

## The *liaison* in French IP and DP: a syntactic analysis

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### 0. Introduction

Definition: *liaison* is a *sandhi* phenomenon of French, consisting in the pronunciation of a word-final consonant (normally silent) due to a following vowel sound (1c):

- (1) a. petit [pəti]  
small
- b. le petit bouton [ləpətibutɔ̃]  
the small button
- c. le petit écrou [ləpətitekʁu]  
the small screwnut

However, *liaison* is not only subject to phonological conditions; it is also sensitive to the syntactic context. For instance, in (2b) the phonological conditions are met, but *liaison* does not occur between the adjective and its complement:

- (2) a. un bon enfant [œ̃bɔ̃nɑ̃fɑ̃] (obligatory *liaison*)  
the little child
- b. mauvais en maths [mɔ̃vɛ ɑ̃mat] (impossible *liaison*)  
bad at maths

Dell (1980: 25) claims that two conditions must be simultaneously fulfilled for *liaison* to take place:

- a) Phonological condition: word2 must begin with a vowel;
- b) Syntactic condition: the syntactic relation between the two words must be sufficiently close.

It has already been observed that *liaison* is a phonological phenomenon determined in the syntax, and that the domains of application for *liaison* rules are the syntactic constituents:

Selkirk (1972: 208), Dell (1980: 25), Durand (1990: 31) assume that *liaison* operates when just one word boundary, #, separates one word from the next.

*Liaison* is not the only phonological phenomenon determined in the syntax, as shown by Biberauer and D'Alessandro (2006) for Syntactic Doubling in Eastern Abruzzese.

Aim: I try to provide a formal definition of word boundaries and syntactic constituents on the basis of cartographic analyses (Belletti 1990, Cardinaletti 1997, Cinque 1994, Cinque 2010). The *liaison* information is extremely suggestive and may aid in the syntactic investigation.

Method: The data I will present are partly from French native speakers, partly from a data-base of spoken French (PFC) (Durand *et al.* 2009) and partly from previous studies on *liaison* (Selkirk 1972, Morin & Kaye 1982, Nespor & Vogel 1986). The data from native speakers have been collected through a test, in which they were required to read some sentences first in an informal style and then in an elevated style (cf. Morin & Kaye 1982: 7).

I discuss data concerning obligatory, optional and impossible *liaisons*. I investigate both the *liaison* between a functional and a lexical item and the *liaison* between two lexical items, focusing on *liaison* contexts in DP and IP. I also present some preliminary data about the *liaison* between the verb and its complements in the VP, which will be the subject of further investigations.

## Road map

1. The stylistic approach
2. The *liaison* in the perspective of autosegmental phonology and prosodic phonology
3. The *liaison* in the DP: direct and indirect modification adjectives
4. The *liaison* in the IP: subject pronouns and lexical subjects
5. The *liaison* in the VP: preliminary observations and further investigations
6. Conclusions

### **1. The stylistic approach**

Selkirk (1972: 209) states that each style has its grammar and a set of readjustment rules operate to give a single # in the *liaison* context of that style. She distinguishes three styles:

- *Conversation familière*: basic *liaison* occurs between a non-lexical item and what follows it;
- *Conversation soignée*: lexical items preceding heads may retain their final consonant;
- *Lecture ou discours*: inflected nouns, verbs and adjectives and their complements are in a *liaison* context.

#### My proposal:

- Obligatory *liaison* mainly occurs between a functional and a lexical category (3a-b), but it also involves two lexical items in the DP (3c); the two words must be either in a spec-head or in a head-head configuration in the same XP:

- (3) a. ils offrent (IP)  
they offer  
b. les oncles (DP)  
the uncles  
c. de bons amis (DP)  
good friends

- Optional *liaison* occurs between two lexical items, if they are housed in two different XPs separated by only one morphosyntactic boundary:

- (4) a. un marchand [[de draps] anglais]] (DP) [example from Selkirk 1972: 235]  
a merchant of English sheets  
b. [il portait [un manteau]] (VP)  
he wore a coat

- Impossible *liaison* involves lexical categories which occupy two different XPs, separated by more than one morphosyntactic boundary:

- (5) a. [les enfants] [ont faim] (IP)  
the children are hungry  
b. [[les marchands [de vins]] [italiens]] (DP)  
the Italian merchants of wines  
c. [il apportait [[un café noir] [à sa secrétaire]]] (VP)  
he brought a coffee to his secretary

Examples (3) and (4) show that *liaison* is obligatory in some contexts, while in others it is optional: only in the latter case does the occurrence of *liaison* depend on sociolinguistic factors; however, the underlying conditions permitting it are encoded in the syntax. In fact, although optional *liaisons* occur infrequently, they are possible (4), which means that some syntactic conditions allowing them are at work; on the contrary, impossible *liaisons* (5) are blocked by syntactic constraints which

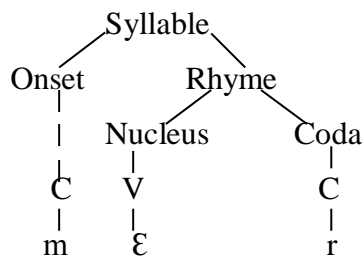
completely prevent them. Hence it is also important to distinguish between optional and impossible *liaisons*.

## 2. The *liaison* for autosegmental phonology and prosodic phonology

### 2.1. Autosegmental phonology

Phonological segments are not directly organised in syllabic constituents, but they are inserted in a skeleton which is the anchoring device for all phonological tiers (segments, syllable, melodic structure). This anchoring device is the CV tier, which relates the internal content of segments to other types of information (Durand & Lyche 1994: 7, Durand 1990: 242)

(6)



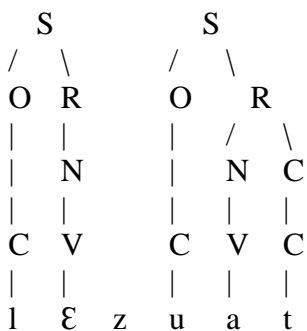
Durand and Lyche (1994) analyse the opposition between impossible (7a) and obligatory (7b) *liaison* in an autosegmental framework:

- (7) a. les watt [lɛwat]  
the watts  
b. les oies [lɛzwa]  
the geese

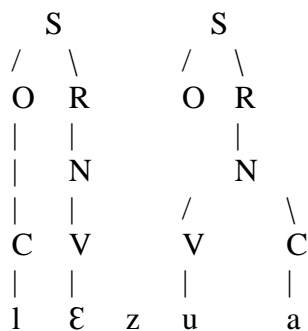
In (8a) the onset is filled by the semivowel [w], whereas in (8b) the onset is unfilled, since the semivowel [w] occupies the nucleus (due to split of the nucleus); hence the onset must be filled with the *liaison* consonant:

(8)

a. les watt



b. les oies



General convention: “Donner une position X à une consonne flottante en fin de mot si le mot qui suit a une attaque vide” (Durand & Lyche, 1994: 9).

Nevertheless, this phonological analysis cannot account for the contexts of impossible *liaison* (9), where *liaison* is not triggered even though phonological conditions are met:

- (9) a. [les animaux] [accouraient]  
the animals rushed

[example from Selkirk 1972: 238]

- b. [prêts] [à accepter]  
ready to accept

[example from Morin & Kaye 1982: 23]

## 2.2. Prosodic phonology

According to Nespor and Vogel (1986: 165), the phonological phrase is the domain of application of phonological rules and syntactic constituents are inappropriate as domains of phonological rules. *Liaison* proves this inappropriateness (10):

- (10) a. les girafes et les éléphants sont ses meilleurs amis [mɛjæʁzami]  
giraffes and elephants are his best friends  
b. Claude a des perroquets intolérables [perɔkɛ ɛ̃tɔlərabl]  
Claude has some intolerable parrots

[examples from Nespor & Vogel 1986: 41]

Nespor and Vogel analyse both the prenominal and the postnominal adjective as a complement of the noun. In their proposal there is no way to capture in syntactic terms the fact that similar constituents behave differently with respect to the same phonological rule.

### My proposal:

- a) Strong hypothesis: there is a one-to-one relation between the syntactic structure of a sentence and its prosody. Accordingly, it is the position of the syntactic constituent boundaries that determines to a large extent the prosodic pattern.
- b) A more formal analysis is necessary to investigate the underlying syntactic structures for (10a) and (10b). In line with the cartographic analyses proposed in Cinque (1994) and Cinque (2010), I will show that the D-structures for (10a) and (10b) are completely different, despite their apparent similarity in the derived structure. The adjectives in (10a) and (10b) display different syntactic and semantic relations with the noun.

## 3. The *liaison* in the DP

### 3.1. The *liaison* between a functional and a lexical category

Determiners are in obligatory *liaison* context both with nouns and prenominal adjectives, both in plural (11a,c) and in singular contexts (11b,d):

- (11) a. les oranges  
the oranges  
b. son ennemi  
his enemy  
c. des anciens bâtiments  
some old buildings  
d. un intéressant article  
an interesting article

The obligatory *liaison* mainly affects functional categories (determiners and clitics in particular). However, in the DP (but not in the IP and VP) *liaison* is obligatory also between two lexical categories, i.e. between a prenominal adjective and a noun, as I will demonstrate in 3.2.

### 3.2. The *liaison* between two lexical categories

In ambiguous contexts, *liaison* disambiguates the category of the words concerned: obligatory *liaison* only occurs between a prenominal adjective and a noun (12a-b); on the contrary, it is rarely

attested between a noun and a postnominal adjective (12c-d) (see also Abeillé & Godard 1999: 11 and Pomino & Stark 2009: 119):

- (12) a. de vieux africains [døvjøzafrikɛ̃]  
old Africans  
b. de savants italiens [dəsavãzitaljɛ̃]  
clever Italians  
c. des vieux africains [devjøafrikɛ̃]  
some African old men  
d. des savants italiens [desavãitaljɛ̃] [cf. Selkirk 1972: 235]  
some Italian scientists

### 3.2.1. Prenominal adjectives

In line with the cartographic approach proposed in Cinque (1994) and adopting the adjective hierarchy proposed in Sproat and Shih (1991) and Cinque (2010), I consider French prenominal adjectives as direct modifiers of the noun, originated in prenominal specialised functional projections (FP) in the extend domain of the noun.

The DP in (13) displays the syntactic structure and derivation presented in (14):

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

- (14) [DP [FP<sub>quant</sub> F° [FP<sub>qual</sub> **grand émoi**<sub>i</sub> [FP<sub>dim</sub> t<sub>i</sub> [FP<sub>forme</sub> t<sub>i</sub> [FP<sub>coul</sub> t<sub>i</sub> [FP<sub>nation</sub> t<sub>i</sub> [NP t<sub>i</sub>]]]]]]]]
- 

*Liaison* is obligatory between the prenominal adjective and the noun, which occupy respectively the Spec and the head of the same FP.

#### Morphological remarks:

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* (15):

- (15) a. J'ai lu de bons articles  
I have read (of) good+plur articles  
b. \*J'ai lu d'articles  
I have read (of) articles  
c. J'ai lu \*(des) articles  
I have read (of+the) articles [examples from Pollock 1998: 315]

Pomino and Stark (2009: 118) observe that in other Romance varieties, like Occitan (16a) and substandard spoken Brazilian Portuguese (16b), the noun never inflects for number (number marking occurring on the determiner), while adnominal adjectives are marked for plural only in prenominal but not in postnominal position:

- (16) a. Occ: lei            sournei            pantai  
det-**pl**        scuro-m-**pl**        sogno-m  
b. Port: os            novos            aluno  
det-m-**pl**    nuovi-m-**pl**        alunni-m-**sg** [examples from Pomino & Stark, 2009]

As regards French, determiners and prenominal adjectives are mainly responsible for the phonological realisation of plural features; however, the plural inflection of the noun emerges in

some *liaison* contexts, as I will show in 3.2.2. (cf. Delfitto & Schrotten 1991: 177-178 and Morin & Kaye 1982: 320).

Moreover, the trigger for obligatory *liaison* between a prenominal adjective and a noun is not only morphological, since it occurs also in singular contexts, as noted in Morin and Kaye (1982: 294):

- (17) un grand ami  
a great friend

### 3.2.2. Postnominal adjectives

The *liaison* is infrequently attested between a noun and a postnominal adjective. Selkirk (1972) reserves this *liaison* to the elevated style.

However, its occurrence is not close to statistical insignificance (cf. Delfitto & Schrotten 1991).

In the following examples from French native speakers, *liaison* is optional in (18a) and impossible in (18b). According to Selkirk (1972: 235-236) a DP such as (18) is ambiguous if *liaison* is not realised; but it is unambiguous if *liaison* does occur. In the latter case, the postnominal adjective can only refer to *vins* and not to *représentants*:

- (18) a. les représentants de vins italiens  
the sales representatives of Italian wines  
b. les représentants de vins italiens  
the Italian sales representatives of wines

In order to account for optional (18a) and impossible (18b) *liaisons* with postnominal adjectives, I propose to consider the direct vs. indirect nature of the nominal modifier. Postnominal adjectives in French can be both direct (18a) or indirect (18b) modification adjectives, displaying different syntactic and semantic properties.

In (19) the syntactic derivation for a direct modification adjective is provided, following the cartographic approach of Cinque (1994):

- (19) [DP [FPquant F° [FPqual F° [FPdim F° [FPforme F° [FPcoul **vins** [FPnation **italiens** [NP t<sub>i</sub>]]]]]]]]
- 

In (19) only one syntactic boundary separates the noun and the postnominal direct modification adjective. Therefore, the syntactic condition allowing *liaison* is fulfilled in this context.

As regards impossible *liaison*, Selkirk (1972: 235) already states that a plural noun will not be in a *liaison* context with an adjective not in its own complement. However, impossible *liaison* is more formally explained within a cartographic analysis.

In (20) I propose the syntactic derivation for indirect modification adjectives, in line with Cinque (2010)'s proposal:

- (20) [DP D° [redRC [APmod indir] [FPqual F° [FPquant F° [FPdim F° [FPforme F° [FPcoul F° [FPnation F° [NP N°]]]]]]]]]]
- 

The indirect modifier originates in a projection higher than the functional domain of the noun, i.e. in a projection intended to house reduced relative clauses (redRC). The whole extended nominal domain rises across the indirect modification adjective.

Indirect modification adjectives are indeed equivalent to relative clauses:

- (21) un marchand de draps anglais = un marchand de draps qui est anglais  
an English merchant of sheets = a merchant of sheets who is English

Furthermore, impossible *liaison* involving indirect modifiers could be associated with impossible *liaison* involving relative pronouns (22). If indirect modifiers are reduced relatives clauses, the absence of *liaison* in these two contexts may correlate:

- (22) les endroits où vivent les gens les plus pauvres  
the places where the poorest people live [example from Selkirk 1972]

In conclusion, since more than one morphosyntactic boundary occur between the noun and the indirect modification adjective, *liaison* is not permitted.

#### Morphological remarks:

The optional *liaison* between a noun and a postnominal direct modification adjective proves that the French noun bears number features, even if their phonological realisation is subject to precise phonological and syntactic conditions.

Selkirk (1972: 233) states that with lexical categories, *liaison* contexts are restricted to inflected items and their complements, and they only occur in elevated style. *Liaison* does not appear after singular nouns<sup>1</sup>:

- (23) un savant anglais/\*t-anglais  
an English scientist

Since the *liaison* only occurs with plural nouns, the *z-liaison* may be considered as the plural marker of the noun.

Two hypotheses against *z-liaison* as nominal plural marker:

- Delfitto and Schrotten (1991: 177-178) claim that the absence of phonological evidence for the presence of the number affix on the noun suggests that French nouns (and adjectives) are not marked for plural and only determiners are inflected for number.
- Morin and Kaye (1982: 320) claim that *z-liaison* has been re-analysed as an optional stylistically elevated mark of the plural for post-nominal adjectives (not for nouns):

- (24) un marchand de draps z-anglais  
a merchand of English sheets

*Velours* (25) may support this analysis:

- (25) des avions à réaction z-americains  
American jet planes [examples from Morin & Kaye 1982]

## 4. The *liaison* in the IP

### 4.1. The *liaison* between a functional and a lexical category

The *liaison* is obligatory between a subject pronoun and a verb (26):

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

Could the obligatory *liaison* between the subject pronoun and the verb suggest that the pronoun realises verbal features?

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<sup>1</sup> *Liaison* occurs after singular prenominal adjectives but not after singular nouns.

The investigation on the *liaison* within the IP allows us to make assumptions about the nature of subject pronouns in French, which has been the object of many studies (Kayne 1975, Rizzi 1986, Brandi & Cordin 1989, among many others).

Subject clitics in French are traditionally treated as verbal arguments, i.e. maximal projections which cliticize onto the verb only at the phonological level. On the contrary, subject clitics in Northern Italian dialects are considered as phonological and syntactic clitics.

Brandi & Cordin (1989: 116) give evidence that French subject pronouns are verbal arguments and only phonological clitics:

- French subject clitics cannot cooccur with a lexical subject:

(27) \*Jean il chante  
John he sings

- French subject clitics must not be repeated when two verbs are coordinated:

(28) Il chante et (il) danse  
He sings and (he) dances

- the negation *ne* intervenes between the subject clitic and the verb:

(29) Il ne parle pas  
He does not speak (neg)

In order to account for the position of French subject pronouns in the IP, I propose to compare the two different suggestions of (a) Cardinaletti (1997) and (b) Culbertson (2010).

(a) On the basis of the tripartition of pronouns proposed in Cardinaletti & Starke (1994: 64), French subject pronouns are analysed as weak pronouns and not clitic pronouns.

Both weak and clitic pronouns (deficient series) occur at S-structure in AgrSP: clitics occur in a functional head (they incorporate to the verb); weak pronouns are maximal projections occurring in some specFP.

Cardinaletti (1997: 47-49) argues for more than one preverbal subject position. In a split AgrSP, French strong subjects (non-deficient) occur in the higher specifier (Agr1P), whereas weak subjects occupy specAgr2P:

(30) [<sub>Agr1P</sub> {Jean/lui}] [<sub>Agr2P</sub> {il}] V<sub>fin</sub> [...

Assuming Cardinaletti (1997)'s proposal, obligatory *liaison* between the subject pronoun and the verb can be analysed as the result of their syntactic adjacency: the subject pronoun and the verb occupy respectively the spec and the head of the same functional projection (Agr<sub>2P</sub>).

(b) Culbertson (2010: 89) claims that Colloquial French subject clitics are inflectional heads and not verbal arguments housed in subject position and cliticized at the level of phonology. French subject clitics are considered as inflectional morphemes, i.e. heads which realise verbal features.

Child-directed Colloquial French (Lyon Corpus) suggests that the input to French learners encourages the interpretation of subject clitics as affixal agreement markers:

- *Ne*-retention in the spoken language is very low; moreover, *ne* is preferentially dropped just in the cases where it would intervene between the subject clitic and the verb (6.3 % *ne*-retention with subject clitics vs. 83.3% *ne*-retention with DP subjects) (Culbertson 2010: 95);
- repetition of subject clitics in coordinated VPs is either strongly preferred or required (98.4% in Lyon Corpus, 97% in PCF corpus) (Culbertson 2010: 102);



- the co-occurrence of a DP and a subject clitic is possible (81% in the Lyon Corpus, 60% in the PCF corpus) and the DP is not left-dislocated, (cf. Culbertson 2010: 115 with Brandi & Cordin 1989: 113).

Moreover, Renzi (1992: 78) provides data from the *français avancé* proving the occurrence of subject doubling also with quantifiers:

- (31) a. tous ils veulent venir  
everybody (they) want to come  
b. chacun il a sa chimère  
anybody (he) has his dream  
c. faut que personne il pleure  
it is necessary that nobody (he) cries [examples from Renzi 1992: 82]

Culbertson & Legendre (2012) argue for a diachronic grammaticalization process for subject pronouns in French:

independent pronoun > clitic pronoun > agreement affix

Furthermore, subject clitics in Northern Italian Dialects (Vanelli 1998) in XVI century displayed the same syntactic properties as today's Standard French. Their diachronic evolution from phonological clitics to phonological and syntactic clitics may be reproduced in French.

Assuming Culbertson's proposal, French subject pronouns have to be placed in Agr<sup>o</sup>, considering the extended functional domain of the verb proposed in Belletti (1990).

Obligatory *liaison* between a subject pronoun and a verb arises as a consequence of the fact that the pronoun is incorporated to the verbal head.

Hence, obligatory *liaison* between a subject pronoun and a verb could be accounted for in both Cardinaletti (1997)'s and Culbertson (2010)'s proposals. Moreover, in both cases French subject clitics are not treated as syntactically equivalent to lexical subjects.

The weak pronoun/agreement inflection opposition for French pronominal subjects is no longer relevant if we consider Roberts (2010a: 102ff.)'s analysis. As regards Standard French, Roberts adopts Cardinaletti (1997)'s proposal for subject pronouns in T (AgrP in my analysis): they are weak pronouns in SpecTP, with interpretable  $\phi$ -features and D-features. On the contrary, subject pronouns in C behave as verbal inflection, which instantiate uninterpretable  $\phi$ -features. This is the case of residual V2 constructions (such as left dislocation or interrogatives). Clitics in C behave as verbal morphology and license *pro*. Accordingly, Standard French can be considered as a fully null subject language at the C level; and as a non-null subject language at the T level.

However, there are registers in which French subject proclitics are to be analysed as realising  $\phi$ -features of T (as in certain Northern Italian varieties) (Roberts 2010b: 326), as shown in Culbertson (2010). In this variety (*français très évolué*) French has to be considered as fully non-subject in TP.

Thus, in an appropriate local configuration, subject pronouns have  $\phi$ -features that value the  $\phi$ -features of T. Agree produces a chain between the  $\phi$ -features on T and the  $\phi$ -features on the subject pronoun: this analysis account for both weak subject pronouns in SpecTP and for subject clitics in T. In both cases (regardless of the landing site of the subject pronouns) Agree ensures a very close morphosyntactic relation between the subject pronoun and the verb, which justifies the obligatory *liaison* between them.

#### 4.2. The *liaison* between two lexical categories

The *liaison* is impossible between a lexical subject and a verb (cf. also Durand & Lyche 2008: 21):

- (32) a. [les rôles] [ont été inversés] [PFC: ID: 9484; Loc: 13bfa1]  
the roles have been reversed

- b. [les gens âgés] [ont droit à la retraite]  
old people have right to pension [example from Selkirk 1972: 242]
- c. jusqu'à ce que [votre enfant] [ait l'âge]  
until your son have<sub>3sg/SUBJ</sub> the age [PFC: ID: 243646 Loc: 75ccr1]

Selkirk (1972: 210) observes that anything that occupies the specifier of the noun phrase is always in an environment of *liaison* vs. in the verb phrase the *liaison* environments are much more restricted.

The analysis of the *liaison* confirms that subject clitics and lexical subjects do not occupy the same position in the derived structure.

The impossibility of *liaison* between a lexical subject and a verb suggests that morphosyntactic boundaries block their phonological link.

Therefore we can assume that lexical subjects are in a position higher than subject pronouns in the derived structure.

In Cardinaletti (1997)'s proposal lexical subjects occupy specAgr1P; the impossible *liaison* can be explained assuming that a maximal projection (Agr2P) intervenes between the lexical subject and the verb:

- (33) [Agr1P {Jean/lui} [Agr2P {il} Vfin [...

Alternatively, we could formulate the hypothesis that lexical subjects are always left dislocated, which implies that a null subject is present in every sentence of a NSL: if the verb can license *pro*, it should be licensed also when a lexical subject is present (Benincà & Cinque 1985).

## 5. The *liaison* in the VP

I also present some preliminary data about the *liaison* between the verb and its complements in the VP, which will be the subject of further investigations.

*Liaison* is optional between a transitive verb and its direct object. Selkirk (1972) includes this *liaison* in elevated style:

- (34) il portait un manteau  
he wore a coat

In line with the analysis suggested for the DP and the IP, I can assume that only one morphosyntactic boundary intervenes between the verb and its direct object:

- (35) [IP il portait<sub>i</sub> [VP t<sub>i</sub> [DP un manteaux]]]

Data concerning the *liaison* between a di-transitive verb and its direct object are more uncertain: some native speakers accept *liaison* in (36) in elevated style (see also Selkirk 1972), while data in Morin and Kaye (1982)'s corpus support the impossibility of *liaison* in this context:

- (36) 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]

If the verb demands both a direct and an indirect object, we could postulate the existence of a small clause including the two verbal complements. The small clause node, intervening between the verb and its complements, should block the *liaison*:

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

### Further expectations

In line with the analysis that I propose for French *liaison* in the DP and IP, the expectation for the VP is that the *liaison* will be sensitive to the morphosyntactic boundaries between the verb and its complements. Thus, the analysis of *liaison* contexts may help to make predictions on the VP structure. Accordingly, the finite/non-finite opposition has to be taken into consideration. In regard to finite verbs, I will consider the difference between the (obligatory) *liaison* involving pronominal objects and the (optional) *liaison* involving lexical objects (presumably correlated to the verb movement from the VP to the IP). In regard to non-finite verbs, I will compare the *liaison* with infinitives and participles, both with pronominal and lexical objects. In particular, I will investigate the correlation between *liaison* and voice, in order to verify if active, passive and unaccusative participles display different *liaison* patterns, in the same way as syntactic doubling is sensitive to voice in Eastern Abruzzese (cf. Biberauer & D'Alessandro 2006).

### **6. Conclusions**

In line with the proposal of Selkirk (1972), I consider syntactic constituents as the domain of application of *liaison* (cf. Nespor & Vogel 1986). Selkirk (1972) claims that *liaison* operates when just one word boundary, #, separates word1 from word2; I aim to give a more formal definition of syntactic boundaries on the basis of cartographic analyses.

As an overall conclusion, it may be stated that obligatory *liaisons* mainly occur between a functional and a lexical category, i.e. between a determiner and a noun in the DP, and between a subject pronouns and a verb in the IP.

Nevertheless obligatory *liaison* can also occur within two lexical categories: it is the case of the *liaison* between a pronominal adjective and a noun in the DP. On the contrary, obligatory *liaisons* do not take place between two lexical categories in the IP and VP.

As a general statement, it can be claimed that the *liaison* between two lexical items occurs if they are in a spec-head configuration within the same XP (obligatory *liaison*); or if they occur in two adjacent XPs separated by only one morphosyntactic boundary (optional *liaison*). Instead the *liaison* is impossible if the words concerned occur in two different XPs, separated by more than one morphosyntactic boundary.

In regard to the DP, I assume the syntactic structure and derivation proposed in Cinque (1994, 2010), showing that the *liaison* is sensitive to direct/indirect nature of modifiers.

In regard to the IP, the opposition between the obligatory *liaison* involving subject clitics and the impossible *liaison* involving lexical subjects suggests that the latter occupy a position higher than subject pronouns. Comparing the proposals of Cardinaletti (1997) and Culbertson (2010), subject pronouns can be analysed either as weak pronouns in specAgr2P, or as inflectional affixes of the verb (see also Roberts 2010b).

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