in Standard and in Colloquial French.

As for Standard French, Brandi & Cordin (1989) give evidence that subject pronouns are verbal arguments and behave as purely phonological clitics (see also Kayne 1975, 1983; Roberts 2010a)<sup>8</sup>. They draw this conclusion on the basis of three syntactic tests. Firstly, a lexical subject cannot be doubled with a subject pronoun (19a); secondly, in coordinated clauses, subject pronouns do not have to be repeated and only optionally occur before the second verb (19b); thirdly, the prenominal negation *ne* intervenes between the subject clitic and the finite verb (19c):

- (19) a. \*Jean il chante  
           John he sings  
       b. Il chante et (il) danse  
           he sings and (he) dances  
       c. Il ne parle pas  
           he not speak neg  
           ‘He does not speak’

These syntactic tests show that subject pronouns in Standard French cliticise onto the finite verb only at a phonological level and not in the syntax<sup>9</sup>.

Moving to (European) Colloquial French, Culbertson (2010) suggests that subject pronouns behave like verbal agreement markers, i.e. as inflectional heads which realise verbal agreement. Culbertson particularly analyses child-directed Colloquial French (Lyon Corpus), and observes that subject pronouns exhibit different properties in Standard and in Colloquial French with regard to the syntactic tests used in Brandi & Cordin (1989). Firstly, the preverbal negation *ne* is frequently dropped in the spoken language<sup>10</sup>; secondly, the repetition of subject clitics in coordinated VPs is either strongly preferred or required<sup>11</sup>; finally, clitic doubling is possible in Colloquial French and the co-occurrence of a DP and a subject clitic is attested in 81% of the sentences in the Lyon Corpus<sup>12</sup>. The author thus

<sup>8</sup> Brandi & Cordin (1989) base their analysis of subject pronouns in Standard French on the comparison with Northern Italian dialects (NIDs). By means of specific syntactic tests, they conclude that subject pronouns behave as phonological and syntactic clitics in NIDs, and as mere phonological clitics in French.

<sup>9</sup> In the framework of the Minimalist Program, Roberts (2010a) also adopts this analysis for Standard French, following a line of analysis which originates in Kayne (1983). Roberts (2010a, 107) observes that Standard French displays the typical configuration for a non-null-subject system (SCL[+agr] V[-agr]), in which the verbal inflection is unable to identify a null subject. In this system, subject pronouns are considered as weak pronouns in SpecTP (D<sup>min/max</sup> elements). They undergo purely phonological cliticisation, since they are unable to be defective goals in relation to T (see Roberts 2010a, 61).

<sup>10</sup> Interestingly, Culbertson (2010) observes that the clitic negation *ne* is mainly dropped in the cases in which it would have intervened between a pronominal subject and a finite verb (6.3% *ne*-retention with subject clitics vs. 83.3% *ne*-retention with DP subjects).

<sup>11</sup> In the Lyon Corpus, the repetition of the subject clitic in coordination concerns 98.4% of the clauses. Moreover, this phenomenon is not restricted to child-directed speech: in the PCF corpus, it is largely attested in coordination contexts (97%).

<sup>12</sup> Since subject doubling is extremely frequent in child-directed speech, subject clitics are likely to be acquired as morphological affixes of the verb. Moreover, subject doubling also concerns adult-directed speech (60% of the sentences in the PCF corpus).

concludes that the linguistic input addressed to L1 acquirers of French encourages the interpretation of subject clitics as markers of verb agreement, and this is crucial for the syntactic evolution of subject pronouns in French.

The test on subject doubling appears to be particularly relevant to define the syntactic status of the subject pronouns in different varieties of French. Also Roberts (2010a) observes that some varieties of Modern Colloquial French allow for doubling of the subject (as in some Northern Italian dialects). In Algerian French, doubling of the subject is extremely frequent – even if apparently not obligatory – even with quantifiers. This case of doubling is particularly telling because quantifiers unequivocally cannot be left-dislocated; therefore the example in (20) cannot instantiate a case of subject left dislocation:

- (20) Personne il ne sait que c'est leur mère  
 nobody he not knows that it's their mother  
 'Nobody knows that she is their mother' (Roberge & Vinet 1989, 53)

Furthermore, Renzi (1992) provides similar data for informal spoken French, which he defines as *français avancé*:

- (21) a. Tous ils veulent venir  
 everybody they want come  
 'Everybody wants to come'  
 b. Chacun il a sa chimère  
 anybody he has his dream  
 'Anybody has his dream'  
 c. Faut que personne il pleure  
 is necessary that nobody he cries  
 'It is necessary that nobody cries' (Renzi 1992, 82)

On the basis of these data, Culbertson (2010) argues for a diachronic grammaticalisation process of subject pronouns in Colloquial French: starting from a status of syntactically and phonologically independent pronouns, they then become clitics, and finally achieve the status of agreement affixes (see also Culbertson & Legendre 2012)<sup>13</sup>.

To sum up, on the basis of the three syntactic tests applied, we observe that pronominal subjects behave as weak pronouns (purely phonological clitics) in Standard French, whereas they behave as verbal agreement markers in Colloquial French. The relevant issue for my investigation is that, in both cases, the conditions for obligatory liaison are at work.

In Standard French, weak pronouns are in a Spec-head configuration with the finite verb. I endorse the split subject projection proposed in Cardinaletti (1997, 2004):

- (22) [<sub>SubjP</sub> {Jean/lui} Subj° [<sub>AgrSP</sub> {il} V<sub>fin</sub> [...]] ]

---

<sup>13</sup> A similar continuous cline of grammaticalisation is indeed described in Vanelli (1998) for subject clitics in Northern Italian Dialects. In the sixteenth century, subject pronouns in these dialects displayed the syntactic properties found in today's Standard French. In the course of their diachronic evolution, they changed their status from phonological clitics to phonological and syntactic clitics.

According to Cardinaletti (2004), more than one preverbal subject position has to be assumed: SubjP (Subject Phrase, the higher one) is the projection in which the “subject-of-predication” feature is checked, and thus hosts the semantic subject; AgrSP (the lower one) is the projection in which  $\phi$ -features are checked, and thus hosts the grammatical subject, i.e. the subject bearing nominative case and verb agreement. Since different features are checked in the two subject positions, SubjP and AgrSP are expected to host different types of subject: while strong subjects are located in SpecSubjP, weak subjects are located in SpecAgrSP. Finally, clitic subject pronouns occur in the head AgrS<sup>o</sup>.

If we assume the structure proposed in Cardinaletti (2004), pronominal subjects in Standard French must be analysed as weak pronouns located in SpecAgrSP. Given that they are in a Spec-head configuration with the finite verb within the same functional projection (AgrSP)<sup>14</sup>, the conditions for obligatory liaison are met.

In Colloquial French, instead, subject pronouns are in AgrS<sup>o</sup>, so they are in a head-head configuration with the finite verb: more precisely, they are heads incorporated into the finite verb (see Roberts 2010a). Consequently, the conditions for obligatory liaison are met also in this variety of French.

We can thus conclude that liaison is obligatory between a non-lexical subject and a finite verb irrespective of the style of language. As regards Standard French, subject pronouns must be treated as weak pronouns in SpecAgrSP. In contrast, subject pronouns in Colloquial French (or français très évolué) must be considered as verbal inflection in AgrS<sup>o</sup>, as in certain Northern Italian varieties<sup>15</sup>.

In minimalist terms, subject pronouns in Standard French could be treated as weak pronouns (D[i $\phi$ ]) in SpecTP, while subject pronouns in Colloquial French could be analysed as subject agreement markers ([u $\phi$ ]) in T. Obligatory liaison is justified in both cases by the Agree relation between the probe (verb) and the goal (subject pronoun). In an appropriate local configuration, Agree between the verb and the subject pronoun – which values the uninterpretable features of the verb – ensures a very close morphosyntactic relation, regardless of the landing site of the subject pronouns (see Roberts 2010a).

<sup>14</sup> Roberts (2005) claims that two heads in a Spec-head relation – i.e. syntactically adjacent heads – can undergo incorporation. The consequence of incorporation is that the two heads become a unique head for all further (syntactic and phonological) operations, and excorporation is impossible.

(i) [TP [T D(P) [T V+T]] ... [VP ... (V) (D(P))]]

The same process is called m-merger in Matushansky (2006): m-merger is a purely morphological process involving linearly adjacent heads. Roberts instead suggests treating incorporation as a narrow syntax operation. However, Roberts (2010a) points out that incorporation is possible only if the probe (finite verb) and the goal (subject pronoun) share the same features: if the subject is a weak pronoun with a D-feature, incorporation is not possible. Only clitics – i.e.  $\phi$ -elements – and not DPs can thus be incorporated to the verbal probe, since only clitics are defective goals for the finite verb.

<sup>15</sup> If we assume that subject pronouns are indeed verbal agreement markers in Colloquial French, we have to treat this variety as a null subject language (NSL). Standard French, instead, can be considered as a fully NSL only in residual V2 constructions (such as left dislocation or interrogatives), in which clitics behave as verbal morphology and license *pro* under government from C. Standard French thus behaves as a NSL at the C level, and as a non-NSL at the T level (Roberts 2010b).

5.2. *Liaison between two lexical categories in the IP*

In 4.1., I showed that obligatory liaison applies between a pronominal subject and a finite verb as a consequence of their head-head or Spec-head configuration within AgrSP.

In contrast, in all varieties of spoken French, the liaison is impossible between a lexical subject and a finite verb, as already pointed out in Selkirk (1972) and in Durand & Lyche (2008):

- (23) a. [les rôles] [ont été inversés]  
 the roles have been reversed [PFC: ID: 9484; Loc: 13bfa1]  
 b. [les gens âgés] [ont droit à la retraite]  
 the people old have right to the pension  
 ‘Old people have the right to receive a pension’ (Selkirk 1972, 242)  
 c. jusqu’à ce que [votre enfant] [ait l’âge]  
 until your son have3SG/SUBJ the age [PFC: ID: 243646 Loc: 75ccr1]

Selkirk (1972) observes that liaison behaves differently in the noun phrase and in the verb phrase. According to Selkirk, anything that occupies the specifier of the noun phrase is always in an environment of liaison, whereas liaison environments in the verb phrase seem to be much more restricted. I would like to demonstrate that a lexical subject and a finite verb are not in a Spec-head configuration within the IP.

In the previous subsection, I endorsed Cardinaletti’s (2004) proposal of a split subject projection. The liaison data give support to this analysis: on the one hand, pronominal subjects are always in an obligatory liaison context, whereas, on the other hand, lexical subjects never trigger liaison; consequently, pronominal and lexical subjects must target two distinct syntactic positions. The impossibility of liaison with lexical subjects suggests that morphosyntactic boundaries block their phonological link with the finite verb. Therefore, impossible liaison is fully compatible with the structure in (24), in which the lexical subject is located in a position higher than the pronominal subject, i.e. SpecSubjP:

- (24) [<sub>SubjP</sub> {Jean/lui} Subj° [<sub>AgrSP</sub> {il} Vfin [...]] ]

Given that AgrSP intervenes between the lexical subject and the finite verb, the liaison is ruled out in this context<sup>16</sup>.

Alternatively, we may consider lexical subjects as always left dislocated, following the proposal in Benincà & Cinque (1985). This hypothesis is also compatible with the liaison patterns. In this case, the lexical subject would be located in a projection within the CP, which accounts for the impossibility of the liaison with the finite verb in AgrS°. The hypothesis that lexical subjects occupy the left periphery of the sentence implies that a null subject (pro) is present in every sentence: Benincà & Cinque (1985) assume that, if I° can license pro, it should license pro also when a lexical subject is already present in the sentence.

<sup>16</sup> Following Cardinaletti (2004), the co-occurrence of a lexical and a pronominal subject would not imply subject doubling, since two positions are considered available for subjects in the IP.

I conclude this section confirming that the liaison patterns found in the IP conform to the general rules put forward in section 3: a functional category and a lexical category in a head-head or in a Spec-head configuration within the same maximal projection are in a context of obligatory liaison. In contrast, two lexical categories which do not belong to the same maximal projection are in an impossible liaison context.

Interestingly, a unified analysis allows us to account for the liaison data in different syntactic domains: the same rules hold for both the DP and the IP, and this suggests that the generalisation proposed can potentially apply to all syntactic domains.

### 6. Liaison in the vP-VP

The general rules proposed in section 3 can also be applied to the liaison contexts found in the vP-VP. For this domain, I provide data that concern only one context of application of liaison, i.e. the liaison which is realised between a transitive verb (synthetic form) and its internal argument<sup>17</sup>.

The liaison between a transitive verb and its direct object is optional:

- (25) a. Il portait un manteau  
he wore a coat  
b. Vidéotron lançait une campagne d'embauche  
Vidéotron launched a campaign of hiring  
'Vidéotron launched a hiring campaign'  
c. On fermait un établissement à Nancy  
it closed a plant in Nancy  
'A plant was closed in Nancy'

Selkirk (1972) includes this liaison in an elevated style of speech. Although sociolinguistic and stylistic factors do determine the realisation of liaison in this context, syntactic conditions are at work as well, and they make liaison (potentially) applicable. In line with the analysis proposed for the DP, the expectation is that the liaison is sensitive to the morphosyntactic boundaries which intervene between the finite verb and its direct object:

<sup>17</sup> The data referring to liaison between a di-transitive verb and its complements are more uncertain: some native speakers accept the liaison in (i) for an elevated style of speech (see also Selkirk 1972), while the data in Morin & Kaye's (1982) corpus support the impossibility of liaison in this context:

- (i) a. il apportait un croissant à sa secrétaire  
he brought a croissant to his secretary  
b. l'immigré envoyait un paquet (\*t-un paquet) à sa famille  
the immigrant sent a package to his family [example from Morin & Kaye 1982, 292]

In the grammar of French speakers who do not accept the liaison in (i), we expect that strong morphosyntactic boundaries (like a small clause, SC) block the liaison:

- (ii) [<sub>IP</sub> il apportait<sub>i</sub> [<sub>VP</sub> t<sub>i</sub> [<sub>SC</sub>[<sub>DP</sub> un croissant] [à sa secrétaire]]]]

If we apply to the VP the same analysis proposed for the DP and the IP, we may assume that the node SC intervening between the finite verb and its complements rules out liaison in this context.

(26)  $[_{IP} \text{il portait}_i [_{VP} [_{VP} V^\circ t_i [_{DP} \text{un manteau}]]]]$

The second general rule proposed in section 3 requires that optional liaisons apply when the words involved belong to the same maximal projection, without being in a Spec-head configuration. This is suitable for this context: the internal argument is the complement of  $V^\circ$ , and the verb arguably leaves a trace (or a copy) in  $V^\circ$  after raising to  $I^\circ$ , where it gets finiteness. The possible application of liaison between a verb in  $I^\circ$  and its internal argument in VP suggests that liaison is sensitive to the trace/copy that the verb leaves in  $V^\circ$  after raising to  $I^\circ$  (see also Masutti & Silvestri 2015).

As mentioned in the introduction, I will add some considerations on how the Phase Impenetrability Condition (PIC) could apply to this liaison context. I deal with PIC for my analysis of liaison in the vP-VP given that other sandhi phenomena which take place in this domain for other Romance varieties have already been analysed on the basis of PIC. I particularly refer to Syntactic Doubling in Easter Abruzzese (Biberauer & D'Alessandro 2006)<sup>18</sup>. The PIC results from the following rule: “In a phase  $\alpha$  with head H, the domain of H is not accessible to operations outside  $\alpha$ ; only H and its edge are accessible to such operations” (Chomsky 2000, 108). Note that after movement of the verb to  $I^\circ$  (or to  $T^\circ$ ), the internal argument located in the complement of  $V^\circ$  and the finite verb located in  $I^\circ$  end up in two different phases; consequently, phonological operations between them should not be allowed. The syntactic conditions for optional liaison in this context are thus operating only if we envisage that a copy of the verb is present in  $V^\circ$ , and that liaison is sensitive to its presence.

The cartographic and the minimalist analyses converge in pointing to the presence of a trace/copy of the verb in  $V^\circ$ , which is able to trigger liaison with the following direct object in the grammar of an elevated style of speech.

## 7. Conclusions

In line with the proposal of Selkirk (1972), I considered the syntactic constituents and not (only) the phonological phrases as the domains of application of liaison (cf. Nespor & Vogel 1986). Selkirk (1972) claims that liaison operates when just one word boundary, #, separates Word1 from Word2; I aimed to define the nature of these syntactic boundaries on the basis of recent cartographic and minimalist analyses.

As an overall conclusion, I observed that the context of application of obligatory and impossible liaisons are exclusively determined by syntactic conditions, irrespective of the style of speech. In contrast, the application of optional liaisons depends on both syntactic and stylistic factors.

<sup>18</sup> Biberauer & D'Alessandro (2006) consider how Syntactic Doubling applies between an auxiliary and a past participle, and how it interacts with active/passive voice. In the present study I will not analyse the application of liaison with auxiliaries, although an alternation of the liaison patterns with transitive and unaccusative past participles can be noted: as a preliminary observation, it appears that the realisation of liaison involves the auxiliary *be* with unaccusatives much more than the auxiliary *have* with transitives (see also Masutti & Silvestri 2015).

I have identified three general rules which define the contexts of application of liaison in different syntactic domains: liaison is obligatorily triggered by two words in a head-head or in a Spec-head configuration within the same maximal projection; liaison can optionally occur between a head (or the copy of a head) and its complement within the same maximal projection; liaison is ruled out between two words which do not belong to the same maximal projection, as more than one morphosyntactic boundary intervene between them.

Moreover, I have observed that liaison is sensitive to the functional nature of Word1. Obligatory liaisons particularly affect functional elements. Namely, liaison obligatorily occurs between a determiner, quantifier or pronominal adjective and a noun in the DP, and between a subject pronoun and a finite verb in the IP.

In the DP, liaison is sensitive to the direct/indirect nature of nominal modifiers, which display different syntactic sources and derivations. The conditions for optional liaison with postnominal direct modifiers, and the presence of syntactic boundaries blocking liaison with indirect modifiers are explained assuming the structures proposed in Cinque (2010).

In the IP, the opposition between the obligatory liaison with pronominal subjects and the impossible liaison with lexical subjects suggests that the latter occupy a position higher than subject pronouns within a split subject projection (Cardinaletti 2004). As for liaison with clitics, syntactic tests show that French native speakers analyse pronominal subjects differently in Standard and Colloquial French (Cardinaletti 2004; Culbertson 2010; Roberts 2010a). However, liaison between a subject pronoun and the finite verb is obligatory regardless of the style of speech, and this suggests that syntactic and not stylistic factors determine their phonological link.

Finally, as regards the vP-VP, optional liaisons are attested between a transitive verb (in I<sup>o</sup>) and its internal argument (in the complement of V<sup>o</sup>). This suggests that the liaison is sensitive to the presence of copies, and that also a copy can trigger liaison after syntactic movement has applied.

### References

- Abeille, Anne, and Daniele Godard. 1999. "La position de l'adjectif épithète en français: le poids des mots". *Recherches linguistiques de Vincennes* 28: 9-32.
- Ashby, William J. 1981. "French Liaison as a sociolinguistic phenomenon". In *Linguistic Symposium on Romance Languages* 9, ed. by William W. Cressy, and Donna Jo Napoli, 46-57. Washington, DC: Georgetown UP.
- Belletti, Adriana. 1990. *Generalized Verb Movement: Aspects of Verb Syntax*. Torino: Rosenberg and Sellier.
- Benincà, Paola, and Guglielmo Cinque. 1985. "Lexical subjects in Italian and the pro-drop parameter". Paper presented at the *Comparative Generative Grammar Fiesta*. Salzburg, August 1985.
- Bergen, Benjamin K.. 2005. "Social Variability and Probabilistic Language Processing". International Computer Science Institute Technical Report. Available at <<http://www.cogsci.ucsd.edu/~bkbergen/papers/cogsci02.pdf>>.
- Biberauer, Theresa, and Roberta D'alessandro. 2006. "Syntactic doubling and the encoding of voice in Eastern Abruzzese". In *Proceedings of the 25th West Coast Conference on Formal Linguistics*, ed. by Donald Baumer, David Montero, and Michael Scanlon, 87-95. Somerville, MA: Cascadilla Proceedings Project.

- Booij, Geert, and Daan De Jong. 1987. "The domain of liaison: theories and data". *Linguistics* 25: 1005-1025.
- Brandi, Luciana, and Patrizia Cordin. 1989. "Two Italian dialects and the null subject parameter". In *The Null Subject Parameter*, ed. by Osvaldo Jaeggli, and Ken Safir, 111-142. Dordrecht: Kluwer.
- Cardinaletti, Anna. 1997. "Subjects and clause structure". In *The New Comparative Syntax*, ed. by Liliane Haegeman, 33-63. London: Longman.
- Cardinaletti, Anna. 2004. "Toward a cartography of subject position". In *The structure of CP and IP*, ed. by Luigi Rizzi, 115-165. New York: Oxford University Press.
- Cardinaletti, Anna, and Michal Starke. 1994. "The typology of structural deficiency. On the three grammatical classes". *Working papers in Linguistics* 4 (2): 41-109.
- Chomsky, Noam. 2000. "Minimalist Inquiries. The Framework". In *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*, ed. by Roger Martin, David Michaels, and Juan Uriagereka, 89-156. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2001. "Derivation by phase". In *Ken Hale: a life in language*, ed. by Michael Kenstowicz, 1-52. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2005. "On phases". Unpublished ms. Massachusetts Institute of Technology, Cambridge, MA.
- Chomsky, Noam, and Morris Halle. 1968. *The sound pattern of English*. New York: Harper & Row.
- Cinque, Guglielmo. 1994. "On the evidence for partial N movement in the Romance DP". In *Paths Towards Universal Grammar. Studies in Honor of Richard S. Kayne*, ed. by Guglielmo Cinque, Jan Koster, Jean-Yves Pollock, Luigi Rizzi, and Raffaella Zanuttini, 85-110. Washington, DC: Georgetown University Press.
- Cinque, Guglielmo. 2010. *The syntax of adjectives: A comparative study*. Cambridge, MA; London: MIT Press.
- Crisma, Paola. 1993. "On Adjectives Placement in Romance and Germanic Event Nominals". *Working Papers in Linguistics* 3: 81-107.
- Culbertson, Jennifer. 2010. "Convergent evidence for categorial change in French: from subject clitic to agreement marker". *Language* 86 (1): 85-132.
- Culbertson, Jennifer, and Geraldine Legendre. 2012. "Factors affecting the use of impersonal 'il' in Spoken French: Implications for change in the clitic system". Paper presented at the *Negation and Clitics in Romance International Meeting*, Zurich Universität.
- Delfitto, Denis, and Jan Schroten. 1991. "Bare plurals and the number affix in DP". *Probus* 3: 155-185.
- Dell, François. 1980. *Generative phonology*. Cambridge: Cambridge University Press. Translated by C. Cullen.
- Durand, Jacques. 1990. *Generative and non-linear Phonology*. London; New York: Longman.
- Durand, Jacques, and Chantal Lyche. 1994. "Phonologie multidimensionnelle et phonologie du français". In *French Generative Phonology: Retrospective and Perspectives*, ed. by Chantal Lyche, 3-32. Salford: ESRI.
- Durand, Jacques, and Chantal Lyche. 2008. "French liaison in the light of corpus data". *Journal of French Language Studies* 18 (1): 33-66.

- Durand, Jacques, Bernard Laks, and Chantal Lyche. 2009. "Le projet PFC: une source de données primaires structurées". In *Phonologie, variation et accents du français*, ed. by Jacques Durand, Bernard Laks, and Chantal Lyche, 19-61. Paris: Hermès.
- Howard, Martin. 2004. "Sociolinguistic Variation and Second Language Acquisition: A Preliminary Study of Advanced Learners of French". *SKY Journal of Linguistics* 17: 143-165.
- Howard, Martin. 2006. "Morpho-phonetic variation in the spoken French media: A comparison of three sociolinguistic variables". *Estudios de Sociolingüística* 7 (1): 1-29.
- Kayne, Richard. 1975. *French Syntax: the transformational cycle*. London: MIT Press.
- Kayne, Richard. 1983. "Connectedness". *Linguistic Inquiry* 14 (2): 223-249.
- Longobardi, Giuseppe. 1994. "Reference and proper names". *Linguistic Inquiry* 25: 609-665.
- Masutti, Vania, and Giuseppina Silvestri. 2015. "The phonology-syntax interface in Romance: comparing liaison and propagation". Paper presented at the *Going Romance*, Nijmegen (The Netherlands).
- Matushansky, Ora. 2006. "Head movement in linguistic theory". *Linguistic Inquiry* 37: 69-110.
- Morin, Yves-Charles, and Jonathan D. Kaye. 1982. "The syntactic bases for French liaison". *Journal of Linguistics* 18: 291-330.
- Nespor, Marina, and Irene Vogel. 2007. *Prosodic Phonology. With a new foreword*. Berlin: Mouton de Gruyter.
- Pollock, Jean-Yves. 1998. "On the syntax of subnominal clitics: cliticization and ellipsis". *Syntax* 1 (3): 300-330.
- Pomino, Natascha, and Elisabeth Stark. 2009. "Adnominal adjectives in romance: where morphology meets semantics". In *Proceedings of the IV Nereus International Workshop Definiteness and DP Structure in Romance Languages*, ed. by M. Teresa Espinal, Manuel Leonetti, and Louise McNally, 113-135. Konstanz, Germany.
- Renzi, Lorenzo. 1992. "I pronomi soggetto in due varietà substandard: fiorentino e français avancé". *Zeitschrift für romanische Philologie* 108 (1-2): 72-98.
- Rizzi, Luigi. 1986. "Null objects in Italian and the theory of pro". *Linguistic Inquiry* 17: 501-557.
- Roberge, Yves, and Marie-Therese Vinet. 1989. *La variation dialectale en grammaire universelle*. Montréal: Presses Universitaires de Montréal/ Editions de l'Université de Sherbrooke.
- Roberts, Ian. 2005. *Principles and parameters in a VSO language. A case study in Welsh*. New York: Oxford University Press.
- Roberts, Ian. 2010a. *Agreement and Head Movement: Clitics, Incorporation, and Defective Goals*. Cambridge, MA; London: MIT Press.
- Roberts, Ian. 2010b. "Varieties of French and the Null Subject Parameter". In *Parametric Variation: Null Subjects in Minimalist Theory*, ed. by Theresa Biberauer, Anders Holmberg, Ian Roberts, and Michelle Sheehan, 303-327. Cambridge: Cambridge University Press.
- Selkirk, Elisabeth. 1972. "The Phrase Phonology of English and French". PhD dissertation, Massachusetts Institute of Technology, Cambridge, MA.
- Selkirk, Elisabeth. 1984. *Phonology and Syntax: the relation between sound and structure*. Cambridge, MA.: MIT.

- Sportiche, Dominique. 1999. "Subject clitics in French and Romance complex inversion and clitic doubling". In *Beyond Principles and Parameters: Essays in Memory of Osvaldo Jaeggli*, ed. by Kyle Johnson, and Ian Roberts, 189-222. Dordrecht: Kluwer.
- Sproat, Richard, and Chilin Shih. 1991. "The cross-linguistic distribution of adjective ordering restrictions". In *Interdisciplinary approaches to language. Essays in honor of S.-Y. Kuroda*, ed. by Carol Georgopoulos, and Roberta Ishihara, 565-593. Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Vanelli, Laura. 1998. *I dialetti italiani settentrionali nel panorama romanzo: studi di sintassi e morfologia*. Roma: Bulzoni.