

French Liaison as a Phonological Realization of Morphosyntactic Relationships

Author(s): Gorka Elordieta

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French liaison as phonological realization of morphosyntactic relationships

Gorka Elordieta

University of Southern California/University of California, Los Angeles

1. INTRODUCTION.* In French there are two types of word-final consonants: fixed and latent. Fixed consonants are always pronounced, whereas latent consonants are pronounced only when the following word starts with a vowel, a phenomenon known as liaison. This is illustrated in (1), where the consonants that are pronounced are underlined, and unpronounced consonants are enclosed in angled brackets. The first example in (1b) is a case of liaison (examples taken from Tranel 1995:799):¹

- (1) a. *net̩ avantage* 'clear advantage' *net̩ défaut* 'clear defect'
 b. *petit avantage* 'small advantage' *peti<t> défaut* 'small defect'

In the least elevated and most conversational style of discourse in French, traditionally called *conversation familière* or Style I, where the basic or obligatory contexts of liaison are found, and where speakers show reliable intuitions, there are clear differences in obligatoriness or frequency of liaison depending on the grammatical category of the words containing the liaison consonant. Previous analyses of French liaison do not seem to be able to capture these differences in distribution, and we will propose an alternative solution to the problem, based on the morphosyntactic relationships holding among the elements in liaison environments. In particular, it will be argued that obligatory liaison occurs only between two words α and β when α is a functional head in an agreement relationship with the following lexical element, and when α and β are in the same X^0 in syntax.

2. DISTRIBUTION OF LIAISON. That not all words with floating consonants make liaison with the same degree of frequency has been previously acknowledged in the literature, based on observations of native intuitions or of recorded data (Selkirk 1972, De Jong 1990). In this section I will present the differences in obligatoriness or frequency of liaison in conversational style in French:

2.1. OBLIGATORY LIAISON. We find obligatory liaison in the following contexts (the symbol 'ˆ' indicates liaison):

- Between a determiner and a noun or adjective:

- | | |
|---|--|
| (2) a. <i>les amis</i>
the friends | c. <i>un arbre</i>
a tree |
| b. <i>des ennemis</i>
indef. enemies
'(some) enemies' | d. <i>les aimables marchands</i>
the friendly merchants |

- Between a demonstrative and a noun or adjective:

- | | |
|---|-------------------------------------|
| (3) a. <i>cet effort</i>
this effort | b. <i>ces amis</i>
these friends |
|---|-------------------------------------|

- Between a possessive adjective and a noun or adjective:

- | | |
|--|---|
| (4) a. <i>mon oeil</i>
my eye | c. <i>nos oppresseurs</i>
our oppressors |
| b. <i>ton écriture</i>
your writing | d. <i>leurs effets</i>
their effects |

- Between a numeral or quantifier and a noun or adjective:²

- | | |
|--|--|
| (5) a. <i>vingt-trois oignons</i>
twenty-three onions | d. <i>plusieurs autres enfants</i>
several other children |
| b. <i>trente-deux assauts</i>
thirty-two attacks | e. <i>aucun officier</i>
no officer |
| c. <i>trois ingénieurs</i>
three engineers | f. <i>quelques expériences</i>
a few experiences |

- Between certain adjectives and following nouns:³

- | | |
|---|--|
| (6) a. <i>le petit avantage</i>
the little advantage | c. <i>un grand arbre</i>
a tall tree |
| b. <i>de beaux artichauts</i>
beautiful artichokes | d. <i>un bon avocat</i>
a good lawyer |

- Between object clitics and verbs:

- | | |
|--|---|
| (7) a. <i>Il vous a donné la réponse</i>
he you has given the answer
'He has given you the answer' | c. <i>J'en ai plusieurs</i>
I-of it have several |
| b. <i>Je les écoute</i>
I them listen to
'I listen to them' | |

- Between a verb and a following subject or oblique clitic:

- (8) a. *Sont* $\hat{\quad}$ *-ils arrivés?*
have they arrived?
- b. *Allons* $\hat{\quad}$ *-y tous ensemble*
go-there all together
'Let's go there all together'
- c. *Est* $\hat{\quad}$ *-elle allée à Paris?*
is she gone to Paris?
- d. *Ont* $\hat{\quad}$ *-elles accepté?*
have they accepted?

- Between a subject clitic and a following verb:

- (9) a. *Ils* $\hat{\quad}$ *ont acheté*
they have bought
- b. *Vous* $\hat{\quad}$ *avez fini*
you have finished
- c. *Nous* $\hat{\quad}$ *avons déjà mangé*
we have already eaten

2.2. FREQUENT LIAISON. Liaison is frequent but not obligatory in the following contexts:

- Between monosyllabic prepositions and a determiner:⁴

- (10) a. *dans* $\hat{\quad}$ *une salle publique*
in a room public
- b. *sans* $\hat{\quad}$ *aucune ami*
without any friend
'without friends'

- Between a monosyllabic degree adverb and a following adjective:

- (11) a. *très* $\hat{\quad}$ *inconmode*
very uncomfortable
- b. *bien* $\hat{\quad}$ *avantageux*
very advantageous
- c. *plus* $\hat{\quad}$ *âgée*
more old
- d. *fort* $\hat{\quad}$ *intéressante*
very interesting

- Between a monosyllabic auxiliary and a verb:⁵

- (12) a. *Jeanne est* $\hat{\quad}$ *allée voir le résultat*
Jeanne has gone to see the result
- b. *Je suis* $\hat{\quad}$ *arrivée trop tôt*
I have arrived too soon
- c. *Ils sont* $\hat{\quad}$ *entrés dans la salle*
they have entered in the room
- d. *Les commerçants ont* $\hat{\quad}$ *augmenté tous les prix*
the merchants have all raised the prices

- Between monosyllabic forms of the copula *être* and a predicate:

(13) a. *Il est insupportable que tu y ailles tout seul*
It is unbearable that you there go all alone

b. *Nous sommes impatients de vous voir à Paris*
we are impatient of you see in Paris
'We are anxious to see you in Paris'

2.3. RARE LIAISON. Liaison is rare with polysyllabic forms of the categories mentioned in the preceding section, i.e., prepositions, degree adverbs, auxiliaries and copulas. The symbol '/?' indicates the low frequency of occurrence of liaison:

(14) a. *pendant /? une semaine*
during one week

b. *depuis /? un an*
since one year

c. *assez /? intimes*
rather intimate

d. *vraiment /? idiot*
truly idiotic

e. *Vous avez /? étonné tout le monde*
you have surprised everybody

f. *Les soviétiques auraient /? annoncé la fin des négociations*
the Soviets would have announced the end of the negotiations

g. *Les mères seront /? impatientes de voir leurs fils*
the mothers will-be anxious to see their children

2.4. ABSENCE OF LIAISON. Liaison is not made in conversational style between any two lexical words:

(15) a. *un court / instant*
a short moment

b. *les hommes / étaient fatigués*
the men were fatigued

c. *elle donnait / un cours à l'université*⁶
she gave a course at the university

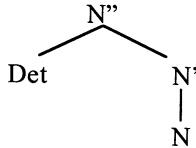
Complementizers with latent final consonants such as *quand* 'when' and *dont* 'therefore' do not receive an easy classification. Only when introducing subordinate clauses may they trigger liaison, not in direct questions, and in indirect questions the situation seems intermediate. Some sources cite them as making

obligatory liaison in subordinate clauses (De Jong 1990), but others cite them as making only optional liaison (cf. Tranel 1987:188). We thus consider it safe not to make assumptions based on complementizers, and will omit them from our discussion. But as the reader will be able to notice, they do not affect our argument.

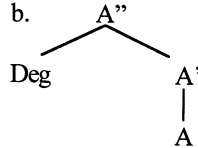
3. PREVIOUS ANALYSES. In this section we will review the proposals that have been made to account for the contexts of application of French liaison, within the different approaches to phrasal and prosodic phonology. As we will see, they all present serious inadequacies that call for an alternative solution to the problem.

3.1. DIRECT REFERENCE THEORY. Ellen Kaisse (1985) devised a theory in which c-command relationships and edge locations directly readable from syntactic structure play a role in delimiting the contexts where postlexical phonological processes may occur. Kaisse claims that liaison applies between two words *a* and *b* where *b* c-commands *a*. The term 'c-command' utilized by Kaisse is an abbreviation for 'domain c-command', which is equivalent to 'm-command' (that is, α m-commands β if the first maximal projection dominating α also dominates β). Thus, Kaisse's claim should be interpreted to mean that liaison applies between two words *a* and *b* where the first maximal projection dominating *b* also dominates *a*. This is illustrated by the following diagrams:

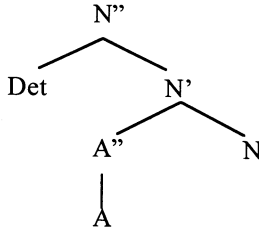
(16) a.



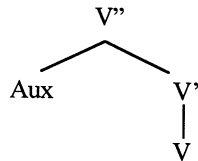
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c.

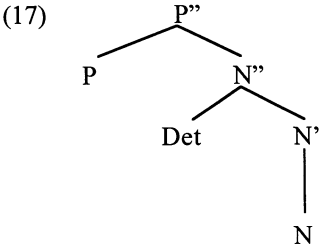


d.

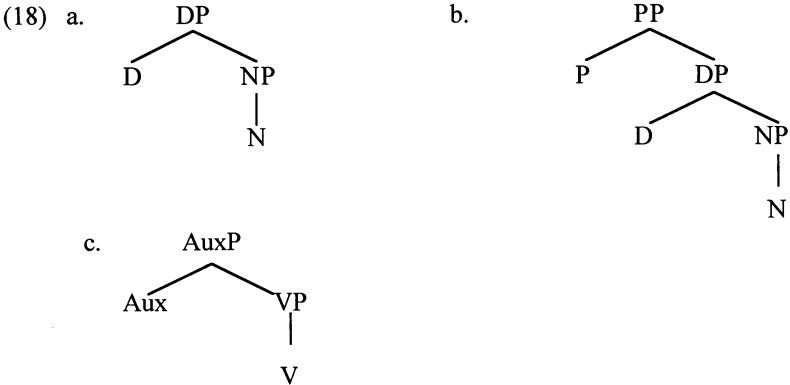


Liaison occurs between a determiner and a noun, a degree adverb and an adjective, an adjective and a noun, or an auxiliary and a verb, because the words on the right in each context m-command the word on the left. Note that this analysis

has to face the problem posed by prepositions, which head their own maximal projections (i.e. P''), and lie outside the maximal projection that determiners are contained in (i.e. N''). This wrongly predicts absence of liaison between a preposition and a determiner:



This problem would be solved if the syntactic configurations involving prepositions could be equated to those in (16). According to current standard assumptions in the Government and Binding approach, function words of the kind illustrated in (16) are heads of their own maximal projections, rather than specifiers of the maximal projections headed by lexical categories. Thus, Kaisse's proposal would have to be revised to read: liaison applies between two words *a* and *b* where *a* is a functional head and word *b* is the leftmost word m-commanded by *a*. The tree diagrams in (18) illustrate the new picture:



However, this revised analysis along the lines originally proposed by Kaisse still presents a major problem, and that is the categorical judgments it

imposes on the presence or absence of liaison. As we have shown in section 2, there are contexts in which liaison is obligatory, but there are other contexts in which it is frequent, and others in which it is rare. Determiners, demonstratives, numerals/quantifiers and possessive adjectives make obligatory liaison, whereas prepositions, degree adverbs, auxiliaries and copulas do not. The analysis suggested in (18) cannot predict these facts, since it is based entirely on the syntactic configuration in which two words appear, and those syntactic configurations are shared by determiners, prepositions, and auxiliaries/copulas alike, as shown in (18). This major problem is shared by other accounts proposed in the literature, which we will discuss in the remainder of this section. As a result, the conclusion we will reach is that an alternative approach is necessary, one which distinguishes among the functional categories that can make liaison in Style I.

3.2. END-BASED APPROACH. Selkirk (1986) argues that there is a postsyntactic level of phonological structure that she calls PROSODIC STRUCTURE. This structure is built from syntactic structure by parameterized settings that place boundaries to the right or left edges of words, heads, and maximal projections, giving rise to three levels of prosodic structure, respectively: the prosodic word, the small phonological phrase, and the phonological phrase. Languages choose the direction of prosodic boundary insertion for each level of prosodic structure. The settings can be represented as in (19):

(19) End parameter settings:

(i) a.	$\}_{\text{Word}}$	b.	$\}_{\text{Word}} [$	Prosodic Word
(ii) a.	$\}_{\text{Xhead}}$	b.	$\}_{\text{Xhead}} [$	Small Phonological Phrase
(iii) a.	$\}_{\text{Xmax}}$	b.	$\}_{\text{Xmax}} [$	Phonological Phrase

According to Selkirk (1986), the domain of French liaison is the small phonological phrase, which she claims is constructed by placing a right edge boundary at the end of every syntactic head. That is, the end parameter setting chosen is $\}_{\text{Xhead}}$ in French. The crucial assumption here is that only lexical categories (i.e. N, A, V) are heads, and that prenominal adjectives and preverbal adverbs are neither maximal projections nor heads. In (20)-(22) we exemplify the workings of this particular algorithm (cf. (35)-(37) in Selkirk (1986), p. 396):

- (20) a. $s[[Sais\text{-}tu]_V [[quand]_{Comp} [ils [[inviteront]_V [un [autre]_{AP} [grand]_{AP} [artiste]_{N'}]_{NP}]]_{VP}]]]$
 b.]Xhead]Xhead]Xhead
 c. () () ()

- (21) a. $s[[Ces [[très]_{Det} [aimables]_A]_{AP} [enfants]_N]_{NP} [[ez] [ont]_{Aux} [avale]_V]_{VP}]]]$
 b.]Xhead]Xhead
 c. () ()

- (22) a. $s[[On]_{VP} [[m' [a]_{Aux} [souvent]_{AdvP} [amené]_V]_{PP} [[dans]_p [un [énorme]_{AP} [wagon]_{N'}]_{NP}]]]]]$
 b.]Xhead]Xhead
 c. () ()

This approach has to face the same problems we pointed out above for an analysis based on the Direct Reference Theory. Namely, it cannot account for the differences among function words in degree of frequency of occurrence of liaison. Treating all function words alike, as invisible to prosodic boundary insertion (cf. Selkirk's 1984 Principle of Categorical Invisibility of Function Words), leads to the impossibility of capturing the distribution of liaison stated in section 2 of this paper. Within the same framework, De Jong (1990) attempted to provide an analysis that could solve this problem. Providing empirical support from real speech data (the Orléans corpus, cf. Blanc and Biggs 1972), De Jong acknowledged the existence of different degrees of frequency in the realization of liaison, depending on the grammatical category of the word whose final consonant was involved. De Jong pointed out that liaison was less frequent after prepositions, copulas and auxiliaries, even in monosyllabic forms, than after determiners, possessive adjectives, demonstratives, quantifiers and numerals, or clitics. He suggested that the difference between obligatory and optional liaison lies in the difference between 'real' function words and closed-category phrasal heads. 'Real' function words such as determiners, possessive pronouns, demonstratives, numerals and clitics are not heads of any kind, but specifiers or modifiers, whereas prepositions, auxiliaries and, copulas are function words occupying the head position of a maximal projection (Prepositional Phrase and Verb Phrase, respectively). De Jong argues that the domain of obligatory liaison is more restrictive than Selkirk's (1986) small phonological phrase, namely the prosodic word (PWD), parsed from syntactic structure by picking out the right edge of every head. Since real function words are not heads, they will fall in the same prosodic word with an adjacent head. The domain of optional liaison would

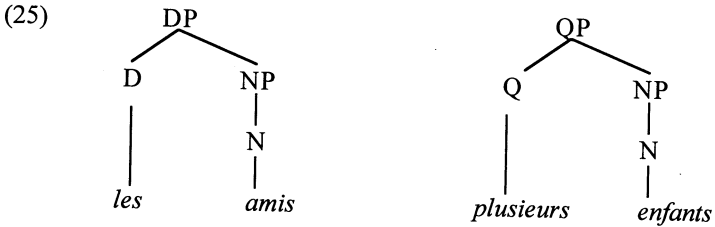
be the small phonological phrase (SPP), which is built inserting prosodic boundaries at the right end of every lexical head. Then, a more inclusive domain where liaison is not found in conversational style would be the maximal phonological phrase (MPP), constructed picking out the right edge of lexical maximal projections. This is summarized in (23):

- (23) PWd formation: $]X^{head}$
 SPP formation: $]X^{head}$, where X^{head} is major-category.
 MPP formation: $]X^{max}$

The example in (24), slightly adapted from De Jong (1990:82), illustrates the workings of this algorithm:

- (24) MPP: () () () () () ()
 SPP: () () () () () ()
 Pwd: () () () () () ()
 $s^{[lls]}$ $[ont]_V$ $[été]_V$ $[aidés]_V$ $]_{VP}$ pp $[par]_P$ $[des [enseignants]_N$ $]_{AP}$ $]_{NP}$ $]_{PP}$
 they have been helped by indef. teachers wonderful
 'they have been helped by wonderful teachers'

This analysis is still not satisfactory, because it assumes that determiners, possessive pronouns, numerals and quantifiers are specifiers or modifiers of some sort, not heads. However, as pointed out above, for the past decade or so it has been standardly assumed in the syntactic theory of Principles and Parameters (or even the most recent minimalist framework, cf. Chomsky 1995) that these elements are heads, much like prepositions, copulas and auxiliaries. In a simplified manner, these would be the syntactic representations for determiners and quantifiers:⁷



If this is the case, how can we maintain the distinctions among functional heads regarding their different degrees of participation in liaison? It seems clear that an alternative approach is necessary in order to solve this issue. We will present such an alternative in the remainder of this paper.

4. ALTERNATIVE ANALYSIS. Our claim will be that the differences in frequency of liaison are attributable to differences in morphosyntactic relationships between the elements between which liaison occurs. Looking at the distribution of liaison presented in section 2, the crucial generalization that arises is that liaison is obligatory in two contexts: a) between a function word and a lexical element agreeing in number and/or gender, or b) between a function word and a lexical element forming a complex head in syntactic structure. The first type of context is instantiated by the sequences formed by determiners, possessive adjectives, quantifiers, numerals and the noun or adjectives that follow, as well as a subject clitic and a following verb. These elements enter into agreement relationships of gender and number. The second type of context is instantiated by the sequences formed by verbs and enclitic or proclitic pronominal forms (i.e. *sont* $\widehat{\text{-ils}}$, *allons* $\widehat{\text{-y}}$, *les* $\widehat{\text{écoute}}$, *en* $\widehat{\text{achète}}$). These are cohesive sequences which cannot be ruptured by the insertion of any other phonological material, such as adverbs (e.g. *je les aide beaucoup* 'I help them a lot', **je les beaucoup aide*).

Prepositions, degree adverbs, auxiliaries, and copulas (and complementizers) do not enter into agreement relationships with the elements they precede. A copula and its predicate usually agree in number and gender, but there are examples where no agreement is displayed (cf. (26)). In contrast, it is impossible to find examples with lack of agreement between determiners, possessives, quantifiers and numerals and nouns or adjectives:

- (26) a. *Jean et Paul sont venu et parti, respectivement* (**venues*, **parties*)
John and Paul have come(sing.) and left(sing.), respectively
b. *Jean et Paul sont bon et beau, respectivement* (**bons*, **beaux*)
John and Paul are good(sing.) and handsome(sing.), respectively

Prepositions, degree adverbs, auxiliaries and copulas do not form unbreakable sequences with adjacent elements, either. Auxiliary verbs and copulas may be separated from past participles and predicates by adverbs:

- (27) a. *Il a bien avancé*
 he has well advanced
 b. *J'en veux bien*
 I of-them want very much ('I want some very much')
 c. **J'en bien veux*

The relatively high frequency of liaison observed with monosyllabic forms of prepositions, degree adverbs, auxiliaries and copulas contrasts with the rare occurrence of liaison with polysyllabic forms of the same categories. This asymmetry can be explained if we assume that these function words display clitic-like properties when they are monosyllabic. This is a well attested pattern of monosyllabic function words crosslinguistically. Interestingly enough, the number of syllables is not a condition on obligatory liaison. Polysyllabic numerals or quantifiers trigger obligatory liaison, whereas monosyllabic prepositions, degree adverbs, auxiliaries, and copulas only trigger optional liaison (cf. (5) vs (10)-(13)). The contrasting examples in (28) show that it is agreement in morphosyntactic features that is responsible for defining the domains of application of French liaison (Bernard Tranel, p.c.):

- (28) a. *vingt-trois* $\widehat{\text{étudiants}}$
 twenty-three students
 b. *vingt-trois / octobre*
 twenty-three October
 'the twenty-third of October'

In (28a) the numeral *vingt-trois* shares the plural number feature with the noun *étudiants*, and liaison occurs. In (28b), on the other hand, *vingt-trois* does not express plurality, but the semantic value of ordinal numbers (see Tranel 1981:215-216 for more examples), and no liaison occurs.

Thus, to summarize, two words α and β enter in a liaison environment when word α is a functional head that agrees in one or more phi-features with word β , or when α and β are in the same syntactic X^0 . Our claim is that, as a property of language, phonological domains may be defined by morphosyntactic relationships holding among linguistic expressions in an utterance. One instantiation of this relationship would be that to a closer degree of morphosyntactic cohesion corresponds a closer degree of phonological cohesion, as suggested in Elordieta (1994). We suggest that there is a postsyntactic level of grammatical representation where morphosyntactic relationships are expressed, possibly in terms of morphosyntactic domains, and that these domains may be

mapped into the phonological component as phonological domains. For the particular phenomenon of French liaison, we formulate the domain of obligatory application as in (29):

(29) *Domain of obligatory liaison:*

$$\begin{array}{l} {}_m [\alpha_{[+\phi]} \beta_{[+\phi]}] \rightarrow []_p \\ {}_m [\alpha \beta] \rightarrow []_p \end{array}$$

This means that a sequence formed by two words α and β sharing the same ϕ -features (sequence represented with the subscript label m) is mapped onto the phonological component as one domain (indicated as p), where the phonological process of French liaison is specified to apply.⁸ The following examples from Quebec French illustrate cases of liaison applying with right-dislocated noun phrases across an intonational boundary, which shows that the nature of the relationship between α and β must be morphosyntactic, not syntactic or prosodic (liaison is indicated by writing the consonant before the noun):⁹

- (30) a. *J'en ai un, n-elephant*
 I-clitic have one, elephant
 b. *Je vous ai vu en donner deux, z-oies*
 I saw you clitic give two, geese

The two parts composing these dislocated constructions are separated by an intonational break, indicated by the comma, and belong to two different intonational phrases, i.e. two different prosodic constituents. The main part of the construction is able to stand alone as a grammatical sentence, that is, it constitutes a separate syntactic constituent from the dislocated part.

A schematic illustration of our analysis is provided by the following examples:

- (31) [les_[+\phi] amis_[+\phi]]_m → [les amis]_p *les_̣ amis*
 (32) [son_[+\phi] opinion_[+\phi]]_m → [son opinion]_p *son_̣ opinion*
 (33) [trois_[+\phi] ingénieurs_[+\phi]]_m → [trois ingénieurs]_p *trois_̣ ingénieurs*
 (34) [les écoute]_m → [les écoute]_p *les_̣ écoute*

The question that remains unanswered is why one of the agreeing elements must be a functional category. If agreement were the only factor at play, the final consonant of a noun should always be pronounced when followed by an adjective with which it agrees in gender and number. But that is not the case in conversational style (cf. (15a)). Within the End-Based approach, the line of the analysis would be that among function words, only those which agree in phi-features with a following element are invisible to prosodic boundary insertion, but again, why do we find this asymmetry between function words which realize inflectional features and those which do not? This asymmetry in postlexical phonological behavior is not an isolated property of French, but is observed in other languages as well. As shown in Elordieta (1997), Basque and Igbo also present similar cases of phonological differences between two clearly defined sets of function words: those which express inflectional features and those that do not. From this observation of the 'weak' morphological and prosodic properties of inflectional features across languages, we propose the hypothesis that inflectional features are not elements that can stand morphologically or prosodically on their own, and that they need to be realized on linguistic expressions which are morphologically or prosodically 'strong' enough to support them. The function words realizing those features (e.g. determiners, agreement, tense and aspect morphemes) may or may not be strong or independent in this sense. If they are 'weak', they need to incorporate or be incorporated into another head which provides them with sufficient morphological support. The morphological (or perhaps *morphosyntactic*) domain thus formed in a postsyntactic morphophonological module of grammar could then be visible as a phonological domain, which phonological processes may select for. In French, functional heads realizing inflectional features are not sufficiently strong in a morphophonological sense, and need to associate with adjacent heads. These morphological or morphosyntactic combinations are then potential phonological domains. Liaison applies obligatorily in these sequences, with the additional condition that the elements must share the same inflectional features. Since lexical heads form independent words in this sense, they will not need to merge with other heads, and thus no liaison is expected to apply. This explains the absence of liaison between a noun and an adjective. Prepositions, degree adverbs, complementizers, auxiliary verbs, and copulas are function words which do not realize morphosyntactic features shared by other heads, and therefore do not participate in obligatory liaison. Monosyllabic forms of these words make frequent liaison, a fact that we analyzed as an effect of a process of cliticization of these forms to adjacent heads. Monosyllabic function words often display clitic-like properties across languages, showing a close degree of phonological cohesion with adjacent heads. In the case of French, we suggest that cliticization forms a domain of

optional application of liaison, possibly the clitic group (cf. Nespor and Vogel 1986, Hayes 1989).

Notes

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¹ See Tranel (1995) and references therein for discussion on the representation of final consonants in French

² The numbers *cing* 'five', *six* 'six', *sept* 'seven', *huit* 'eight', *dix* 'ten', and perhaps also the quantifiers *plus* 'more' and *tous* 'all' display mixed properties; their final consonants are pronounced before vowels and not before consonants, but they are also pronounced before a pause. Tranel (1996) proposes a double underlying representation for these words, one with a latent final consonant and one with a fixed final consonant.

³ Not all adjectives may appear in prenominal position, and of those which can, only a small set triggers liaison in the presence of a following noun: *petit* 'small, little', *gros* 'big', *grand* 'tall', *bon* 'good', *vieil* 'old', and a few other adjectives with suppletive forms (i.e. with fixed final consonants), such as *bel* 'beautiful', *nouvel* 'new', *fol* 'crazy', *mol* 'half-hearted'. Less frequent adjectives such as *éminent*, *intelligent*, or *mauvais* do not trigger obligatory liaison (*mauvais* /? *avocat* 'bad lawyer', *l'éminent*/?*avocat* 'the eminent lawyer', *les intelligents* /? *amis* 'the intelligent friends'). We must conclude then that liaison is lexicalized for some adjectives.

⁴ The preposition *chez* makes obligatory liaison when followed by the pronouns *eux* 'their (masc.)' and *elle(s)* 'her/their (fem.)', and optional when followed by a full noun phrase. All other prepositions make optional liaison no matter what follows. Tranel (1981:246) suggests that the word combinations *chez eux* and *chez elle(s)* have been lexicalized with liaison, much like *accent aigu* 'acute accent' and *Etats-Unis* 'United States'. Also, it appears that liaison is more frequent with the preposition *en* than with any other preposition, especially when *en* is followed by a bare noun (e.g. *en avion* 'by plane', *en argent* 'made of silver'). Tranel (1981:247) provides an explanation based on the phonological nature of the linking consonant ([n]), and he also suggests (personal communication) that the segmental lightness of *en* compared to the other prepositions could be another factor responsible for this difference, the assumption being that lighter words tend to cliticize.

⁵ It must be pointed out that not all consonants make liaison with the same frequency. It is much easier to pronounce word-final /t/ than to pronounce /s/, a fact which is well documented in the traditional literature on French liaison.

⁶ For some speakers it is not as bad to make liaison between a verb and its direct object as it is to make liaison between a noun and an adjective or between a subject and a verb. Still, these speakers judge liaison in the context V-Obj rare or awkward in natural conversational style.

⁷ For the purposes of our discussion, we treat possessive pronouns and numerals as determiners and quantifiers, respectively, although there have been proposals that analyze them as heads of their own maximal projections. Since in any case these categories are taken to be heads, this issue does not affect the validity of our criticism.

⁸ The mapping theory between morphological or morphosyntactic domains and phonological domains I am proposing is very similar to Inkelas' (1990) theory of the mapping between morphological and prosodic constituency in the lexicon. Thus, my proposal could be taken as an extension of this theory into the postsyntactic level.

(31a) is taken from Tranel (1992:279), and (31b) from Morin and Kaye (1982:305). These type of sentences are not accepted by all speakers, but Tranel (1992:274) cites them as possible in Parisian French as well. On the main syntactic differences between these constructions and other dislocated structures with the preposition *de*, see Tranel (1992:276-8).

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