



The morphosyntax of French complex predicates: clitic climbing and periphrasis

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The morphosyntax of French complex predicates:

Clitic climbing and periphrasis

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Dirigée par **Berthold CRYSMANN**

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Titre : La morphosyntaxe des prédicats complexes français : montée des clitiques et périphrase

Résumé : Dans cette thèse, j'étudie la distribution des formes pronominales faibles du français sous une perspective nouvelle. En partant des travaux sur le statut d'affixes lexicaux de ces formes (Miller, 1992a; Auger, 1993, 1994, 1995), je propose que la conclusion logique de ce résultat est de traiter la distribution de ces formes en termes morphologiques plutôt que syntaxiques. Je passe en revue les approches qui tiennent compte des propriétés affixales des formes pronominales faibles (Miller & Sag, 1997; Abeillé & Godard, 1996, 2002), et je montre qu'elles n'abordent par la morphologie que les formes de pronominalisation locales. Ces approches utilisent un mécanisme syntaxique (la composition argumentale) pour traiter la pronominalisation non-locale (la montée des clitiques). Je propose une réévaluation critique des arguments en faveur de ce mécanisme, et montre en particulier que les résultats des tests de constituance avec la complémentation verbale en français sont indépendants de la montée des clitiques. Sur la base d'une étude de corpus réalisée sur frWaC (Baroni et al., 2009), je montre également que la transparence des constructions à montée des clitiques aux dépendances bornées est également indépendante de ces constructions, et s'étend à de nombreux verbes à montée et à contrôle du sujet. À la faveur de travaux récents en morphologie (Vincent & Börjars, 1996; Ackerman & Webelhuth, 1998; Brown et al., 2012; Spencer, 2013b) sur la notion de périphrase flexionnelle, je propose que celle-ci est à la fois indépendamment motivée dans les constructions à montée des clitiques et suffisante à expliquer la montée des clitiques dans ces constructions. Je formule une implémentation de la théorie de la périphrase flexionnelle par sélection inversée de Bonami (2015) dans le cadre de la grammaire syntagmatique guidée par les têtes (HPSG, Pollard & Sag, 1994). Dans cette vision de la périphrase, le verbe auxiliaire sélectionne des propriétés de son auxiliaire ; je montre que la montée des clitiques peut dès lors se traiter comme un phénomène entièrement morphologique, dans lequel les arguments pronominaux (tout comme d'autres propriétés flexionnelles, comme l'information temporelle) sont simplement réalisés sur un élément ancillaire. Dans le cas des temps composés et des constructions copulatives, l'approche morphologique simplifie grandement la structure syntaxique par rapport aux approches précédentes à composition argumentale. Les aspects syntaxiques relevés dans la discussion de la composition argumentale reçoivent une analyse : en termes de canonicité de la réalisation (Bouma et al., 2001) concernant les problèmes de constituance, et en termes de montée du sujet pour les dépendances bornées (suivant en cela Grover, 1995). J'expose dans un dernier temps comment l'approche se généralise aux prédicats complexes. L'approche morphologique voit ces constructions comme des périphrases causatives assimilables aux causatifs synthétiques du japonais (Manning et al., 1999) ou des langues bantoues (Hyman & Mchombo, 1992). Je montre que cette perspective, qui voit le verbe infinitif comme une forme causativisée et lui applique ainsi une augmentation de valence, résulte spontanément en une implémentation de l'effet de monoclausalité requis pour traiter différentes propriétés spécifiques de ces contextes (réalisation du sujet, réflexivisation longue en *se faire*). Par rapport aux approches à composition argumentale, qui construisent la monoclausalité au niveau de *faire*, cette forme de monoclausalité améliore le traitement de plusieurs phénomènes sensibles à des propriétés du verbe infinitif, auxquelles *faire* n'a pas accès (Koenig, 1998), notamment le *clitic trapping* et la réalisation du sujet en *par* ou en *de*. Je développe enfin la position que la montée des clitiques depuis un infinitif est optionnelle en français.

Mots-clefs : montée des clitiques, périphrase, prédicats complexes, causatifs, dépendances bornées, HPSG

Title: The morphosyntax of French complex predicates: clitic climbing and periphrasis

Abstract: In this thesis, I investigate the distribution of French weak pronominals under a novel perspective. Starting with studies on the status of such forms as lexical affixes (Miller, 1992a; Auger, 1993, 1994, 1995), I propose that the logical conclusion of this result is to treat their distribution in morphological rather than syntactic terms. I review the approaches that account for the pronominals' affixal properties (Miller & Sag, 1997; Abeillé & Godard, 1996, 2002), and I show that they only treat local realisation in morphology. These approaches rely on a syntactic mechanism, argument composition, in order to treat non-local cases of pronominalisation (i.e. clitic climbing). I propose a critical reevaluation of the arguments in favour of this mechanism, and I show in particular that the results of constituency tests are in French independent of clitic climbing when it comes to verbal complementation. On the basis of a corpus study conducted on frWaC (Baroni et al., 2009), I further show that clitic climbing constructions' transparency to bounded dependencies is equally independent of clitic climbing, and extends to numerous subject raising and control verbs. In the light of recent work in morphology (Vincent & Börjars, 1996; Ackerman & Webelhuth, 1998; Brown et al., 2012; Spencer, 2013b) on the notion of inflectional periphrasis, I suggest that this notion is both independently motivated for French clitic climbing constructions and sufficient to explain clitic climbing in these contexts. I formulate an implementation of the theory of inflectional periphrasis by reverse selection of Bonami (2015) in Head-driven Phrase Structure Grammar (HPSG, Pollard & Sag, 1994). In this view of periphrasis, the lexical verb selects for morphosyntactic properties of its auxiliary. I show that clitic climbing can then be treated as an entirely morphological phenomenon, in which pronominal arguments (alongside other inflectional properties, such as tense) are simply realised on an ancillary element. In the case of tense auxiliary and copular constructions, the morphological approach simplifies phrase structure greatly over previous approaches based on argument composition. Syntactic considerations relevant to the previous discussion of argument composition are given an analysis: constituency issues are treated as canonicity constraints on realisation (Bouma et al., 2001), while bounded dependencies receive a subject raising analysis building on Grover (1995). Finally, I expose how the approach generalises to complex predicates. The morphological approach views these constructions as causative periphrases, akin to the synthetic causatives of Japanese (Manning et al., 1999) or Bantu languages (Hyman & Mchombo, 1992). I show that this perspective, which consequently sees the infinitive as a causativised form with an augmented valency, independently results in an implementation of clause union as required for the treatment of various properties of complex predicates (subject realisation, long reflexivisation with *se faire*). Compared to approaches based on argument composition, which build clause union at the level of *faire*, this version of clause union improves the treatment of several phenomena which are sensitive to properties of the lexical verb, which *faire* cannot access (Koenig, 1998), in particular clitic trapping and realisation of the subject as a *by* phrase. I also develop the position that clitic climbing from an infinitive is optional in French.

Keywords: clitic climbing, periphrasis, complex predicates, causatives, tough, HPSG

Résumé substantiel

Cette œuvre a pour objet d'étude central le problème de la distribution des formes pronominales faibles du français. Elle traite ce sujet dans une perspective lexicaliste nouvelle, accordant un rôle important à la morphologie. Sa thèse principale est que la montée des clitiques en français peut être réduite à une forme d'exponence périphrastique. Le travail d'analyse est étayé par des données de corpus et une formalisation dans le cadre de la Grammaire syntagmatique guidée par les têtes (HPSG – Pollard & Sag, 1994).

Après une introduction au cadre théorique, je présente dans un premier temps les travaux lexicalistes sur le statut d'affixes lexicaux des formes pronominales faibles du français fondés sur la distinction affixe–clitique (Zwicky, 1977, 1987; Zwicky & Pullum, 1983) : les études de Miller (1992a) et Auger (1993, 1994, 1995) démontrent que les propriétés morphologiques de ces formes (ordre rigide et arbitraire, idiosyncrasies morphophonologiques et morphotactiques) ne laissent pas de doute sur leur appartenance à la classe des affixes. Cette conclusion rejoint un ensemble plus vaste de travaux de réanalyse dans ce sens des formes faibles des langues romanes (Monachesi, 1999; Brines, 2001; Crysmann, 2002, 2003; Luís, 2004; Miller & Monachesi, 2003), et suggère leur traitement dans la composante morphologique plutôt que syntaxique (Perlmutter, 1971; Simpson & Withgott, 1986; Morin, 1989; Cummins & Roberge, 1994; Miller & Sag, 1997; Bonami & Boyé, 2005; Crysmann & Bonami, 2015).

Sitôt ce résultat accepté, le phénomène de la « montée des clitiques » apparaît comme un paradoxe analytique : dans un exemple comme (1), une forme pronominale (*leur*) est affixée à un verbe (*a*), mais correspond à un argument d'un autre verbe (*écrit*).

(1) Fionna leur a écrit.

Je propose que la conclusion logique de l'approche lexicaliste est de résoudre le paradoxe en termes morphologiques plutôt que syntaxiques. Après un bref aperçu de la littérature générative sur le sujet, je passe en revue les approches qui tiennent compte des propriétés affixales des formes pronominales faibles (Miller & Sag, 1997; Abeillé & Godard, 1996, 2002), et je montre qu'elles n'abordent par la morphologie que les formes de pronominalisation locales. Ces approches utilisent à l'inverse un mécanisme syntaxique (la composition argumentale) pour traiter la pronominalisation non-locale (la montée des clitiques). Dans cette famille d'approches, les verbes apparaissant dans les constructions

à montée des clitiques, à savoir les auxiliaires de temps (1), la copule (2), les verbes prédicatifs (3), *faire* (4), *laisser* et certains verbes de perception (5), sont traités comme des verbes à montée systématique : non seulement le sujet, mais aussi les compléments du verbe qui les suit deviennent arguments du verbe le plus haut. La montée des clitiques s'explique ainsi comme affixation locale d'un argument non-local.

- (2) Fionna y est prête.
- (3) Fionna y semble prête.
- (4) Fionna le fait manger à son chat.
- (5) Fionna en a entendu parler.

Je présente ensuite les arguments avancés en faveur de ce mécanisme, et en propose une réévaluation critique. Un premier groupe d'arguments concerne la structure syntagmatique des constructions à montée des clitiques. Dans l'approche à composition argumentale, le complément verbal des auxiliaires de temps ne forme pas un constituant avec ses compléments, puisque ceux-ci sont composés avec l'auxiliaire (et de même avec les autres verbes à montée des clitiques) ; il s'ensuit une structure plate de la construction (6), distincte de la structure hiérarchique traditionnelle (7). Abeillé & Godard proposent donc de vérifier cette prédiction par les tests de constituance, et confirment que la séquence formée du participe passé et de ses compléments ne peut pas être pronominalisée (8), clivée, ou omise par ellipse. Je montre cependant que les résultats des tests de constituance avec la complémentation verbale sont en français indépendants de la montée des clitiques : d'autres constructions sans montée des clitiques, comme le futur périphrastique en *aller*, font échouer les mêmes tests sur leur complément VP (9). Comme le remarquent Abeillé & Godard, le cas inverse se trouve également : les mêmes tests réussissent sur le complément VP de certains verbes à montée des clitiques, principalement la copule (10). Je conclus à une décorrélation totale des deux dimensions (montée des clitiques et opérations de constituance). La coordination participiale (11) apporte un autre contre-argument à l'idée d'une structure composée (Manning, 1997).

- (6) Fionna [a écrit [une lettre] [à Simon]].
- (7) Fionna [a [écrit [une lettre] [à Simon]]].
- (8) *Écrit à Simon, Fionna l'a.
- (9) *Écrire à Simon, Fionna le va.
- (10) Écrite à Simon, la lettre l'est.
- (11) Fionna a [[écrit à Simon] et [parlé à Marshall]].

J'expose ensuite la motivation théorique de la thèse de la montée des clitiques par périphrase. Des travaux récents en morphologie (Vincent & Börjars, 1996; Ackerman & Webelhuth, 1998; Ackerman & Stump, 2004; Spencer, 2003, 2013b) acceptent

l'Hypothèse de Réalisation Périphrastique : les paradigmes flexionnels peuvent contenir, en plus des formes synthétiques, des formes analytiques, appelées périphrases. Je montre que cette notion est à la fois suffisante à expliquer la montée des clitiques et indépendamment requise dans les constructions en question. En effet, le statut d'affixes des formes pronominales pose la question de la distribution de l'exponence dans la périphrase : comme observé entre autres par Anderson (2006) et Brown et al. (2012), une propriété fréquente (et même diagnostique) de la périphrase flexionnelle est la distribution inhabituelle des propriétés morphosyntaxiques de l'élément lexical entre les parties de la périphrase. L'inclusion des formes pronominales à la flexion verbale combinée à la possibilité de l'exponence périphrastique suffit donc à prédire la possibilité de la montée des clitiques dans la mesure où la construction se prête au statut de périphrase. Je propose que l'ensemble des constructions à montée des clitiques en français peuvent bénéficier d'un traitement comme périphrase. Les temps composés en sont un cas prototypique (Verkuyl et al., 2004). La copule peut être considérée comme l'auxiliaire de temps des catégories sans paradigme temporel, comme les adjectifs, les noms et les participes passifs. Enfin, je montre que les constructions en *faire* et apparentées satisfont par leur haut degré de grammaticalisation à un certain nombre de critères diagnostiques de la périphrase flexionnelle (exponence mixte, non-compositionnalité, distribution de l'exponence).

Dans un deuxième temps consacré à l'analyse formelle, je formule une implémentation de la théorie de la périphrase flexionnelle par sélection inversée de Bonami (2015) dans le cadre HPSG. Dans cette vision de la périphrase, le verbe auxilié sélectionne des propriétés de son auxiliaire par un mécanisme de sélection inversée. Je démontre que la montée des clitiques peut dès lors se traiter comme un phénomène entièrement morphologique, dans lequel les arguments pronominaux (tout comme d'autres propriétés flexionnelles, comme l'information temporelle) sont simplement réalisés sur un élément ancillaire. Dans le cas des temps composés et des constructions copulatives, l'approche morphologique simplifie grandement la structure syntaxique par rapport aux approches précédentes à composition argumentale, permettant un retour à la structure hiérarchique du VP. Les aspects syntaxiques concernant les problèmes de constituance relevés dans la discussion de la composition argumentale reçoivent une analyse en termes de canonicité de la réalisation (Bouma et al., 2001), indépendante de la montée des clitiques et généralisable aux cas où celle-ci est absente. Je traite également des questions de la combinaison des périphrases (et notamment de la surcomposition), de l'alternation entre *avoir* et *s'être* et de l'accord du participe.

Je démontre ensuite comment l'approche se généralise aux prédicats complexes. L'approche morphologique motivée précédemment fait de ces constructions des périphrases causatives assimilables aux causatifs synthétiques du japonais (Manning et al., 1999) ou des langues bantoues (Hyman & Mchombo, 1992). Je montre que cette perspective, qui voit le verbe infinitif comme une forme causativisée, résulte spontanément en une implémentation de l'effet de monoclausalité requis pour traiter différentes propriétés

spécifiques de ces contextes : réalisation postverbale du sujet (12), réflexivisation (13) et médio-passivisation (14) longues. En effet, la causativisation de l'infinitif implique une augmentation de sa valence (par ajout de l'argument causeur), ce qui revient à créer une structure argumentale fusionnée similaire à celle obtenue dans l'approche à composition argumentale.

- (12) Fionna fait tomber Simon.
- (13) Fionna se fait aider par Simon.
- (14) Sa couronne ne peut pas se faire réparer.

Par rapport aux approches à composition argumentale (Abeillé et al., 1995, 1997, 1998b; Tily & Sag, 2006), qui construisent la monoclausalité au niveau de *faire*, cette forme de monoclausalité améliore l'analyse de plusieurs phénomènes sensibles à des propriétés du verbe infinitif, auxquelles *faire* n'a pas accès (Koenig, 1998), notamment la réalisation du sujet en *par* ou en *de*, mais aussi le *clitic trapping*, dans lequel une forme pronominale explétive bloque la montée des clitiques (15). Sur la base de ces phénomènes, ainsi que de ceux de la pronominalisation non-locale en *en* et de la coordination infinitive, je montre que l'infinitif (et non *faire*) offre la position la plus adaptée à l'implémentation de la monoclausalité. Je développe également (à la suite de Baschung & Desmets, 2000) la position que la montée des clitiques depuis un infinitif est optionnelle en français. J'aborde finalement le traitement de la négation et celui de la causativité perfective.

- (15) * Son impulsivité lui en fait vouloir à Simon.

Enfin, je me tourne vers les constructions à objet manquant (16). Abeillé et al. (1998a) argumentent que ces constructions sont des dépendances bornées, au sens où le verbe infinitif à objet manquant (ici *lire*) ne peut être enchâssé sous un autre verbe, à l'exception des auxiliaires de temps (17) et des prédicats complexes. Cette exception est prise dans le sens de l'approche à composition argumentale : la transparence à la dépendance s'explique par la structure supposée pour les temps composés, dans laquelle l'objet manquant est devenu un complément de l'auxiliaire par composition, permettant une analyse en termes de montée locale de l'objet.

- (16) un livre facile à lire
- (17) un livre facile à avoir lu

Sur la base d'une étude de corpus réalisée sur frWaC (Baroni et al., 2009), je montre que la transparence des auxiliaires aux dépendances bornées est également indépendante de la montée clitique, et s'étend à de nombreux verbes à montée et à contrôle du sujet (18). Je rejette donc la corrélation entre montée des clitiques et transparence aux dépendances bornées supposée par l'approche à composition argumentale, et propose que la construction à objet manquant possède un domaine de localité plus étendu que ne le laisse entendre la littérature à la suite de Kayne (1974, 1975a).

- (18) un livre facile à aller/commencer à/oublier de/décider de lire

Après une description de la distribution de la construction en français distinguant entre constructions *tough* (16), usages épithétiques (19), usages prédicatifs (20) et prédications de l'objet (21), je procède à une analyse de la construction comme dépendance bornée, mais non strictement locale. L'analyse proposée s'inspire de Giurgea & Soare (2007) en assimilant le phénomène à une passivisation, et de Grover (1995) pour l'usage d'un double sujet dans ces constructions.

- (19) un livre à lire absolument
 (20) Ce livre est à lire.
 (21) Ce livre m'a été donné à lire au lycée.

En conclusion, la décorrélation entre la montée des clitiques et les propriétés syntaxiques liées aux opérations de constitution et aux constructions à objet manquant ouvre la voie à une perspective entièrement morphologique combinant affixation pronominale et périphrase flexionnelle. L'approche morphologique simplifie considérablement la syntaxe des temps composés et surtout des prédicats complexes.

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Chapter 1

Introduction

The distribution pattern of weak pronominals constitutes a central and tenacious problem in Romance syntax, owing to its interaction with specific classes of auxiliary–verb constructions and to the morphological properties of the pronominals in question. The most basic facts regarding this pattern are a) that pronominal arguments of verbs in Romance can be realised by PRONOMINAL AFFIXES, a class of forms also sometimes called WEAK PRONOMINALS or ‘pronominal clitics’ which normally appear hosted by the governing verb, and b) that pronominal affixes may be hosted by a different verb than the one they are an argument of, higher in the structure.

Example (1.1) illustrates the first fact, sometimes termed ‘pronominal cliticisation’, but which I shall refer to as PRONOMINAL AFFIXATION (or simply as PRONOMINALISATION).

- (1.1) Fionna leur écrit.
 Fionna IO.3PL writes
 ‘Fionna writes to them.’

As the gloss¹ indicates, the form *leur* is a pronominal standing for the verb’s third-person plural indirect object. It is realised preverbally, a possibility that is not licit for canonical complements in French; in fact, as much work on their proper categorisation has shown, such pronominals display properties typical of morphology, and are best viewed as lexically bound affixes (Miller, 1992a; Auger, 1993, 1994, 1995; Miller & Sag, 1997), similar to the incorporated pronominal arguments of e.g. Bantu languages (see e.g. Bresnan & Mchombo, 1987).

¹Interlinear glosses in numbered examples follow the Leipzig glossing rules (<https://www.eva.mpg.de/lingua/pdf/Glossing-Rules.pdf>). Abbreviations not listed in the Leipzig glossing rules are expanded in Appendix A. For simplicity, glossing of Romance weak pronominals follows the standard orthographic conventions, which for the most part separate the pronominals from each other and from their host by a space, but no particular implication of their status as words, clitics or affixes is intended by this – see Section 3.1 for discussion. Glosses of cited French examples are mine.

The second phenomenon, widely called CLITIC CLIMBING (a term I shall retain for ease of reference without committing to a view of the pronominals involved as CLITICS), is exemplified in (1.2).

- (1.2) Fionna leur a écrit.
 Fionna IO.3PL has written
 ‘Fionna spoke to them.’

In this case, the pronominal affix *leur* stands for the same indirect object of *écrire* ‘write’ as in (1.1), but this time it is realised on a form of the past auxiliary *avoir*, rather than on the lexical verb *écrire*.

In French, this pattern is found, in addition to tense auxiliary constructions, with causative (1.3) and perception (1.4) verbs, as well as in copular constructions with passive (1.5) or adjectival (1.6) predicates.

- (1.3) Fionna le fera avouer à Simon.
 Fionna DO.3SG.M make.FUT admit to Simon
 ‘Fionna will make Simon admit it.’
- (1.4) Fionna en entendra parler.
 Fionna GEN hear.FUT speak
 ‘Fionna will hear about it.’
- (1.5) Cela leur sera expliqué.
 this IO.3PL be.FUT explained
 ‘This will be explained to them.’
- (1.6) Fionna y est prête.
 Fionna LOC is ready
 ‘Fionna is ready to it.’

Despite being more restricted than it is in e.g. Spanish or Italian, clitic climbing has still received considerable attention in the syntactic literature on French in both the generative and the lexicalist traditions. This is due in part to the fact that the few constructions it occurs in are either highly frequent (tense auxiliary constructions) or otherwise so complex as to deserve attention in their own right (causative and related constructions).

The phenomenon can essentially be thought of as an apparent paradox: morphology corresponding to a property of a certain verb or predicate appears on a different verb in the syntactic context (such as auxiliary *avoir*). Generative approaches have mostly resolved the paradox by contending that the morphology in question must be a syntactically mobile element (i.e. a clitic *sensu stricto*), glossing over a great deal of morphological detail regarding the items’ paradigmatic properties. Under this view, both phenomena (simple pronominalisation and clitic climbing) belong to the syntactic component of the grammar.

Lexicalist approaches, on the other hand, have recognised the morphological status of the pronominal affixes involved (Miller, 1992a; Auger, 1993, 1994, 1995), but have still resorted to a form of syntactic raising: they resolve the paradox by positing that the observed morphology is in fact local, e.g. that *leur* in (1.2) is, despite appearances, the morphological reflex of a (raised) complement of auxiliary *avoir* (e.g. Miller & Sag, 1997; Abeillé & Godard, 1996, 2001, 2002). Under this view, the first phenomenon (pronominalisation) is morphological in nature, but the second (clitic climbing) must find its origin in syntax, and much work has subsequently been dedicated to establishing independent evidence for raising of arguments in Romance syntax.

The main goal of this thesis is to unify the two aspects of the apparent paradox under an entirely morphological perspective. Indeed, as I shall argue, there is nothing unusual about some bit of morphology finding its realisation one verb away in the syntactic structure from the one it originates in. This situation is in fact quasi-definitory of a well-known morphosyntactic phenomenon, which has so far largely been ignored in discussions of Romance clitic climbing, namely INFLECTIONAL PERIPHRAISIS.

Following recent advances in the morphological literature concerning the study of inflectional periphrasis (i.a. Vincent & Börjars, 1996; Ackerman & Webelhuth, 1998; Brown et al., 2012; Spencer, 2013b; Bonami, 2015), the phenomenon can be defined as the grammar's utilisation of two different words to express a cell in a lexical item's paradigm, specific morphosyntactic properties being able to find their realisation on either part of the periphrase (or both). In the familiar case of verbal temporal periphrasis, for instance, a verb's tense property may find itself expressed not as a local exponent, but as an exponent of a perfective auxiliary, like *-ra* in (1.8).

- (1.7) Fionna parle-ra à Simon.
 Fionna speak-FUT.3SG to Simon
 'Fionna will speak to Simon.'
- (1.8) Fionna au-ra parlé à Simon.
 Fionna have-FUT.3SG spoken to Simon
 'Fionna will have spoken to Simon.'

I shall defend the idea that this is exactly the mechanism which may extend the locality of pronominalisation in French clitic climbing in a similar fashion: in a periphrastic construction, exponence of pronominal arguments too can occur on the auxiliary. The apparent paradox reduces to nothing more than the expected interaction of periphrastic exponence and pronominal affixation, both mechanisms which are independently required for any theory of French grammar. Under the view proposed here, both simple pronominalisation and clitic climbing are essentially morphological processes, taking the morphological view of weak pronominals long advocated for in the lexicalist literature to its logical conclusion.

The thesis is organised as follows: Chapter 2 exposes the necessary basics of the theoretical framework of Head-driven Phrase Structure Grammar (HPSG – Pollard & Sag, 1994), which the formal proposal is couched in.

Chapter 3 provides an overview of the most relevant aspects of the literature on Romance pronominal affixation and clitic climbing. Starting with a review of the affixal properties of French weak pronominals in Section 3.1, I then briefly survey syntactic approaches in both Generative theory (Section 3.2) and lexicalist frameworks (Section 3.3). In particular, I go over the proposals by Miller & Sag (1997) and Abeillé & Godard (2002), which pay close attention to the affix properties of the pronominals. I expose how these proposals derive clitic climbing by argument composition, a syntactic mechanism akin to clause union or clause reduction. This analysis attaches to clitic climbing a particular phrase structure (the flat structure), justified by a particular syntactic behaviour we may call *FLAT STRUCTURE PROPERTIES* (Abeillé & Godard, 1994, 1996, 2001, 2002). Under this view, clitic climbing is the local, morphological realisation of raised arguments, essentially a mixed morphological-syntactic approach.

In Chapter 4 I evaluate the syntactic evidence provided for the syntactic account of clitic climbing by argument composition. I show that the syntactic properties claimed to be associated with clitic climbing contexts in fact do not fully align with this class of contexts. Specifically, extraction, ellipsis and pronominalisation properties of tense auxiliaries are shared by a wider class of constructions which do not, as a general rule, license clitic climbing; conversely, some clitic climbing constructions (passives and predicatives) display extraction and pronominalisation properties which cannot be accounted for in a flat structure. I argue that this disconnect calls for an analysis of clitic climbing independent of phrase structure (such as a morphological approach), while the properties associated with the flat structure should receive a treatment in syntax that extends to non clitic climbing constructions.

Chapter 5 introduces the notion of inflectional periphrasis, with particular focus on a recent proposal by Bonami (2015). I then introduce and motivate the proposal of climbing-as-periphrasis for French at a pre-formal level, showing that tense, causative and perceptive constructions satisfy a number of the criteria often cited as diagnostic of inflectional periphrasis, and that one of them, viz. *DISTRIBUTED EXPONENCE* (Ackerman & Stump, 2004; Brown et al., 2012), can in fact justify the periphrasis approach to all clitic climbing constructions under the affixal view of pronominals.

Chapter 6 is devoted to the formal analysis of the first half of clitic climbing constructions, namely tense auxiliary and copular constructions. Starting with a formal implementation of Bonami (2015)'s proposal, inflectional periphrasis is modelled as reverse selection from the lexical element to the ancillary element; the analysis of clitic climbing is then stated as a set of inflection rules. Flat structure properties, which are not directly related to clitic climbing constructions, are addressed in purely syntactic terms. I also address three issues of morphosyntax in tense auxiliary constructions, namely

stacked periphrases, auxiliary alternation with reflexives, and participle agreement. By moving the locus of analysis to the morphology, the proposal improves considerably over the previous syntactic approaches, conserving a standard phrase structure and doing away with a form of systematic ambiguity found in the argument composition treatment of passives and predicatives.

Chapter 7 lays out the additional challenges posed by the remaining constructions, to wit causative and perception verbs, and critically reviews previous approaches. Adopting the monoclausal view of complex predicates common to many generative and lexicalist approaches, I however argue that argument composition, as proposed by e.g. Miller & Sag (1997) and Abeillé & Godard (2002), wrongly places the locus of clause union upstairs at the level of causative *faire*, leading to a number of difficulties in dealing with the range of argument realisation peculiar to these constructions. I show that the periphrasis approach naturally results in an implementation of clause union downstairs at the level of the infinitive: in this view the *faire* construction is a periphrastic causative, i.e. the analytic counterpart to a synthetic causative as found in e.g. Japanese (see i.a. Manning et al., 1999).

In Chapter 8 I develop a formal analysis of French *faire* constructions as causative periphrasis. Following standard HPSG approaches to voice alternations, causativisation is implemented as a valency-changing lexical rule, effectively obtaining clause union by augmenting the argument structure of the infinitive with a causer argument. Causative *faire* reduces to a simple subject-raising auxiliary, and clitic climbing is covered as periphrastic exponence. The approach again improves over previous analyses in phrase structure; additionally, the different locus of clause union provides better control over realisation of the downstairs subject and of clitic trapping. The possibility of local realisation of pronominal arguments as well as interaction with reflexive and medio-passive *se*, with negation and with tense auxiliaries are also analysed.

Chapter 9 addresses the residual issue of missing object constructions, a class of dependencies akin to English *tough* movement. These dependencies have been argued to relate to clitic climbing in Romance, thus belonging with the properties associated with the flat structure, a generalisation originally due to Aissen & Perlmutter (1976: 16–17) for Spanish and extended to French by Abeillé et al. (1998a). On the basis of a corpus study, I show the lack of correlation with clitic climbing; contrary to previous claims of the VP bounded status of the missing object dependency in French (Kayne, 1974, 1975a), I find that not only clitic climbing verbs but also various subject raising and control verbs may embed a missing-object VP. I therefore propose a syntactic analysis of the construction, disconnected from clitic climbing, which expands on previous analyses by Grover (1995) and Giurgea & Soare (2007).

Finally, Chapter 10 summarises the thesis' results and concludes the discussion.

Chapter 2

Head-driven Phrase Structure Grammar

In this chapter I briefly introduce the theoretical and formal framework of Head-driven Phrase Structure Grammar (henceforth HPSG) based on Pollard & Sag (1987), Pollard & Sag (1994), and Ginzburg & Sag (2000). For a more thorough introduction to the framework, the reader is referred, in addition to the seminal books just cited, to the manuals by Abeillé (1993, 2007), Sag et al. (2003), and most recently Müller et al. (2021). Starting from general properties of the syntactic theory in Section 2.1, I then discuss the HPSG theory of valency, including raising and control constructions (Section 2.2), before a brief look into extraction (Section 2.3).

HPSG consists of both a theory of grammar and a description language used for the theory’s formalisation. HPSG theory consists at its core of a Saussurean view of the linguistic sign, in which words, phrases and sentences minimally contain a form and a meaning. It is also characterised by a strongly lexicalist view of grammar, in which morphology and the lexicon constitute an important part of grammar autonomous from syntax. Work in HPSG also generally emphasises surface rather than deep structure, and limits (or avoids altogether) the postulation of null elements. As for the formalism, it is based on typed feature logic (Carpenter, 1992; Richter, 2021), which manipulates structured objects most commonly represented as attribute–value matrices (AVMs).

2.1 Signs

At the core of the syntactic theory of HPSG lies the Saussurean conception of sign-based linguistics (de Saussure, 1916). This conception entails that words, phrases and sentences (among others) are all linguistic signs, which relate a certain form (the *signifiant*) to a certain meaning (the *signifié*). The HPSG implementation of this intuition begins by instantiating the notion of *sign* as an element in the grammar’s ontology, with subtypes

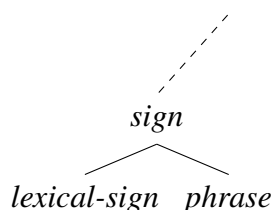


Figure 2.1: Partial ontology showing the hierarchy of signs

such as *lexical-sign* (a general type including both lexical entries and fully inflected words) and *phrase*. This is shown in Figure 2.1.

We can now introduce features in order to illustrate the Saussurean view of the sign. The idea that signs possess a form and a meaning is implemented by declaring two features as appropriate of *signs*. The first one corresponds to the sign’s form (or signifiant), but is normally called in HPSG the PHON feature. For our purposes, the feature takes as value an ordered list of phonological elements. The second feature, SYNSEM, corresponds to the *signifié*, but will additionally contain information relevant to syntax. This is achieved by imposing a constraint on the type *sign*, as in Figure 2.2: this constraint informally ensures that all signs have a PHON feature containing phonological information *list(phon)* and a SYNSEM feature containing syntactic and semantic information (*synsem*, a type that will be described in the next section).¹ Crucially, typed feature logic involves feature inheritance: the constraint in Figure 2.2 equally applies to the types *lexeme* and *phrase*, by virtue of being subtypes of *sign*.

$$\left[\begin{array}{ll} \text{sign} & \\ \text{PHON} & \text{list(phon)} \\ \text{SYNSEM} & \text{synsem} \end{array} \right]$$

Figure 2.2: Constraint on *signs*

2.1.1 Basic feature geometry

As we have just seen, the grammatical properties of signs are contained as the value *synsem* of a feature SYNSEM appropriate of all *signs*. Standard HPSG theory assumes a certain formal organisation of the information carried by signs under SYNSEM which advantageously divides grammatical information. This basic feature geometry is illustrated in Figure 2.3.

A distinction is first made between local and non-local information: as we shall see, a feature NON-LOCAL represents information concerning unbounded dependencies. I

¹Note that the types *phon* and *synsem* (and, strictly speaking, even *list*) must be declared in the grammar’s ontology, similarly to the type *sign* and its subtypes.

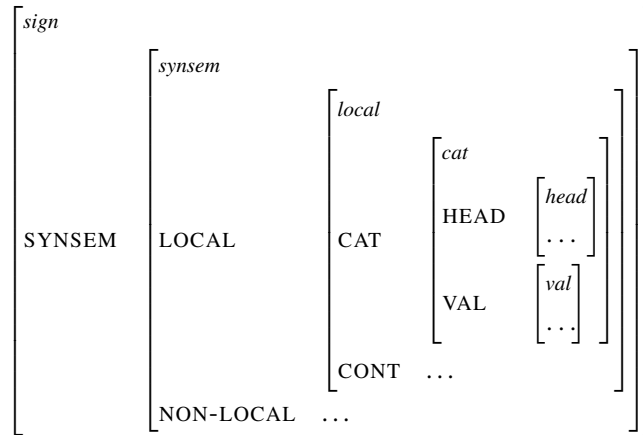


Figure 2.3: Basic feature geometry of signs

return to this in Section 2.3. Locally relevant information, on the other hand, belongs to a feature `LOCAL`. Local information is further divided between syntax and semantics: syntactic information belongs to the feature `CAT(EGORY)`, while semantic information belongs to `CONT(ENT)`. Focusing on the syntactic side, the geometry divides syntactic information based on head projection: properties that are projected in syntax from heads to phrases is gathered under the feature `HEAD`. The feature `VAL(ENCY)` contains information about the sign's valency, i.e. its local combinatory potential. Taken together, this setup will allow for a convenient statement of (HPSG's version of) X-bar theory.

Various notational shortcuts are in use in the HPSG literature to ease representation, and are followed in this thesis. These include further abbreviating of common feature names, e.g. `H(EA)D`, `L(OCAL)`; the abbreviation of paths using symbols like `'.'` or `'l'` (Figure 2.4b); and simply omitting usual feature geometry when sufficiently clear from the context and from feature appropriateness considerations (Figure 2.4c).

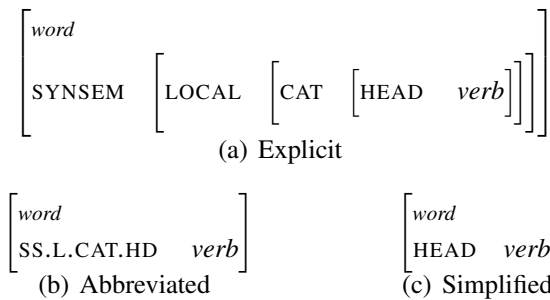


Figure 2.4: Some equivalent notational variants

2.1.2 Phrases

With this overview of the organisation of grammatical information in the sign, we can now turn to the question of what differentiates the various subtypes of *sign*. Phrases differ from words in being complex signs: they are made up of several signs, which may themselves be words or phrases. This is achieved by the constraint on phrases in Figure 2.5. Phrases possess a feature D(AUGH)T(E)RS, which is constrained to a list of *signs*, thereby implementing syntactic phrases' recursive structure.

$$\begin{bmatrix} \text{phrases} \\ \text{DTRS} \quad \text{list}(\text{sign}) \end{bmatrix}$$

Figure 2.5: Constraint on *phrases*

In the highly lexicalised head-driven spirit of HPSG, descriptions of phrasal signs are also the place to state rules about phrase structure. We can thus implement basic head projection in phrase structure as a constraint on phrases. This is done by declaring a new subtype of phrases, the *headed-phrase*, a most common type of syntactic phrase responsible for (among others) subject–predicate and head–complement configurations. Projection is then stated as a constraint on *headed-phrases* which utilises structure-sharing (also called token identity, or reentrancy). As illustrated in Figure 2.6, headed phrases possess among their DTRS a H(EA)D-D(AUGH)T(E)R, i.e. the syntactic sign which heads that phrase. As indicated by the boxed variables, the value of the head daughter's HEAD feature is structure-shared with the phrase's own HEAD feature: this structure-sharing ensures that the various syntactic properties of the head daughter found under HEAD will percolate to the phrase.

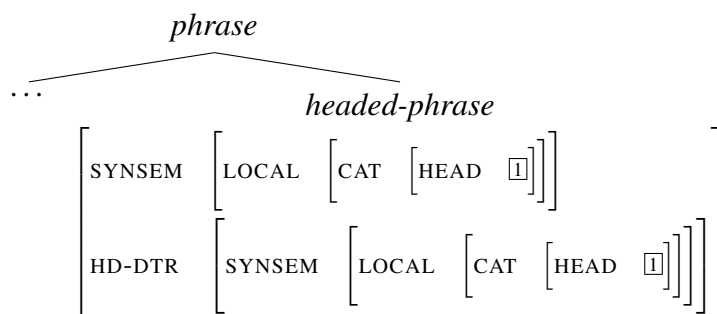


Figure 2.6: The Head Principle

2.2 Subcategorisation

Let us now turn to the question of grammatical functions.

2.2.1 Valency

HPSG recognises several subtypes of headed phrases corresponding to functional configurations. A first example is the head–complement configuration, instantiated by a phrase whose head daughter subcategorises for its non-head daughter as a complement. This is implemented by the constraint on *head-compl(ement)*, a subtype of *headed-phrase*, given in Figure 2.7. This schema introduces HPSG valency lists: the SUBJ(ECT) list and the COMP(LEMENT)S list, located under VAL, represent a sign’s combinatory potential. For instance, a syntactic item carrying a [SUBJ < NP >, COMPS < >] is an item expecting an NP subject, but no complement, as would e.g. an intransitive verb like *dort* ‘sleeps’ or a fully saturated, complex VP such as *avait déjà mangé son repas* ‘had already eaten their lunch’.

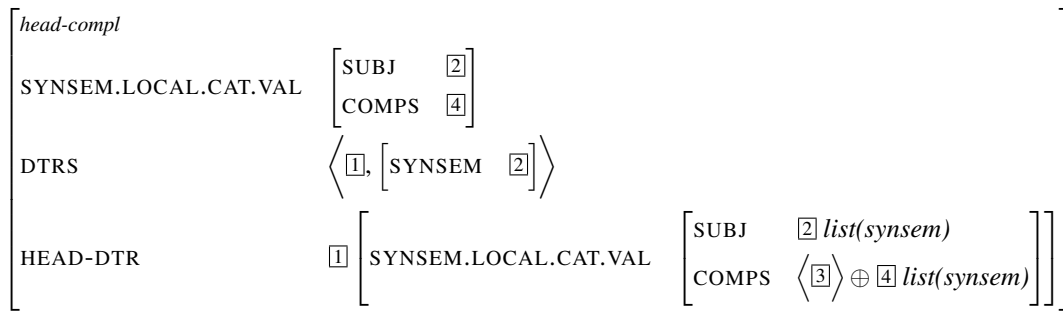


Figure 2.7: The head–complement schema

To implement this notion of valency, the schema in Figure 2.7 makes use of structure-sharing: in a head–complement configuration, the subject valency of the phrase (the SUBJ(ECT) list) is inherited from the head daughter. The complement valency, on the other hand, is updated: it is the first element on the COMP(LEMENT)S list of the head daughter, the rest of the list being percolated to the phrase. To enforce selectional requirements by the head of the complement being realised, the schema structure-shares the complement selected by the head (the first element on the head’s COMPS list) with the non-head daughter of the phrase: thus the complement combined to the head using this schema must match (i.e. unify with) the description of the complement found on the selecting head’s valency list.

Notice that, in French, the head daughter in a head–complement configuration always comes first; we can implement this by making the head daughter (HEAD-DTR) the first element of the list of daughters (DTRS). Note also that HPSG valencies are not lists of *signs*, but lists of *synsems*: indeed, not all of the properties of a sign can be selected for. *Synsem* valencies therefore guarantee a strict notion of locality, resulting (among other things) in PHONOLOGY-FREE SYNTAX (Zwicky, 1969; Zwicky & Pullum, 1986), since syntactic combination effectively becomes blind to the PHON feature.

A similar schema can be given for subject–head configurations (Figure 2.8). The

type *subj(ect)-head*, a subtype of *headed-phrase*, places the head daughter as the second element, since subjects precede heads in French. Assuming combination with subject takes place after combination of complements, the COMPS list of the head daughter (and of the phrase) are constrained to be empty. The subject valency, which we can assume for now to be maximally of length 1 (but see Chapter 9), is cancelled in the same way as previously: the subcategorised subject on the SUBJ list of the HEAD-DTR is structure-shared with the non-head daughter's SYNSEM. Lastly, the phrase's resulting subject valency is the empty list, expecting no further combination with a subject.

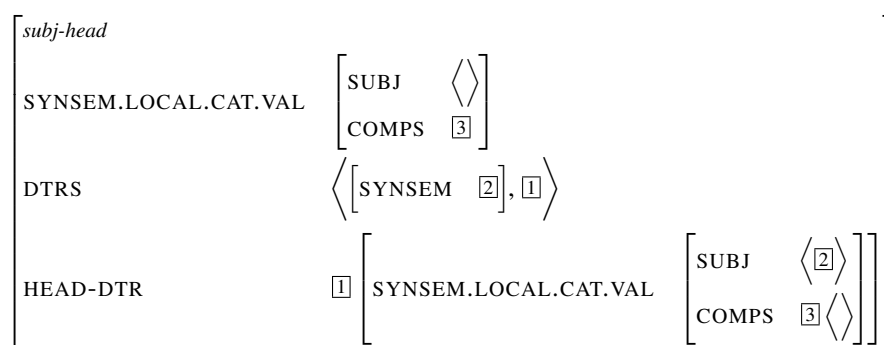


Figure 2.8: The subject–head schema

HPSG commonly analyses the configuration between determiners and nouns as a specifier–head relation. This is implemented very similarly to the subject–head schema in a *sp(ecifie)r-head* schema (Figure 2.9). A third valency list, the SP(ECIALIE)R list, is added under VAL. Complements cannot be expected in this configuration, although the subject list is left unconstrained and percolated as is.²

An important property of this theory of valency cancellation (inspired by Categorical Grammar – Morrill, 1994; Steedman, 2000) is that it results in a notion of locality: only *unrealised* valencies are available to phrase structure schemata (and subcategorising words), whereas previously realised items no longer appear on valency lists, making them invisible to subcategorisation.

Finally, modification in HPSG makes use of a feature MOD. Contrary to *head-valence-phr(ases)*, in a modification configuration it is the selected element that is the head. The MOD feature is therefore simply placed under HEAD, making its projection in syntax subject to the Head Principle. The *head-adjunct* schema is given in Figure 2.10. Since both relative orders of head and adjunct are found in French, the order of the two daughters is left underspecified.³ As with head–valence schemata, the *synsem* of the selected element (here the HEAD-DTR) is structure-shared with the content of the (MOD)

²Note that the previous two schemata, *head-compl* and *subj-head*, should now be updated to define percolation of specifier valencies.

³See Müller (2021) for different approaches to ordering in HPSG.

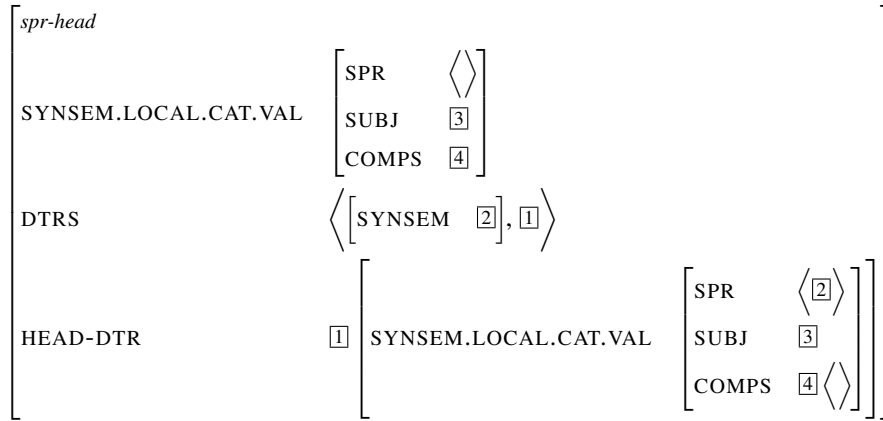


Figure 2.9: The specifier–head schema

list of the other daughter (ADJ-DTR). The head daughter’s entire CAT is inherited by the phrase, including valency lists.

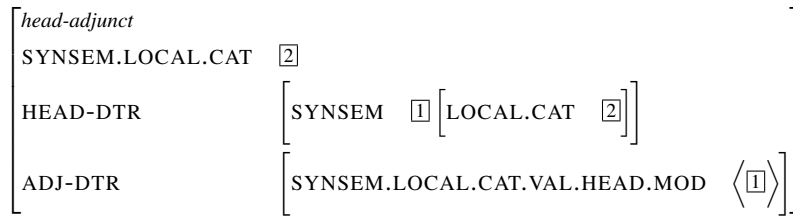


Figure 2.10: The head–adjunct schema

2.2.2 Argument structure

The phrase structure schemata given in the previous section provide a working theory of syntactic combination, but say nothing of where subcategorisation originates. Ultimately, valency lists must be related to argument structure. Modern versions of HPSG differentiate between the valency lists just discussed, which all signs possess (under SS.L.CAT.VAL), and $\text{ARG(UMENT)-ST(RUCTURE)}$, a feature of lexical signs.⁴ Argument structure is thus where subcategorisation is lexically specified, and where arguments are linked to semantic roles. Assuming argument structure maps somehow onto valency lists,⁵ we know that any constraint on an element of ARG-ST will correspondingly con-

⁴See Zubizarreta (1987), Grimshaw (1990), and Manning & Sag (1998, 1999) for arguments in favour of a level of representation of the argument structure of words distinct from semantic argument structure. See Davis et al. (2021) on argument structure and linking in HPSG.

⁵For the current purposes, ARG-ST elements are structure-shared with the SUBJ and COMPS lists. I return to the issue of argument mapping in Section 6.1.1, with special attention to the case of arguments

strain combination in syntax thanks to the schemata from the previous sections. We can therefore begin to describe simple lexical entries with their argument structures, such as those for the verb *montrer* ‘show’ and the noun *hérisson* ‘hedgehog’ in Figures 2.11 and 2.12 respectively.

As the lexical entries show, category is given as a typing of the value of HEAD. This will allow for category to be projected in syntax per the Head Principle (recall Figure 2.6). It also allows for the declaration of category-specific syntactic features, like a verb’s finiteness, such features being similarly percolated along head paths. One such feature is a noun’s syntactic MARK(ING); in French, verbs may subcategorise for (among others) bare NPs ([MARK *bare*], NPs marked by *à* ([MARK *à*]), or NPs by marked *de* ([MARK *de*]).

Importantly, the lexical entry for the verb does not simply subcategorise for any nominal element, i.e. [LOCAL.CAT.HEAD *noun*], but for one with empty specifier and complement lists ([SPR < >, COMPS < >]). Taken together, these three constraints define an NP, i.e. a fully saturated nominal element. I henceforth rely on the common notational practice of simply using traditional labels such as NP, VP etc. in lieu of an AVM for a *synsem* element with a head of the corresponding category N, V etc. as well as empty specifier and complement lists, e.g. [ARG-ST < NP, VP >].

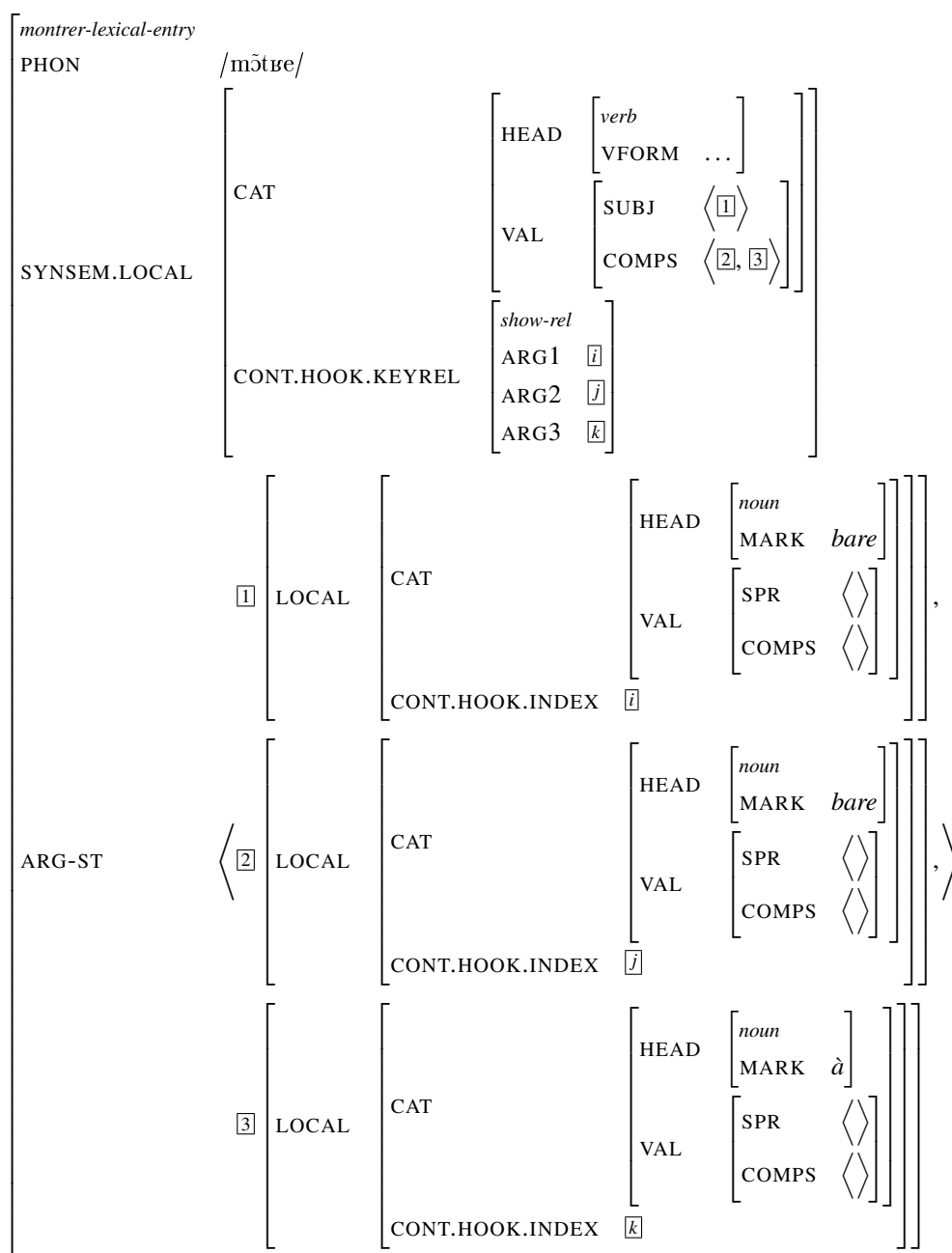
The lexical entry for *montrer* further describes basic semantic linking of arguments: the syntactic arguments’ INDEX, a feature of their CONT(ENT), is structure-shared with a semantic role in a representation of the verb’s thematic structure, the KEYREL(ATION), situated under the verb’s own CONT.⁶ The INDEX and MARK(ING) features are henceforth abbreviated as a subscript and a label in square brackets (respectively) to the right of a subcategorised NP; for example, the argument structure of *montrer* can be shortened to < NP_{*i*}, NP_{*j*}, NP_{*k*}[*à*] >.

Note that the feature-inheritance properties of the description language mean that much of the information stipulated in the lexical entries in Figures 2.11–2.12 can be abstracted into supertypes. For example, a subtype of *lexical-entry* (itself a subtype of *lexical-sign*) can be defined for all words that share the argument structure shape of *montrer*, e.g. *ditrans(itive)-lex(ical)-entry*. Together with the possibility of cross-classifying types, so that the properties of category and thematic structure can similarly be abstracted, the lexical entry of *montrer* only needs to specify the name of its semantic predicate and its phonology, receiving all of the constraints explicitly represented in Figure 2.11 by inheritance from several subtypes. See e.g. Koenig (1999) for extensive discussion of abstraction and underspecification in the HPSG lexicon.

Combining the lexical specification of argument structure with the previously discussed phrasal schemata, we can produce a simple HPSG representation for a French

not realised syntactically, such as pronominal affixes.

⁶The intermediate feature HOOK gathers together semantic information that will be useful to define raising with semantically transparent auxiliaries. See Chapter 6.

Figure 2.11: Lexical entry for *montrer* ‘show’, displaying subcategorisation and linking

sentence like *Laure montre un hérisson à Alice* ‘Laure shows Alice a hedgehog’ (Figure 2.13).⁷ The tree representation is a notational convention equivalent to an AVM of the

⁷The inner structure of the marked NP *à Alice* assumes a weak head treatment of *à* (Tseng, 2002; Abeillé et al., 2006), and is left unanalysed for the moment. I make this analysis explicit in Section 9.6.2.1.

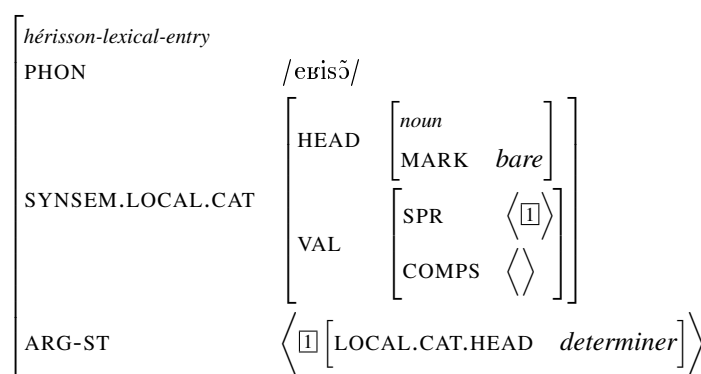


Figure 2.12: Lexical entry for *hérisson* ‘hedgehog’, with subcategorisation for determiner

top-level subject–head schema, where each subtree stands for the corresponding phrase’s DTRS elements. Note also that the label S simply indicates a phrase with a verbal head and a fully saturated valency.

2.2.3 Raising, control

We can now turn to the more interesting case of subject raising and control.⁸ In the surface-oriented approach favoured by the framework (and similarly to related frameworks like Lexical-Functional Grammar Kaplan & Bresnan, 1982), these are treated not by way of syntactic movement or null elements, but by making use of the notion of category selection enriched with valency as described in the previous section.

2.2.3.1 Raising

Let us start with a subject raising construction, as found with *sembler* ‘seem’. The HPSG treatment of raising is entirely lexicalised, in the sense that no modification of the phrase schemata from Section 2.1.2 is required: instead, only a description of the argument structure of the lexical entry of the element with raising properties is necessary, e.g. the verb *sembler*.

Figure 2.14 provides the relevant lexical entry. The subject-raising verb subcategorises (on its ARG-ST) for a VP (i.e. a verbal element with a saturated complementation [COMPS < >]). This VP complement’s form is further required to be *inf(initival)*. The VP’s SUBJ list, however, needs to be non-empty; otherwise *sembler* would combine with full sentences. More importantly, the HPSG theory of valency means that the raising verb has full access to a description of the VP complement’s subcategorised subject. This means that in order to effectively raise the VP complement’s expected subject, *sembler* can make use of structure-sharing: the first element of its own ARG-ST is structure-shared

⁸See Abeillé (2021) for a full introduction to raising and control in HPSG.

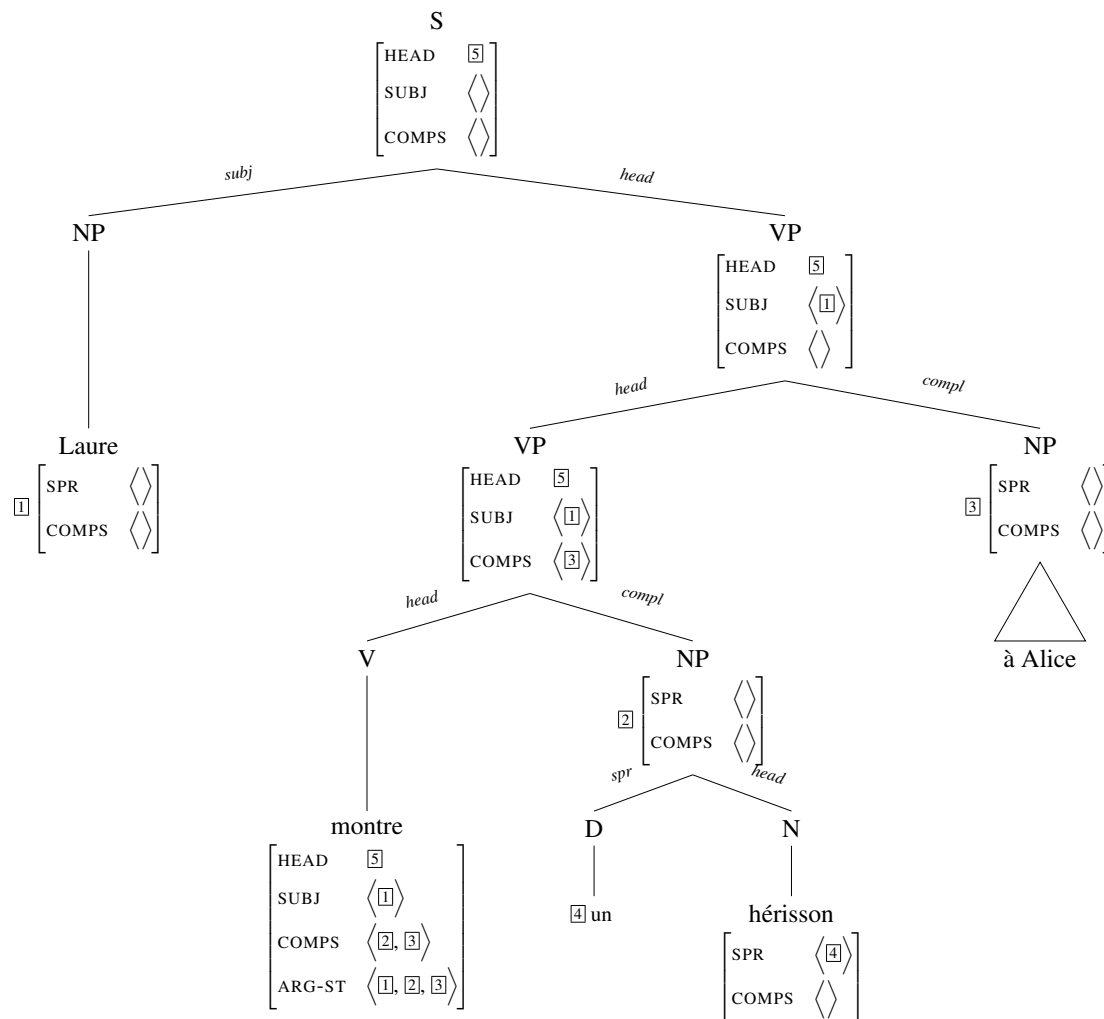


Figure 2.13: Representation of a simple French sentence

with the VP complement's subject valency. Any properties of the subject selected by the verbal complement will therefore be also imposed on the subject of *sembler*, including categorial selection and linking of the index to the semantic role assigned by the verbal complement. Thus what enables subject raising from VP complements is exactly what characterises VPs featurally, namely an open subject valency ([SUBJ < [] >]).

Figure 2.15 illustrates the full subject raising construction with the sentence *le hérisson semble aimer Alice* 'the hedgehog seems to like Alice'.

Note that this lexicalised approach to raising extends to many auxiliary constructions; for instance, the copula is usually analysed as a subject raiser with a predicative XP complement (see Section 6.2.3 for discussion).

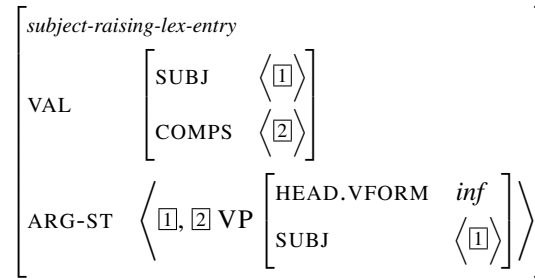


Figure 2.14: Lexical entry for a subject-raising verb

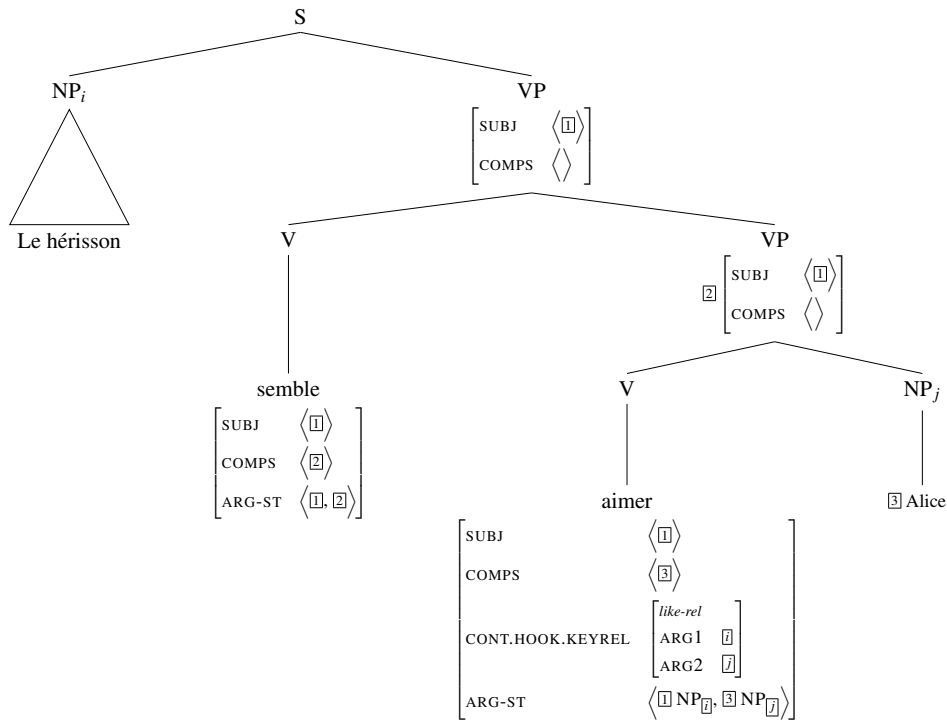


Figure 2.15: Representation of a subject raising sentence

2.2.3.2 Control

The standard HPSG theory of control again makes use of the fact that in HPSG's X-bar theory, VPs are almost saturated verbal projections crucially featuring an unsaturated SUBJ valency. A subject control verb, such as the one described in Figure 2.16 (for *vouloir* 'want'), subcategorises for such a VP complement, i.e. a verb or verbal projection still expecting a subject, but no complements. With control constructions, however, the higher verb imposes its own selectional constraints on the controlling argument, and identifies its index with a role argument, in addition to the one assigned by the downstairs verb.

The subject control verb therefore specifies its own argument rather than inheriting it by structure-sharing with the VP complement’s open valency; in Figure 2.16, it is required to be an NP, and its index is linked to the control verb’s semantics.⁹ In order to account for the coreference relation between the controlling subject and the expected subject of the VP complement, structure-sharing of the argument’s *index* is used instead. As the argument’s index is entirely responsible for linking to semantic roles, its structure-sharing is sufficient to enforce coreference. As with raising, the possibility of subject control again derives from the theory of valency: what is not yet realised is what may be raised or controlled.

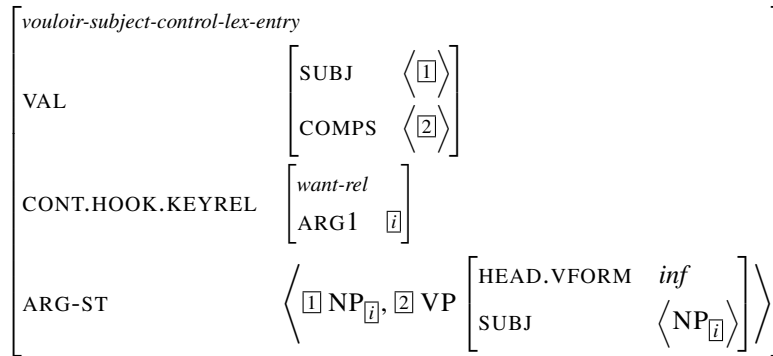


Figure 2.16: Lexical entry for a subject control verb

Figure 2.17 illustrates a subject control construction, *Le hérisson veut jouer avec Alice* ‘the hedgehog wants to play with Alice’.

This analysis straightforwardly extends to object controllers. Figure 2.18 gives a lexical entry for *persuader* ‘persuade’, an object control verb. The entry minimally differs from that of *vouloir* by coindexing the VP complement’s open valency with an object argument rather than with the subject.

2.3 Extraction

In the current traceless HPSG theory of extraction,¹⁰ unbounded dependencies like relativisation or wh-fronting are also standardly treated in a lexicalised way, using lexical entries rather than phrase structure rules to store information about extracted elements.

⁹The description of *vouloir*’s semantics is intentionally partial, lacking a representation of the semantic composition with the event denoted by the lower verb. This is omitted for simplicity as semantic composition is only sparsely relevant to the discussion to come. See Koenig & Richter (2021) for an introduction to semantics in HPSG.

¹⁰See Borsley & Crysmann (2021) for a broader presentation of the various treatments of unbounded dependencies in HPSG, and Arnold & Godard (2021) more specifically on relative clauses.

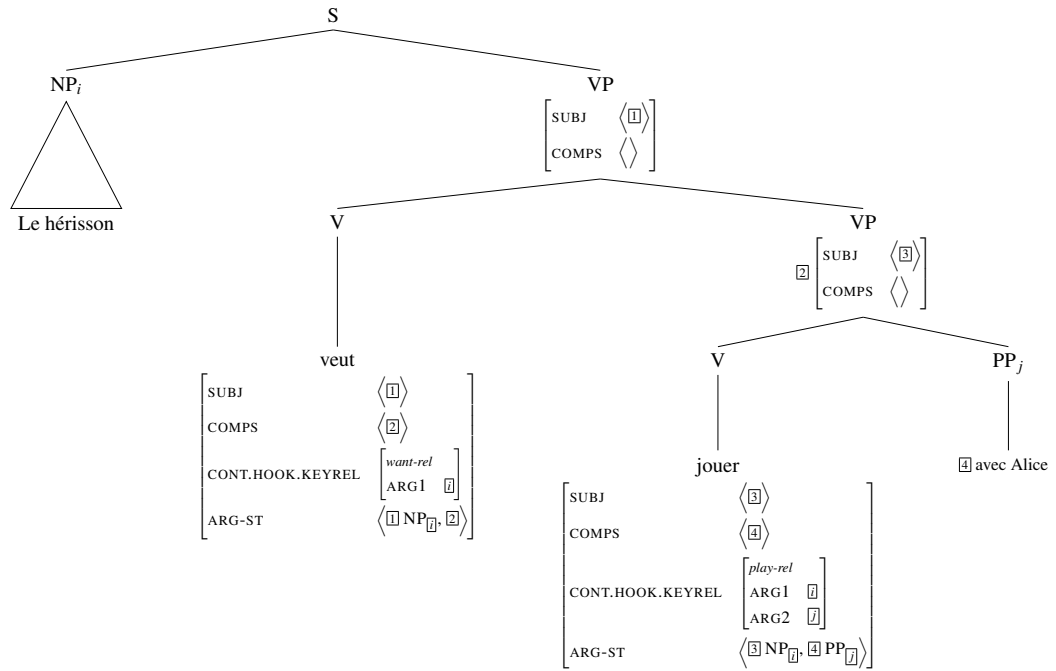


Figure 2.17: Representation of a subject control sentence

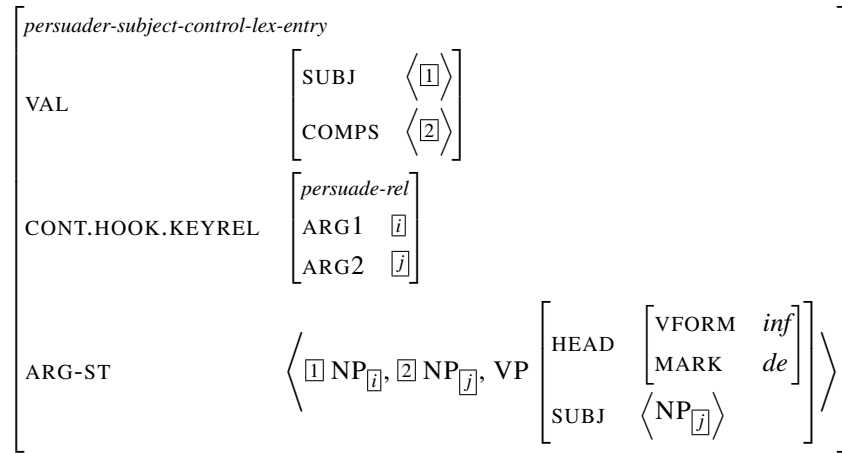


Figure 2.18: Lexical entry for an object control verb

While earlier work in the framework did comprise null elements corresponding to the ‘trace’ of the extracted element, most recent work has moved to an approach in which the gap is treated as a special realisation of an argument. In this line of approach, a verb like *reading in the book I could not stop reading* receives a representation as in Figure 2.19: its complement is a *gap-ss*, a subtype of *synsem* used for extracted elements which do

not correspond to a valency.¹¹ The type *gap-ss* is subject to a constraint that makes its LOCAL value reentrant with the content of a NON-LOCAL feature, SLASH.¹² By virtue of the Principle of Slash Amalgamation (Ginzburg & Sag, 2000), lexical signs by default inherit the SLASH values (as set union) of their various arguments. In this way, the SLASH feature of *reading* in Figure 2.19 inherits from the LOCAL content of the gap.

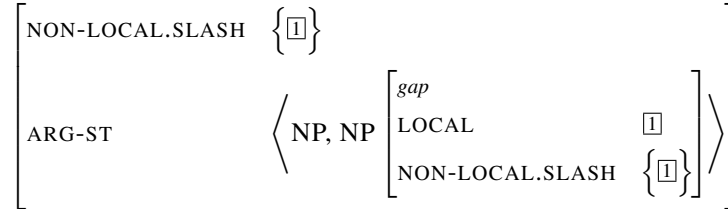


Figure 2.19: A slashed verb

Intuitively, the purpose of this SLASH feature in HPSG¹³ is to encode information about extracted elements: a ‘slashed’ VP is a VP that contains a gap, a ‘slashed’ NP is an NP containing a gap etc. Accordingly, the feature must be able to percolate in phrase structure from the head that licenses the gap. This is allowed by the Slash Inheritance Principle (Bouma et al., 2001), which structure-shares, for headed phrases, the value of the SLASH of the mother with that of the head daughter. The principle is given in Figure 2.20. Although this principle only allows projection of the feature along head paths, the Slash Amalgamation Principle guarantees that the feature is spread from a head to any higher head subcategorising for it. Taken together, these two principles work to propagate the SLASH feature to phrase structure by threading via heads, resulting in a lexicalised, head-driven approach to extraction.

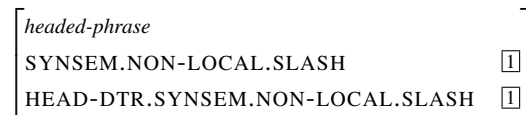


Figure 2.20: The Slash Inheritance Principle

As for the top of the construction, work on extraction in HPSG emphasises the diversity of configurations in which unbounded dependencies can be resolved: some dependencies, like *wh*-fronting and some relative clauses, involve a filler function in a peripheral position, whereas others, like English *that*-relatives, do not require any

¹¹There are several ways of implementing valency reduction of the verb, one of which is to only map *canonical-synsems* onto the VAL lists – see Section 6.1.1.

¹²In the original approach as formulated by Pollard & Sag (1994), this reentrancy was effected by the trace, but as the current traceless approach demonstrates it can just as well be done lexically on ARG-ST.

¹³The feature originates in name and spirit from earlier work in Generalised Phrase Structure Grammar (GPSG – Gazdar et al., 1985), see Gazdar (1981).

additional functions. As an example, an interrogative clause like *qui va-t-elle voir* ‘who will she see’ is analysed as a *filler-head* phrase: leaving aside the issue of subject inversion, the slashed S *va-t-elle voir* combines with a filler element corresponding to the gap. A simplified representation of the *filler-head* schema is given in Figure 2.21.¹⁴ This schema combines a slashed element with an element whose LOCAL value is structure-shared with the element found under the head’s SLASH. The SLASH dependency is terminated, as indicated by the empty SLASH set of the mother.¹⁵

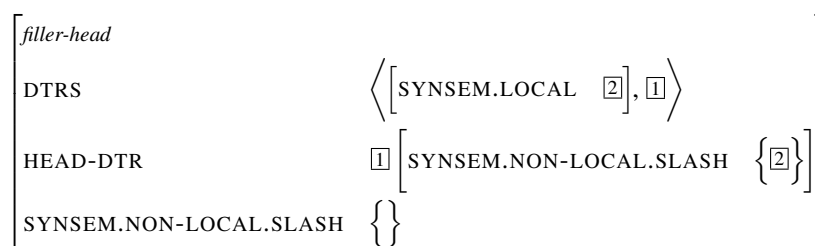
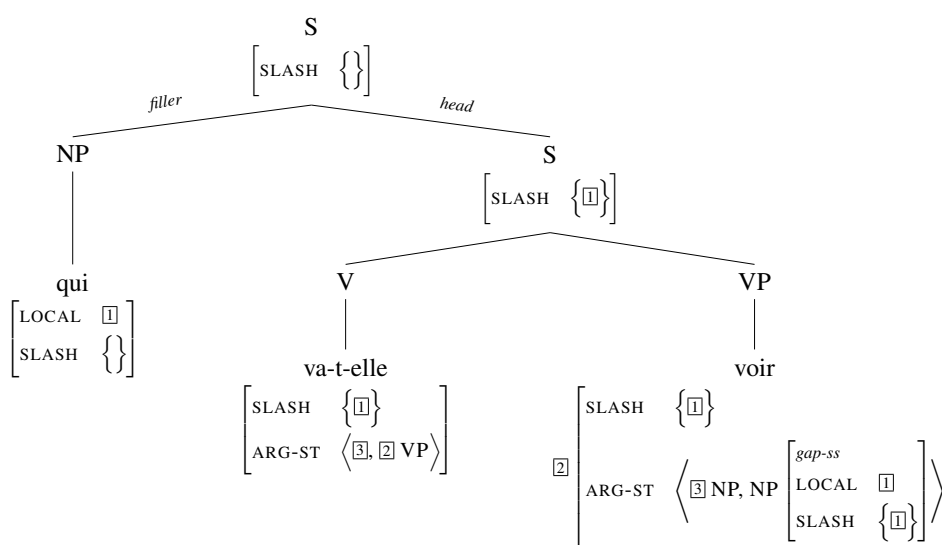


Figure 2.21: The filler-head schema

Figure 2.22 illustrates the analysis of *qui va-t-elle voir*.

Figure 2.22: An interrogative with *filler-head* configuration

¹⁴The schema in Figure 2.21 is too unconstrained, and says nothing of e.g. what the category of the head daughter can be. For instance, Pollard & Sag (1994: 164) assume the HEAD-DTR is an S (i.e. [HEAD verb, SUBJ <>, COMPS <>]). Valency must also be identified from head daughter to mother.

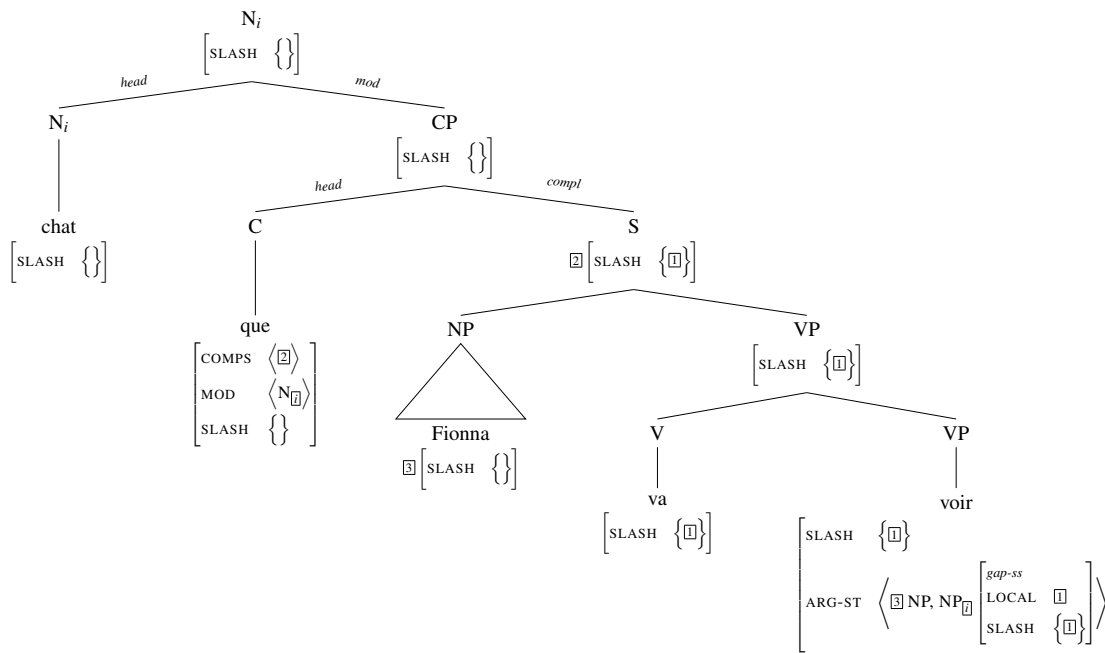
¹⁵This simplified account is in technical violation of the Slash Inheritance Principle as stated in Figure 2.20. See Pollard & Sag (1994: 162–165) for a solution using the feature TO-BIND.

As for extraction without fillers, let us turn to French relative clauses. According to Abeillé & Godard (2007), in a relative clause like *que Fiona va voir* ‘that Fiona will see’, *que* is a complementiser akin to English *that* as opposed to a relative pronoun. Relativiser *que* can then receive a description as in Figure 2.23: it subcategorises for a complement clause containing (the LOCAL value of) an NP on its SLASH, and modifies a noun coindexed with that NP. Relativiser *que* terminates the dependency, its own SLASH not containing the NP in question.¹⁶

$$\left[\begin{array}{c} \text{SYNSEM} \\ \left[\begin{array}{c} \text{LOCAL.CAT} \\ \left[\begin{array}{c} \text{VAL.COMPS} \left\langle \text{S} \left[\text{NON-LOCAL.SLASH} \left\{ \boxed{1} \text{NP}_{\boxed{1}} \right\} \right] \right\rangle \\ \text{HEAD.MOD} \left\langle \text{N}_{\boxed{1}} \right\rangle \end{array} \right] \end{array} \right] \end{array} \right] \text{non-local} \left\{ \right\} \end{array} \right]$$

Figure 2.23: Lexical entry for the relativiser *que*

Figure 2.24 illustrates the analysis of *(le) chat que Fiona va voir* ‘(the) cat that Fiona will see’.

Figure 2.24: A relative clause with a *head-compl* configuration

¹⁶Note that the entry in Figure 2.23 does not conform to the Slash Amalgamation Principle, which is described by Ginzburg & Sag as a default constraint that can be overridden by more specific constraints, such as that in our lexical entry.

In this chapter, I have attempted to equip readers unfamiliar with the framework to follow the discussion and formal analyses presented in the chapters to come, paying particular attention to the HPSG treatment of subcategorisation and non-local dependencies.

Chapter 3

Lexical clitics, syntactic climbing?

Complex predicates and auxiliary constructions are some of the most central topics in Romance syntax, owing to the intricate array of special properties they display. Chief among these is the distribution of weak pronominals within these constructions: although such pronominals are normally realised attached to the verb they are arguments of (3.1), they may in the right circumstances be hosted instead by an auxiliary verb or complex predicate head (3.2).

(3.1) Je le vois.
I DO.3SG.M see
'I see him.'

(3.2) Je l' ai vu.
I DO.3SG.M have seen
'I saw him.'

Romance weak pronominals have therefore been dubbed 'clitics', i.e. forms that may fall short of the status of full-fledged words and rely on a host word, but still possess some mobility. This has widely been taken to circumscribe the phenomenon squarely within syntax – there must be a grammatical rule, a mechanism, or some way to syntactically govern the clitics' mobility. Intuitively, the dataset above seems to constitute a classical word order problem. This intuition is what underlies the conception of 'clitic climbing': how do the clitics climb up the syntactic tree to the higher verb?

From this reasonable problematisation followed a number of solutions across the syntactic literature, prompting analyses of clitic climbing as a transformation, as movement, or as raising *inter alia*, and obtaining considerable developments, generalisations and insights into the phenomenon. However, comparatively little attention was paid to the premise behind the initial reasoning. Yet this premise – the purely syntactic nature of the issue at hand – is in fact not entirely straightforward. The status of Romance weak pronominals as clitics has been increasingly debated on morphological grounds in

favour of an affixal nature, making their attachment arguably a strictly lexical process. Although some proposals (namely the raising accounts developed in LFG or HPSG) have accommodated this perspective in their syntactic treatments, none have truly questioned the division of labour between syntax and morphology at play in clitic climbing constructions. The result is a paradoxical state of affairs: weak pronominals are treated as a lexical process when *in situ*, but subject to a syntactic process when on an auxiliary.

The present chapter illustrates this point with a brief overview of the relevant literature. Section 3.1 exposes the evidence in favour of the lexical view of French weak pronominals, while sections 3.2 and 3.3 sketch some of the most relevant of the syntactic approaches to the case of French, the first one focusing on the generative tradition while the second summarises proposals in the HPSG framework.

3.1 Evidence for a morphological view of weak pronominals

Although the bulk of research on Romance weak pronominals has been treating them as syntactically relevant items, a body of evidence points towards their lexically bound status. As the terminology employed implies and despite their partial mobility, Romance weak pronominals have long been understood to lack phonological autonomy and need to be lexically hosted in a phonological word. However, theoretical and empirical research into the notion of clitic (e.g. Zwicky, 1977; Klavans, 1982) has highlighted the need to further distinguish between lexically bound, inflection-like AFFIXES and post-lexical, syntactically mobile CLITICS. In a seminal case study of English clitics (*sensu lato*), Zwicky & Pullum (1983) provide a set of criteria for this distinction, concluding that English contracted negation *n't* is affixal while contracted auxiliaries (*'ve*, *'s* etc.) are rather clitics *sensu stricto*. Their criteria, elaborated from observed properties of canonical cases of affixation and cliticisation, were adopted in subsequent investigations of Romance weak pronominals that resulted in the recategorisation of many clitics as lexical affixes: e.g. Crysmann (2002, 2003), Luís (2004) for European Portuguese, Brines (2001) for Spanish, Monachesi (1999) for Italian, as well as Miller & Monachesi (2003) for a crosslinguistic overview.¹

Most relevantly for us, this was in particular the case for French weak pronominals, thus supporting a conclusion which had been proposed since at least Tesnière for object pronominals and Darmesteter for subject pronominals.

“Dans certaines langues, les substantifs personnels, qui gravitent ainsi dans le voisinage immédiat du verbe, ont tendance à perdre leur autonomie.

¹See Crysmann & Luís (to appear) for a recent review. See also Joseph (1988) for a very similar reanalysis of Modern Greek pronominals.

Phonétiquement, ils **perdent leur accent**. Morphologiquement, ils tendent à **s’agglutiner** au verbe dont ils deviennent partie intégrante, sous forme d’affixes (préfixes ou suffixes). Dans les langues européennes, ce processus s’observe surtout dans les langues latines et dans leurs voisines, les langues slaves du Sud (et le tchèque, mais non le russe, ni le polonais).”

(Tesnière, 1976: 132)

“Ne semble-t-il pas que dans *j’èm’, t’èm’; ch’sui, t’è*, etc. [i.e. *j’aime, t’aimes, chsuis, t’es*], il y ait un commencement de fusion du pronom avec le verbe ? que le pronom devienne comme une flexion verbale, analogue, sinon par l’origine et par la place qu’elle occupe, du moins par la fonction qu’elle remplit, à celle que présentent les finales *-o, -s, -t* dans le latin *vide-o, vide-s, vide-t* ?”

(Darmesteter, 1877: 4)

The reasoning for such a reanalysis as proposed by Miller (1992a), Auger (1993, 1994, 1995), and Miller & Sag (1997) is outlined in the next sections.²

3.1.1 The system

Before turning to the discussion of the status of French weak pronominals, let us present the forms in question in more detail. Table 3.1 provides a summary of the preverbal system.³

The second line of each row in Table 3.1 indicates the form’s function, and its gloss, as used in examples.⁴ Allomorphs of the forms listed in the table are discussed in Section 3.1.5.

²See also Heger (1966), Hirschbühler (1971), Harris (1978), Bossong (1981), Lambrecht (1981), Matthews (1989), Roberge (1990), Kaiser (1994) for other analyses that share the insight about French weak pronominals as agreement markers and/or affixes.

An earlier application of the criteria by Labelle (1985) reached the opposite conclusion, i.e. French weak pronominals as post-lexical clitics. Miller (1992a) discusses at length the reasons that led to such a conclusion, mostly that Labelle seemed to be unaware of the existence of a significant fraction of the phenomena summarised in the next sections. De Cat (2005) offers a convincing argumentation against the analysis of subject pronominals as agreement markers, but fails to demonstrate how this point supports the claim made against their analysis as affixes – see Auger (1995) on the distinction between the (morphosyntactic) status of a form as an agreement marker and its (morphological) status as an affix. Her arguments based on properties of the negative marker *ne*, although they certainly deserve further attention, are outside the scope of this discussion, as they have no bearing on the status of object pronominals.

³For a more complete description of the French weak pronominal system and its ordering constraints, see Bonami & Boyé (2005).

⁴As the following discussion will make clear, subject pronominals are to some extent tangential to the proposal developed here, and will be glossed by a metalanguage equivalent, i.e. English subject pronominals (*I, you* etc.) except where relevant.

1	2	3	4	5	6	7
je	ne	me	la	lui	y	en
SBJ.1SG	NEG	OBJ.1SG	DO.3SG.F	IO.3SG	LOC	GEN
tu		te	le	leur		
SBJ.2SG		OBJ.2SG	DO.3SG.M	IO.3PL		
elle		se	les			
SBJ.3SG.F		REFL.3	DO.3PL			
il		nous	le			
SBJ.3SG.M		OBJ.1PL	PRED			
nous		vous				
SBJ.1PL		OBJ.2PL				
vous						
SBJ.2PL						
elles						
SBJ.3PL.F						
ils						
SBJ.3PL.M						

Table 3.1: The preverbal position classes of French weak pronominals (adapted from Bonami & Boyé, 2005: 293)

Most peripheral to the verb are the position 1 subject pronominals *je*, *tu* etc. *Vous* expresses either a true plural or a polite singular. *Il* can additionally be used as an expletive subject (3.3), and the position class further contains *ce*, a special subject only found with the copula.⁵ This class contains a number of forms which are not to be confused with homonymous strong pronominals (*moi* 1SG, *toi* 2SG, *elle* 3SG.F, *lui* 3SG.M, *nous* 1PL, *vous* 2PL, *elles* 3PL.F, *eux* 3PL.M) which are free forms. Note that syncretism also occurs within the system, e.g. *nous* SBJ.1PL/OBJ.1PL.

- (3.3) Il pleut.
it rains
'It is raining.'

Position class 2 is occupied by a single member, *ne*, which is no true pronominal but a negative marker, and is mostly found in the formal register (but see De Cat, 2005: 1201).

The forms in the third position are case-syncretic object pronominals, and express both direct and indirect objects (OBJ). *Se* is a polyfunctional marker whose most canonical

⁵One might also include in this position recent gender-inclusive neological forms, the most common of which are *iel* and *iels*, both third person subject forms used to obviate the binary choice between *il(s)* and *elle(s)* in personal reference (see e.g. GGF: 1022).

use is as a third-person REFLEXIVE, causing a direct (3.4) or indirect (3.5) object to be interpreted coreferentially with the subject. The other forms in position 3 also express reflexivity when the subject has the same person and number (3.6). Such constructions can also receive a reciprocal reading, as the translation in (3.4) indicates. An additional use of *se* is as an exponent of the MEDIO-PASSIVE construction, illustrated in (3.7), a productive process in which an inanimate direct object is used as subject, the logical subject being generically interpreted.

- (3.4) Les enfants *se* lavent.
 the children REFL.3 wash
 ‘The children wash themselves/each other.’
- (3.5) Elle *se* dit non.
 she REFL.3 says no
 ‘She says no to herself.’
- (3.6) Je *me* lave.
 I OBJ.1SG wash
 ‘I was myself.’
- (3.7) Ces boissons *se* vendent bien.
 these drinks REFL.3 sell well
 ‘These drinks sell well.’

See Grimshaw (1982) and Wehrli (1986) for extensive discussion of the the range of functions played by such forms.

Moving in the direction of the stem are the (non-reflexive) third-person accusative forms, which express direct objects (DO), corresponding to bare NP complements. The use of *le* as a predicative proform, an instance of default agreement typical of defective controllers (Corbett, 2006: 37), is illustrated in (3.8).

- (3.8) a. i. Je sais que c’ est faux.
 I know that it is false
 ‘I know that it is false.’
 ii. Je *le* sais.
 I PRED know
 ‘I know it.’
- b. i. Elle sera médecin/seule/à Bordeaux jusqu’en 2025.
 she be.FUT doctor/alone.F/in Bordeaux until 2025
 ‘She will be a doctor/single/in Bordeaux until 2025.’
 ii. Elle *le* sera jusqu’en 2025.
 she PRED be.FUT until 2025
 ‘She will be so until 2025.’

Position class 5 contains (non-reflexive) third-person accusative forms, expressing indirect objects (IO), corresponding to NP complements marked by *à*.

Pronominal *y* expresses locative (3.9) and oblique (3.10) complements. It may also express a non-argument, anaphorically interpreted as a locative modifier (3.11), and has a use as a predicative proform with some verbs taking *à*-marked VP complements (3.12).

- (3.9) J' habite dans cette ville. J' *y* habite.
 I live in that city I LOC live
 'I live in that city. I live there.'
- (3.10) Je pense à l' avenir. J' *y* pense.
 I think of the future I LOC think
 'I think of the future. I think of it.'
- (3.11) J' *y* dors.
 I LOC sleep
 'I sleep there.'
- (3.12) Je pense souvent à déménager. J' *y* pense souvent.
 I think often of move I PRED think often
 'I often think about moving. I think about it/doing so often.'

Finally, pronominal *en* alternates with complements marked by *de*. This includes *de*-marked indirect objects (3.13), but also indefinite NPs (3.14) and quantified phrases (3.15). It also pronominalises some *de*-marked VP complements (3.16) as well as noun complements of direct objects (3.17).

- (3.13) Je parle de botanique. J' *en* parle.
 I speak of botany I GEN speak
 'I am talking about botany. I am talking about it.'
- (3.14) Je mange du riz / des bonbons. J' *en* mange.
 I eat INDF.SG.M rice INDF.PL sweets I GEN eat
 'I am eating rice/sweets. I am eating it.'
- (3.15) Je mange trois chocolats. J' *en* mange trois.
 I eat three chocolates I GEN eat three
 'I eat three chocolates. I eat three.'
- (3.16) Je rêve de déménager. J' *en* rêve.
 I dream of move I PRED dream
 'I dream of moving. I dream of it/doing so.'

- (3.17) Je regarde le dernier épisode de la série. J' en regarde le dernier
 I watch the last episode of the series I GEN watch the last
 épisode.
 episode
 'I am watching the last episode of the series. I am watching the last episode
 of it.'

Remarkably, this last function involves a form of unboundedness: the pronominalised noun complement may be arbitrarily deeply embedded in the verb's direct object (3.18).

- (3.18) Je regarde le dernier épisode de la première saison de la série. J' en
 I watch the last episode of the first season of the series I GEN
 regarde le dernier épisode de la première saison.
 watch the last episode of the first season
 'I am watching the last episode of the first season of the series. I am watching
 the last episode of the first season of it.'

Beside the functions just described, many of the forms in Table 3.1 have idiosyncratic uses in combination with specific verbs, obtaining a specialised meaning. I refer to these uses as INTRINSIC pronominals. Position class 3 is the most productive source of intrinsics (3.19b), but intrinsics from classes 4 (3.20b), 6 (3.21b) and 7 (3.22b) are also attested. As the examples illustrate, intrinsic pronominal variants of the verb differ from the corresponding standard use in both meaning and subcategorisation.

- (3.19) a. J' aperçois un chat.
 I glimpse a cat
 'I glimpse a cat.'
- b. Je m' aperçois qu' il pleut. Elle s' aperçoit qu' il pleut.
 I OBJ.1SG realise that it rains she REFL.3 realises that it rains
 'I realise it is raining. She realises it is raining.'
- (3.20) a. J' emporte un sandwich.
 I bring a sandwich
 'I am bringing a sandwich.'
- b. Notre équipe va l' emporter sur la leur.
 our team will DO.3SG prevail over theirs
 'Our team will prevail against theirs.'
- (3.21) a. Il a un chat.
 he has a cat
 'He has a cat.'

- (3.22) b. Il y a un chat.
 it LOC is a cat
 ‘There is a cat.’
- a. Je veux un chat.
 I want a cat
 ‘I want a cat.’
- b. J’ en veux au chat.
 I GEN am_mad at_the cat
 ‘I am mad at the cat.’

We can now turn to the question of the status of French weak pronominals as affixes or clitics.

3.1.2 Fixed ordering

A first notable property of French weak pronominals is their fixed idiosyncratic ordering. As originally noted by Perlmutter (1970: 221–229), weak pronominals cannot be permuted (3.23), whereas two co-dependent phrasal arguments can (3.24).

- (3.23) a. Marie le lui donne.
 Marie DO.3SG.M IO.3SG gives
 ‘Marie gives it to him.’
- b. * Marie lui le donne.
 Marie IO.3SG DO.3SG.M gives
- (3.24) a. Marie donne un jouet à Tristan.
 Marie gives a toy to Tristan
 ‘Marie gives Tristan a toy.’
- b. Marie donne à Tristan un jouet.
 Marie gives to Tristan a toy

In (3.24), the ordering of the two phrasal complements is unspecified, and only preferential effects (e.g. based on weight) can be observed. However, weak pronominals must appear in the order described in the previous section, so that e.g. a DO.3SG.M pronominal cannot follow a IO.3SG pronominal (3.23).

Not only is weak pronominal ordering fixed, but it is also idiosyncratic. The system described in the previous section indeed positions forms based not simply on their syntactic function, but also on their person: thus, although with (non-reflexive) third-person pronominals accusatives always precede datives, other persons (and reflexives) will appear before any third-person pronominal. The functions corresponding to direct and indirect objects are therefore spread across three different position classes. Furthermore,

the system conflates entire ranges of functions under a single position. For example, position class 3 lumps non-reflexive first- and second-person objects together with reflexive and medio-passive uses. Similarly, the range of uses of *en* is highly heterogeneous, comprising direct objects with certain quantificational properties alongside indirect object and embedded complements. The single grammatical function of direct object can therefore actually be realised in the weak pronominal template by three distinct positions, as illustrated in (3.25).

- (3.25) a. Je vois Maria et Sofiane. Je les vois.
 I see Maria and Sofiane I DO.3PL see
 ‘I can see Maria and Sofiane. I can see them.’
- b. Je vois Maria et toi. Je vous vois.
 I can see Maria and 2SG. I OBJ.2PL see
 ‘I see Maria and you. I can see you.’
- c. Je vois des oiseaux. J’ en vois.
 I see INDF.PL birds I GEN see
 ‘I can see birds. I can see some.’

Additionally, weak pronominals idiosyncratically attach postverbally to (in Standard French) positive imperative forms, where then a different set of ordering constraints apply, with considerable speaker variation:

- (3.26) a. Donne-le-moi !
 give.IMP-DO.3SG.M-OBJ.1SG
 ‘Give it to me!’
- b. % Donne-moi-le !
 give.IMP-OBJ.1SG-DO.3SG.M
- (from Bonami & Boyé, 2005: 292)
- (3.27) a. % Donne-m’ en !
 give.IMP-OBJ.1SG GEN
 ‘Give me some!’
- b. % Donnes-en-moi !
 give.IMP-GEN-OBJ.1SG

The ordering constraints of French weak pronominals are therefore highly disconnected from the rules of syntax in that language, and make distinctions based on features (such as person) that are never relevant to rules of syntax in French.

Finally, the system previously described only allows a single form for any given

position class.⁶ This can be verified by trying to combine two forms from position class 3: there is no *a priori* reason why e.g. an OBJ.1SG clitic could not combine with an OBJ.2PL one, since they can express either direct or indirect objects, which many verbs like *présenter* ‘introduce’ combine (3.28). The resulting combination is however ungrammatical (3.29), and the only way to express the combination is to replace one of the two weak pronominals with a strong pronominal (3.30).

- (3.28) Marie présente Nestor à Johanna.
 Marie introduces Nestor to Johanna
 ‘Marie introduces Nestor to Johanna.’

- (3.29) * Marie me vous présente.
 Marie OBJ.1SG OBJ.2PL introduces

- (3.30) Marie me présente à vous.
 Marie OBJ.1SG introduces to 2PL
 ‘Marie introduces me to you.’

Starting with Perlmutter (1971: 221–229), who argues for a treatment of pronominal ordering using surface constraints rather than syntactic rules, many authors have subsequently opposed syntactic analyses of Romance pronominal data and defended instead a morphological view. As was argued by Simpson & Withgott (1986), the pronominals’ templatic behaviour is very indicative of an affixation phenomenon. Miller & Sag (1997: 578) further point out (*pace* Morin, 1989; Bonet, 1991; Cummins & Roberge, 1994) that any attempts to explain the order in syntactic terms would additionally fail to generalise to the attested dialectal variation in pronominal ordering. Conversely in a morphological approach, “[t]hese properties are easily captured by treating the [weak pronominal] system as an instance of position class morphology, where (more or less arbitrary) collections of items compete for realization in a single position” (Bonami & Boyé, 2005: 293).

⁶An idiosyncratic exception is made by some speakers of French when a regular class 3 pronominal combines a so-called ‘ethical’ of the same class:

- (i) elle te vous le dorlotait
 she OBJ.2SG OBJ.2PL him would pamper
 ‘she would pamper him’

(Abeillé & Godard, 2021: 1046, from *La Folie des miens*, Chabrol)

This dialectically variable construction seems to attest (for the speakers concerned) to the existence of an additional position class between positions 2 and 3.

3.1.3 Criterion A – Host selectivity

Turning now to Zwicky & Pullum (1983)'s criteria, Miller (1992a) demonstrates that French pronominals select a reduced class of stems: they only ever attach to verbs.⁷ This can be shown by contrasting them with another class of French weak form function words, the definite determiners: whereas such determiners can attach to the left of a non N-initial NP (3.31), weak pronominals cannot attach to the left of a non V-initial VP (3.32).

- (3.31) a. la loutre géante
the otter giant
'the giant otter'
- b. la petite loutre
the small otter
'the small otter'
- (3.32) a. Il faut [ne rien lui dire].
it is_necessary NEG nothing IO.3SG say
'It is necessary to tell her/him nothing.'
- b. * Il faut [ne lui rien dire].
it is_necessary NEG IO.3SG nothing say
- c. [Tout lui donner] serait une erreur.
everything IO.3SG give would.be a mistake
'To give her everything would be a mistake.'
- d. * [Lui tout donner] serait une erreur.
IO.3SG everything give would.be a mistake
- (Miller & Sag, 1997: 576–577)

According to Zwicky & Pullum's Criterion A, this is diagnostic of lexical affixation rather than cliticisation: clitics normally attach to a wide range of categories, as do e.g. French determiners, whereas affixes normally select a single category.

3.1.4 Criterion B – Arbitrary gaps

As Zwicky & Pullum show, arbitrary gaps can be found in the possible set of logical combinations of affixal material, but not typically with clitics (Criterion B). Such gaps can indeed be found with French weak pronominals:

⁷ An apparent exception in *voici* and *voilà* 'here is', e.g. *les voici* 'here they are', is resolved as soon as these forms are recognised as defective verbs.

- (3.33) a. Il le lui a présenté.
 he DO.3SG.M IO.3SG has presented
 ‘He presented him to her.’
- b. *Il me lui a présenté
 he OBJ.1SG IO.3SG has presented
- c. Il m’ a présenté à toi/elle.
 he OBJ.1SG has presented to 2SG/3SG.F
 ‘He presented me to you/her.’

(Miller & Sag, 1997: 577)

As (3.33b) illustrates, dative third-person (non-reflexive) pronouns do not combine with first- or second-person (or reflexive) accusative pronouns in the cluster, even though combination with a third-person (non-reflexive) accusative is allowed (3.33a). The only strategy to express such a combination is instead to resort to a strong pronoun, as in (3.33), attesting to the strictly morphotactic nature of the gap.⁸

A second gap is found not among the pronominals themselves, but in the set of verb forms that can combine with them: as illustrated in (3.34), past/passive participles never host pronouns.⁹

- (3.34) a. Descendu dans le Grand Canyon, Jean ne pensait qu’ à
 gone_down in the Grand Canyon Jean NEG thought only to
 remonter.
 go_back_up
 ‘Having gone down into the Grand Canyon, John thought only of going
 back up.’
- b. *Y descendu, Jean ne pensait qu’ à remonter
 LOC gone_down Jean NEG thought only to go_back_up
 (from Abeillé & Godard, 1996: 47, my translation)

⁸See Section 3.2.1 for discussion of attempts to treat this paradigmatic gap as a syntactic principle, viz. the Person Case Constraint (Perlmutter, 1971; Bonet, 1991, 1994).

⁹Two minor exceptions present themselves: firstly, *y compris* ‘included’ is best thought of as a lexicalised item given its unusual, pre-or post-position-like distribution. Secondly, the affix *en* in *s’en aller* ‘leave’, etymologically and orthographically an intrinsic genitive pronominal, is often reanalysed as a derivational prefix, consequently appearing on participial uses (i).

- (i) %Elle s’ est en allée.
 she REFL.3 is left
 ‘She left.’
- (ii) %Elle s’ en est allée.
 she REFL.3 GEN is left
 ‘She left.’

A third gap is found in interrogative inversion. In certain formal registers of French, the class of subject pronominals can appear postverbally in the formation of (mainly) interrogative constructions:

- (3.35) a. Sors-tu ?
go_out-you
'Are you going out?'
b. Chantes-tu ?
sing-you
'Are you singing?'

(Miller & Sag, 1997: 577)

However, for most verbs, interrogative inversion cannot apply to SBJ.1SG form *je*:¹⁰

- (3.36) a. *Sors-je ?
go_out-I
(‘Am I going out?’)
b. *Chante-je ?
sing-I
(‘Am I singing?’)

(Miller & Sag, 1997: 577)

The problem cannot be ascribed to a pragmatic or semantic effect, given the grammaticality of other interrogation strategies with a first-person subject:

- (3.37) (Est-ce que) je sors ?
Q I go_out
'Am I going out?'

- (3.38) (Est-ce que) je chante ?
Q I sing
'Am I singing?'

(id.)

Moreover, a limited class of verbs do license combination with postverbal *je*:

- (3.39) a. Où suis-je ?
where am-I
'Where am I?'

¹⁰See however %*chanté-je*, discussed in the next section.

- b. Puis-je ?
can-I
'May I?'
- c. *Peux-je ?
can-I

Remarkably, of the two overabundant PRS.1SG forms of *pouvoir* 'be able to', only one (*puis*) licenses postverbal *je* (3.39b), while the other (*peux*) does not (3.39c), indicating a process sensitive not just to lexical identity, but to specific stems.

As Miller & Sag observe, "it is very difficult to imagine a principled syntactic account of such data" (p. 577), as the ungrammaticality of (3.36) seems a purely arbitrary gap in what morphology is available to a given stem.

3.1.5 Criterion C – Morphophonological idiosyncrasies

According to Zwicky & Pullum's Criterion C, affixes but not clitics tend to produce morphophonological idiosyncrasies. Miller & Sag report several such oddities in the French weak pronominal system.

Firstly, elision is widespread in the pronominal system. Although elision of /ə/ (as found in *je*, *le* etc.) could be ascribed to a general phonological rule of French, elision also obligatorily applies to the vowel of *la*, and in some informal registers to the vowel of *tu* (3.40).

- (3.40) T' arrive d' où ?
you arrive from where
'Where are you coming from?'

No productive phonological rule of French produces a similar elision on either /a/ or /y/, and this kind of elision is therefore best treated in morphophonology.

Secondly, LIAISON phenomena are found throughout the system: latent /n/ in pronominal *en* (compare *j'en fais* /ʒɑ̃fɛ/ with *j'en ai* /ʒɑ̃nɛ/), /z/ in all plural (non-reflexive) accusatives and in first- and second-person (non-reflexive) datives (compare *je les fais* /ʒəlefɛ/ and *je les ai* /ʒəlezɛ/). These liaisons are obligatory, contrary to the kind found across word boundaries in conservative variants of French, and constitute lexical processes rather than sandhi. A number of more complex (and dialectally variable) epentheses are also found in the suffixal systems of interrogative inversion and positive imperatives.

In some registers at least (non-reflexive) accusatives, i.e. class 4 pronominals, can optionally be elided in the presence of a (non-reflexive) dative, i.e. a class 5 pronominal.

- (3.41) Je (le) leur donnerai.
I DO.3SG.M IO.3PL give.FUT
'I will give it to them.'

Finally, certain morphophonological idiosyncrasies concern specific lexemes. Miller & Sag report that forms of the verb *aller* ‘go’ that use the suppletive stem *ir-* (viz. future and conditional forms) can trigger elision of a preceding locative *y* (3.42b), even though expression of the locative complement is obligatory with other verb forms (3.42a). As the ungrammatical elision before /i/ attests with a different verb (3.43), this is not the result of a regular phonological haplology rule.

- (3.42) a. Pierre *(y) va.
 Pierre LOC goes
 ‘Pierre is going there.’
 b. Pierre (?y) ira.
 Pierre LOC will go
 ‘Pierre will go there.’

(Miller & Sag, 1997: 578, my judgements¹¹)

- (3.43) L’ Espagne, Pierre va *(y) immigrer l’ an prochain.
 the Spain Pierre will LOC immigrate the year next
 ‘Pierre will immigrate to Spain next year.’

As further observed by Miller & Sag (1997: 577), the interrogative inversion described in the previous section triggers an archaic form of epenthesis with verbs of the first class (i.e. *-er* verbs), e.g. *chanté-je* /ʃāteʒ/ ‘am I singing’. Similarly, an idiosyncratic fusion of first-person subject /ʒ/ with stem-initial /s/ into /ʃ/ is found with two sets of unrelated verb forms: indicative present *savoir* (‘know’) (/ʒ/ + /sɛ/ → /ʃɛ/) and indicative present *être* (‘be’) (/ʒ/ + /sqi/ → /ʃqi/). Thus although *suis* in (3.44) displays lexical ambiguity between a form of *être* and a form of *suivre* ‘follow’, the ambiguity is resolved by phonology in (3.45): if the sequence written as *je suis* is realised as /ʃqi/, interpretation as *suivre* is necessarily ruled out.

- (3.44) Je le suis.
 I PRED/DO.3SG.M am/follow
 ‘I am so’ or ‘I follow him.’

¹¹As pointed out by Marine Borel and Tabea Ihsane (p.c.), at least some variants of Swiss French allow absolute uses of *aller*. To the best of my knowledge, the star indicating obligatoriness of *y* holds for Standard French with an intended movement meaning.

The original example by Miller & Sag starred *y ira* as ungrammatical, while I prefer to say reduction is only a possible realisation based on a reasonable number of convincing examples found on the corpus frWaC (Baroni et al., 2009), such as the following display of free variation:

- (i) J’ ai décidé que je n’ y irai pas... J’ irai vendredi...
 I have decided that I NEG LOC go.FUT not I go.FUT Friday
 ‘I have decided I will not go... I will go Friday...’

(abime.myblog.fr)

- (3.45) Je suis une youtubeuse sur les réseaux.
 I am/follow a youtuber on the media
 ‘I am/follow a youtuber online.’

The abundance of morphophonological idiosyncrasies is again typical of affixation, and a syntactic approach can hardly be reconciled with such processes.

3.1.6 Criterion F – Clitic peripheralality

Per Zwicky & Pullum’s Criterion F, clitics are always peripheral compared to affixes on the same host, a consideration motivated by the Lexical Integrity Principle (Bresnan & Mchombo, 1995). This means that if a peripheral element is shown to have affix-like properties, then any forms that occur between that element and its stem should be taken to be affixal as well. In the case of French weak pronominals, Miller (1992a) argues that subject pronominals (the outermost position in the system) share several of the properties previously discussed (host selectivity, liaison), and introduce additional morphotactic and morphophonological idiosyncrasies, such as the gap in interrogative inversion (Section 3.1.4) as well as irregular elision and consonant fusion (Section 3.1.5). Since these subject pronominals are peripherally expressed, their own affixal status corroborates that of object weak pronominals.

3.1.7 Coordination

As argued by Miller (1992b), coordination data further corroborate French weak pronominals’ affix status. As shown in (3.46), object pronominals cannot take wide scope over coordinated hosts, which clitics (like French definite determiners) can usually do (3.47). Note that French complements in general are not unable of taking wide scope over the verbal head – compare the behaviour of the weak pronominal in (3.46) with the phrasal complement in (3.48).

- (3.46) Pierre les voit et *(les) écoute.
 Pierre DO.3PL sees and DO.3PL listens
 ‘Pierre sees and hears them.’

(from Miller & Sag, 1997: 579)

- (3.47) Les plantes et (les) champignons de la région apprécient l’ humidité.
 the plants and the mushrooms of the region enjoy the humidity
 ‘Local plants and mushrooms enjoy humidity.’
- (3.48) Pierre voit et écoute les oiseaux.
 Pierre sees and listens the birds
 ‘Pierre sees and listens to the birds.’

This provides further evidence towards the affixal status of French weak pronominals.

3.1.8 Haplology

Finally, Miller (1992a: 143-145) discusses another criterion due to Zwicky (1987): affixes but not clitics can singly expound a double morphosyntactic requirement. In the case of French weak pronominals, this means for a single pronominal to correspond to two different arguments of the verb. This situation is indeed found with *en* (3.49), when e.g. one of the arguments is a complement noun of the verb's direct object's head noun and the other one a complement of the verb's adjectival predicate; and to some extent with *y* (3.50), when one argument is a locative adjunct and the other one is lexically specified (intrinsic).

- (3.49) a. Je crois l' auteur de ce livre capable de ce méfait.
 I believe the author of this book capable of this misdeed
 'I believe the author of this book capable of that misdeed.'
 (Miller, 1992a: 144)

- b. J' en crois l' auteur capable.
 I GEN believe the author capable
 'I believe its author to be capable of it.'

- (3.50) Ce n' est point parce qu' il y a une rose sur le rosier que l'
 it NEG is not because there is a rose on the rosebush that the
 oiseau s' y pose: c' est parce qu' il y a les pucerons.
 bird REFL.3 LOC lands it is because there is the aphids
 'It is not because there is a rose on the rosebush that the bird lands on it: it is
 because there are aphids on it.'

(Miller, 1992a: 145; from Rostand)

3.1.9 Interim summary

To summarise, French weak pronominals display many properties typical of affixes, but not of clitics. Their ordering is rigid, and determined by a partly arbitrary set of morphosyntactic properties. Despite their apparent mobility, they always appear hosted by a verb, and never on any other category in the verbal domain. Their distribution is morphotactic in nature, displaying arbitrary gaps reminiscent of morphological defectiveness. Their realisation triggers various idiosyncratic processes that cannot be ascribed to general rules of phonology, and are best thought of instead as morphophonology. Their position is consistent with the notion of clitic peripheralness. Their attachment is strictly lexical, ruling out attachment to a coordination of hosts. Finally, a single pronominal can serve to haplogically express several arguments at once.

The implications of this conclusion are not merely terminological: the pronominals' affixal properties need to be taken into account by any theory of clitic climbing. As has

been noted throughout the lexicalist literature on Romance pronominals, it is highly uncertain that syntax offers the right tools to deal with such irregularity. Successful theories of syntax have been designed to model the great degree of predictability and compositionality that characterises this component of the grammar; as the previous sections have made clear, the combination of weak pronominals and verbs has very little in common with that of phrases and words – or clitics. Morphological theories, on the other hand, have been built around the solving of morphotactic and morphophonological problems brought on by affixation. Explicit accounts of these issues in morphology in fact already exist: see Miller & Sag (1997) for an HPSG treatment of French pronominal affixation as inflection, Bonami & Boyé (2005) for a formal analysis in Paradigm Function Morphology (PFM – Stump, 2001), and Crysmann & Bonami (2012) in Information-based Morphology (IbM – Crysmann & Bonami, 2015).

3.2 Generative studies

In the following I briefly discuss relevant aspects of the syntactic literature on Romance weak pronominals in the generative framework. An exhaustive review of this vast literature would of course be well beyond the scope of this thesis, so I shall focus on general trends and important proposals within that framework, and in particular on how they fare in their treatment of pronominal affixes. I shall distinguish between approaches that derive the pronominals by movement from an A-position, discussed in Section 3.2.1, and more surface-oriented approaches which rely on base generation of the pronominal in its observed position (Section 3.2.2). Although this classification does not make historiographical sense, since movement-based proposals from early Transformational or Government and Binding approaches are rather different from those within the more recent Minimalist Programme, it separates the analyses according to the predictions they make regarding the affixal properties discussed in the previous section. Indeed, as we shall see, movement-based approaches are much harder to reconcile with the pronominals' fixed ordering, morphotactic gaps, and morphophonological idiosyncrasies.

3.2.1 Movement

Starting with Kayne (1975b) for French, generative syntax has consistently considered Romance weak object pronominals in their alternation with phrasal complements. Phrasal complements normally appear postverbally (3.51), while weak pronominals normally appear preverbally (3.52).

- (3.51) a. Je vois un renard.
 I see a fox
 'I see a fox.'

- b. * Je un renard vois.
 I a fox see
- (3.52) a. Je le vois.
 I DO.3SG.M see
 ‘I see him.’
- b. * Je vois le.
 I see DO.3SG.M

From this observation, the natural next step within that framework was to relate (3.51a) with (3.52a) using a transformational rule. In later work (e.g. Kayne, 1989, 1991; Bellier & Sportiche, 1989; Villalba, 1994; Belletti, 1999; Villa-García, 2019), SYNTACTIC MOVEMENT is assumed to be responsible: although no direct evidence can establish the trace position – i.e. (3.52b) is unattested –, the apparent complementary distribution between object pronominals and phrases is taken to indicate a displacement from the latter to the former.

The exact nature of this movement is not unanimous among generativist authors. Both constituent movement (e.g. Sportiche, 1996) and head movement (e.g. Villalba, 1994; Villa-García, 2019) have been proposed, the latter having become more common in recent developments following the ‘DET HYPOTHESIS’ (see Uriagereka, 1995, 1996), according to which (some) weak pronominals are actually considered to be the same elements as the homophonous determiners often found as specifiers of the complement phrases they alternate with. Some proposals even argue that both types of movement are involved: according to Matushansky (2006) as well as Belletti (1999) for Italian, cliticisation is head movement to the surface position from an intermediate agreement position previously reached by XP movement of the clitic phrase.

The tree in Figure 3.1 schematically illustrates XP-movement approaches. In these approaches, the pronominal is a phrase (which can receive various internal analyses) in the A-position which is then moved to a specifier position at the left periphery of the verb. The tree in Figure 3.2 illustrates a derivation typical of head-movement approaches. In this case the pronominal/determiner is generated as the head of the A-position, and is moved either to a functional position at the left periphery of the verb, or to an incorporated position sister to the verb. In either case a covert element is left *in situ*, generally a *pro* and usually as the complement of the trace/copy of D.

Note that for simplicity the position of the verb in Figures 3.1–3.2 is denoted by the label V, but movement-based approaches typically assume a richer sentence structure in which the verb may itself be moved to a higher position. This is in fact crucial in the analysis of clitic climbing proper: clitic movement, whether constituent or head, is assumed to operate across several positions in the clause (although usually not beyond), from the A-position to some position left of the one assumed to be occupied by the verb at spell-out. This means that clitic climbing can be covered as long as it occurs within a clause. For French tense auxiliaries, this is the case in the modern analysis of

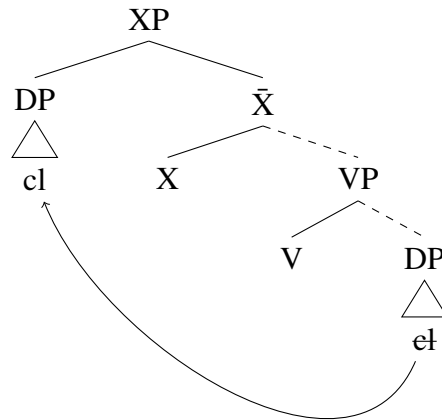
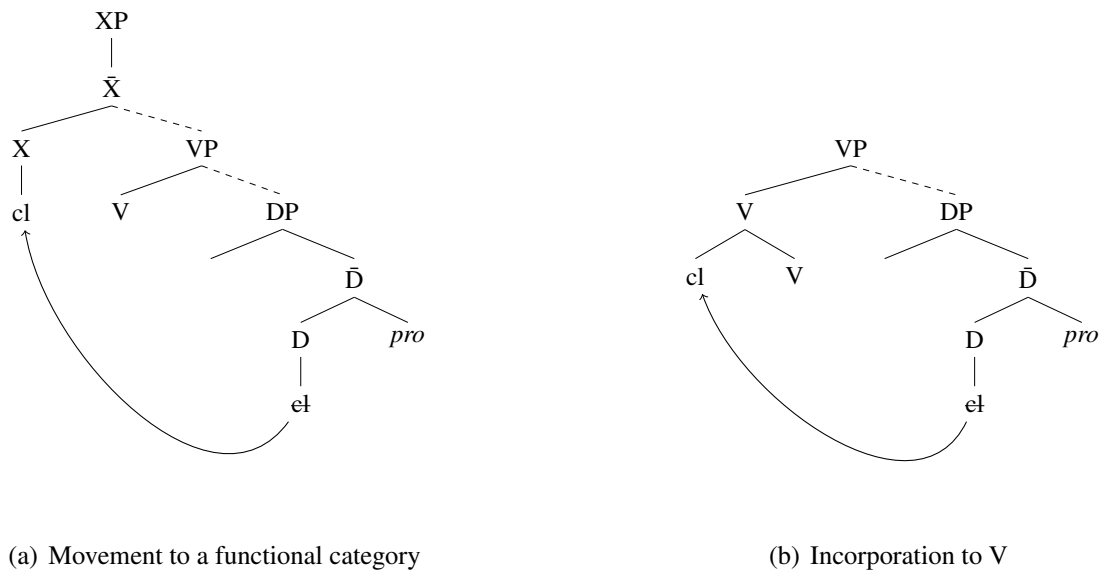


Figure 3.1: An XP-movement approach

Figure 3.2: Two X^0 -movement approaches

French clauses that are standard in generative theory (see Pollock, 1989), in which the tense auxiliary occupies the highest T position in the main clause. Weak pronominals are therefore assumed to occupy the same position in the clause in climbing (3.53) and in non-climbing (3.54) contexts, in both cases involving movement from an A-position.

(3.53) Je lui [T ai] parlé.
 I IO.3SG have spoken
 ‘I spoke to him.’

(3.54) Je lui [T parle].
 I IO.3SG speak
 ‘I speak to him.’

Beyond tense auxiliary constructions, similar analyses have been proposed for other clitic climbing contexts such as Italian restructuring verbs, in which the clitic climbing constructions are argued to also involve monoclausality (e.g. Rizzi, 1982; Cardinaletti & Shlonsky, 2004), building on Aissen & Perlmutter (1976). That is, the extended range of clitic movement is related to an extended clause domain, the restructuring verb and the lexical verb belonging in a single clause. Monoclausal approaches have also been proposed to account for clitic climbing in French causative constructions, in both generative and lexicalist approaches; as will be discussed in Chapter 7, some notion of monoclausality plays an unquestionable role in accounting for a number of their syntactic properties.

The patent shortcoming of this line of analysis lies in the internal ordering of the pronominals. Movement-based analyses usually leave entirely open the question of the pronominals’ morphological properties; it is unclear why elements which are analysed as moved clitics should display exclusive selectivity of V, rigid idiosyncratic ordering, morphotactic gaps, or idiosyncratic morphophonology. While work on the Mirror Principle (Baker, 1985) or the Person Case Constraint (Perlmutter, 1971; Bonet, 1991, 1994) has attempted to reduce some of the observed properties to high-level grammatical principles, many important low-level idiosyncrasies still eschew syntactic analyses. As Sportiche (1996) concedes, “[w]hy there are these vertical cooccurrence restrictions (only one clitic per slot), these horizontal cooccurrence restrictions (not both third and fifth) and why the clitics are ordered this way is not understood” (p. 216), and the question of ordering “requires resolving many issues about the internal structure of strings of clitics of which little is understood” (p. 238). As many lexicalist authors have noted, morphology is simply the better tool to handle fine-grained, partly arbitrary details of affix combinations.

Beside the affix properties of Romance weak pronominals, the premise of the movement approach can also be challenged: see for instance the arguments by Perlmutter (1970), Stump (1980), and Lapointe (1980) against the assumption of a transformational derivation from phrasal argument to weak pronominal. Although many independent justifications have later been offered to the idea of clitic movement (cf. e.g. Sportiche, 1996: 223–226), they are for the most part strictly theory-internal: at an observational level, the alternation between a phrasal object and a weak pronominal hosted by the head verb is a highly local one, and syntactic movement seems like an unnecessary postulation to deal with simple pronominalisation. As for clitic climbing constructions, they certainly

extend the locality somehow, but they are still bounded dependencies; as we shall see in Section 3.3, many approaches in other frameworks (e.g. Miller & Sag, 1997; Abeillé & Godard, 2002) have successfully covered clitic climbing using more restrictive tools than movement.

Further, there is no direct evidence for the pronominal's trace or copy in the A-position, as weak pronominals are never observed in that position. The 'Det Hypothesis' attempts to remedy this lack by suggesting that they are in fact observable in the form of definite determiners, but this only brings the question why only the third-person accusative objects are ever attested there, since they are a very small subset of all weak pronominals, and leads to asymmetric analyses of different object pronouns (as in Roca, 1992).

Finally, the movement approach is considerably weakened by the lack of a complementary distribution between weak pronominals and phrasal complements. Firstly, some weak pronominals are found that do not alternate with a phrasal complement. These include intrinsic affixes, as in (3.55a), so-called ETHICAL DATIVES, as in (3.56a), and certain uses of *se* (3.57a).

- (3.55) a. Pierre *en* a bavé.
 Pierre GEN has drooled
 'Pierre had it rough.'
 (Sportiche, 1996: 229, my translation)
- b. * Pierre a bavé de ce problème.
 Pierre GEN has drooled of this problem
 (intended) 'Pierre had it rough with this problem.'
- (3.56) a. Je t'achèterais un cadeau à Pierre.
 I OBJ.2SG would.buy a present to Pierre
 'I tell ya, I would buy Pierre a present.'
 (Sportiche, 1996: 229, my translation)
- b. * J'achèterais un cadeau à Pierre à toi.
 I would.buy a present to Pierre to 2SG
- (3.57) a. Ces livres *se* vendent bien.
 these books REFL.3 sell well
 'These books sell well.'
- b. * Ces livres vendent bien eux/eux-mêmes/ces livres.
 these books sell well 3PL.M/themselves/these books

In (3.55a), the weak pronominal *en*, usually corresponding to a *de*-marked complement, does not alternate with one (3.55b); instead, its presence indicates an idiomatic meaning of the verb, namely *en baver* 'to have it rough'. In (3.56a), the second-person singular weak pronominal similarly does not link the listener to any role in the situation denoted

by the verb, but is rather some sort of emphatic discourse marker, and similarly does not alternate with a phrasal realisation (3.56b). In (3.57a), the pronominal *se* is a valency-change marker indicating a medio-passive process (Grimshaw, 1982; Wehrli, 1986), and again no similar meaning can arise from a phrasal element (3.57b). Although intrinsic pronominals can be related to idiomatic expressions, like the English translation *have it rough*, it remains unclear how the pronominal would be licensed in this case. Furthermore, the ethical dative and medio-passive *se* are productive patterns, unlike idioms, and may apply to virtually any verb. This poses an important challenge to any approach that can only license weak pronominals by positing movement from the A-position.

Secondly, weak pronominals are sometimes found co-occurring with phrasal arguments. This is not the case in Standard French, but is well-attested for Spanish (3.58), as well as, for subject pronominals at least, Québec French (3.59).¹²

- (3.58) Luis le dio un libro a María.
 Luis IO.3SG gave a book to María
 ‘Luis gave María a book.’

(Roca, 1992: 248)

- (3.59) mes filles elles la demandent
 my daughters SBJ.3PL.F DO.3SG.F ask_for
 ‘My daughters ask for it.’

(Auger, 1994: 3, my translation)

This again undermines the premise of clitic movement, as it forces either a non-standard analysis of the internal structure of the phrasal argument in order for the pronominal to still be generated in it (see e.g. Belletti, 1999), or a form of covert movement (as in Sportiche, 1996). Proposals not based on movement, on the other hand, are able to analyse doubled pronominals as simple agreement markers.

This last consideration has sparked a number of proposals within generative theory that did not involve clitic movement, to which we now turn.

3.2.2 Base generation

The family of approaches termed BASE GENERATION approaches (i.a. Strozer, 1976; Rivas, 1977; Aoun, 1981; Borer, 1981, 1984; Jaeggli, 1982; Bouchard, 1982; Sportiche, 1983; Burzio, 1986; Roberge, 1990) derive the surface position of weak pronominals without movement from a prior A-position, instead inserting the pronominals into syntax directly next to the verb. In order to account for the extended locality in clitic climbing constructions, the pronominal is not selected directly by the verb, but instead has to

¹²As Auger (1994) argues at length, (3.59) is a true doubled subject construction and not a left-dislocated subject.

be related to the A-position by some means other than movement. This is usually done by way of identifying of e.g. phi-features of a null pronoun, often *pro* (seldom PRO), with the weak pronominal, essentially varying the type of covert element in the A-position from trace or copy to a pronominal. A schematic tree illustrating the general idea is given in Figure 3.3. Note that most base generation approaches seem to assume incorporation of the pronominal, although at least some, like Sportiche (1996)'s hybrid base-generation/movement approach, base-generate the pronominal not in an incorporated position, but as head of a functional category in the left periphery of the verb.

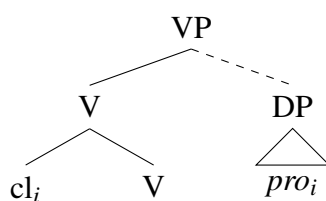


Figure 3.3: A base generation approach

An immediate advantage of this line of approach is that no complementary distribution need be assumed: the possibility of doubling is made much less problematic in the absence of movement from the A-position. Moreover, such approaches come closer to implementing a surface-based grammar of pronominal ordering, as they can state positional generalisations irrespective of (phrasal) argument ordering.

However, the bulk of Government and Binding-style base generation analyses still pay comparatively little attention to the pronominals' morphological properties. They also largely adopt a syntactacist view of the problem, attempting to derive affix ordering via syntactic principles. The resulting difficulties are not merely theoretical: although it is independently desirable, at an abstract level, that elements which have been shown to be affixal be treated in the morphology, this particular dataset does illustrate many concrete problems for a syntactic analysis. The conflation of first-, second-, and reflexive third-person pronominals in a single position class, distinct from the third-person classes, has not found any parallel in phrase structure, despite extensive work on the crosslinguistic robustness of this kind of effect among weak pronominals (e.g. the Person Case Constraint, Perlmutter, 1971): phrasal complements do not receive differential ordering depending on the value of their person feature. The affixes' limited combinatorics are another challenge to syntactacist approaches: phrasal complements are not normally precluded by the presence of a phrasal coargument with specific features.

The resulting state-of-the-art is essentially a set of syntactic principles which pertain entirely to weak pronominal placement, of little generality outside of this restricted domain. Beside maintaining axiomatic assumptions of modern generative theory, it is very doubtful that this 'clitic grammar' offers any advantages over an approach that

takes the significantly unsyntactic behaviour of weak pronominals as indicative of a meaningful theoretical distinction, like morphological status as lexical affixes.

This is in fact the conclusion accepted by most modern base-generation approaches, which are now cast in lexicalist frameworks like LFG or HPSG, as Chomskyan syntacticians largely abandoned base generation in favour of a return to movement approaches with the advent of the Minimalist Programme (Chomsky, 1993, 1995). These lexicalist approaches are characterised by a high degree of explicitness regarding the morphological facts, and by the centrality of the issue of clitic climbing: if the affixal status of weak pronominals is embraced, non-local pronominalisation becomes the main topic of interest, as it is *a priori* unexpected of affixes. We can now turn to a brief review of the main lexicalist approaches proposed in HPSG in the next section.

3.3 Lexicalist approaches

Lexicalist approaches to Romance clitic climbing, which include frameworks such as LFG (Kaplan & Bresnan, 1982), HPSG (Pollard & Sag, 1994), and proposals for French (Abeillé & Godard, 2002; Miller & Sag, 1997; Crysmann, 2003; Tily & Sag, 2006), Italian (Monachesi, 1993), and Catalan (Alsina, 1992), have largely embraced the affixal status of pronominals. They propose to derive cases of clitic climbing by treating clitic climbing constructions as clause reduction (or clause union) in the sense of Aissen & Perlmutter (1976). This insight stems from a set of syntactic properties observed to cluster together with clitic climbing, which are discussed in detail in Chapter 4, and which support some notion of syntactic sharing between the two predicates. This then allows for the following reasoning. Weak pronominals are an incorporated, morphological realisation of a verb's arguments. Climbing is therefore the apparently contradictory case in which the arguments belong to a different verb lower in the structure. But this possibility is in fact predicted under the assumption that clause union involves sharing of syntactic arguments between the two verbs: the apparent morphological displacement reduces to the local realisation of shared arguments. In other words, the syntactic process of complex predicate formation extends the locality of pronominal affixation beyond the simple verbal predicate to make it available to the verbal head in a two-part complex predicate.

The family of analyses cited above that have adopted the clause union view of clitic climbing all rely on a specific clause union mechanism: ARGUMENT COMPOSITION, or generalised raising. Let us now review in more detail the treatment of clitic climbing as clause union by argument composition.

3.3.1 Argument composition

Originally proposed for German word order by Hinrichs & Nakazawa (1990), argument composition is a complementation pattern lexically ascribed to auxiliary and clause union verbs (such as French *avoir*) that effects argument sharing by means of a) subcategorisation of the second verb as a lexical complement and b) syntactic raising of said verb's entire argument structure. This is schematically illustrated in the lexical entry in Figure 3.4, which can be refined to account for specific verb form selection, additional arguments lexically selected by the argument composition verb etc.

$$\left[\text{SYNSEM} \left[\text{ARG-ST} \left\langle \boxed{1}, \left[\text{SYNSEM} \left[\text{ARG-ST} \left[\boxed{1} \oplus \boxed{2} \right] \right] \right\rangle \oplus \boxed{2} \right] \right] \right]$$

Figure 3.4: An argument composition verb

A simple tree deriving a French clitic climbing example with a tense auxiliary, *leur a offert un cadeau* ‘has offered them a present’ is given in Figure 3.5, in the style of Abeillé & Godard (2002). Argument composition auxiliary *avoir* subcategorises for a lexical participial element, instantiated here by *offert*; additionally, it inherits all of the participle's arguments. This includes the subject, as with any subject-to-subject raising verb, but also the complements: the direct object *un cadeau* is raised to become a complement of *a* itself, and so does the indirect object. This indirect object is however not realised syntactically, but as an affix (*leur*): this is indicated by the typing of the argument as *aff(ixal)-s(yn)s(em)*. I return to the technical treatment of pronominal affixes in Section 6.1.1. The participle also needs to be stipulated to be light ([WEIGHT *lite*]), a feature used in order to prevent its permutation with other complements (Abeillé & Godard, 2000a), cf. (3.60).

- (3.60) * Elle leur a un cadeau offert.
 she IO.3PL has a present offered

While clitic climbing has been the main motivation for an analysis of tense auxiliaries as argument composition verbs, Abeillé & Godard (1996, 2002) have put forth a number of independent arguments for such a mechanism. More specifically, the argument composition approach entails an important consequence for the syntactic structure of the verbs it involves: because it effectively raises all arguments of the second verb, such verbs do not project a classical HIERARCHICAL VP (Figure 3.7), but instead a FLAT STRUCTURE (Figure 3.6), in which the second verb and its dependents are all sisters to the auxiliary.¹³ This peculiar phrase structure makes crucial predictions as to the syntactic

¹³Argument composition approaches can in fact give rise to either a flat structure as in Figure 3.6, or to a verb cluster structure in which the participle is a sister to the auxiliary, but complements are sisters to

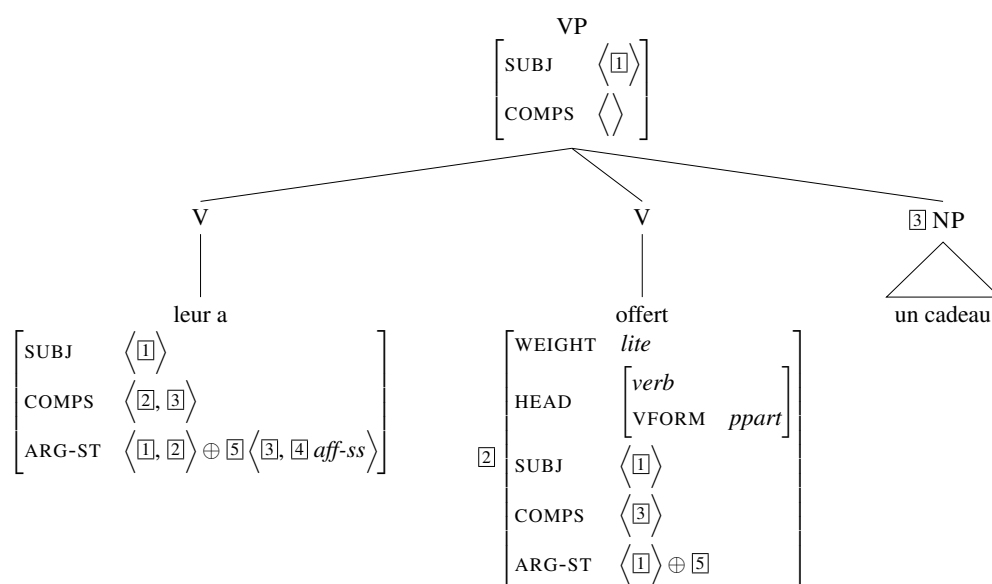


Figure 3.5: Argument composition

properties of its constituents. In particular, the group formed by the participle and its dependents is not expected to form an embedded VP, as they are all simply co-dependents under the auxiliary verb. Abeillé & Godard propose to test this by applying classical constituency tests to the group, and argue that these tests generally fail, in accordance with the predictions borne of the flat structure hypothesis. Their arguments, including the constituency phenomena along with two further empirical arguments for the flat structure concerning missing object constructions and manner adverb placement, are summarised in the next section. In the next chapter I will then propose a re-evaluation of their argumentation which draws a different conclusion.

3.3.2 Independent evidence for argument composition

French tense auxiliary constructions display a range of special properties, which Abeillé & Godard (1994, 1996, 2001, 2002) suggest relate to the argument composition mechanism that they propose. Their original arguments are summarised here.

the VERB CLUSTER (i.e. the subconstituent formed by the auxiliary and lexical verb). Such a structure is defended by Emonds (1978) and Fradin (1993) but refuted by Abeillé & Godard (2002: 410–411) for French, and proposed instead as more appropriate for Spanish and Catalan (Abeillé & Godard, 2003). The discussion of flat structure properties applies to both types of argument composition structures.

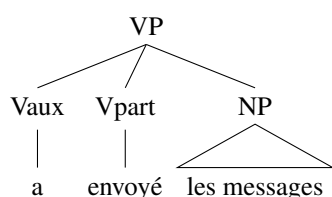


Figure 3.6: Flat structure

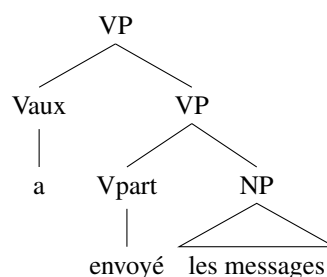


Figure 3.7: Hierarchical structure

3.3.2.1 Constituency properties

Argument composition implies that the verbal complement of the auxiliary *be* is unsaturated, i.e. a lexical verb, rather than a VP. Abeillé & Godard (2002) suggest that the complements of French auxiliary *avoir/être* (3.61) do not behave like VP complements in English or like the complements of French raising and control verbs (3.62). In particular, Abeillé & Godard show (citing Couquaux, 1979; Milner, 1986) that they cannot be pronominalised¹⁴ or elided (3.61a), nor can they be extracted (3.61b).

- (3.61) a. * Jean croyait avoir compris son erreur, mais il ne (l') avait
 Jean believed have understood his mistake but he NEG PRED had
 pas.
 not

(from Abeillé & Godard, 2002: 412)

- b. * C' est bu trop de vin qu' il a.
 it is drunk too_much of wine that he has

(from Abeillé & Godard, 2002: 409)

This contrasts sharply with ordinary raising or control verbs like *pouvoir* 'can' or *vouloir* 'want' which permit pronominalisation and elision of their VP complement, (3.62a), as well as extraction (3.62b).

- (3.62) a. Jean voudrait partir en vacances, mais Paul ne (le) peut pas.
 Jean would like go on holiday but Paul NEG PRED can not
 'Jean would like to go on holiday, but Paul cannot.'

(from Abeillé & Godard, 2002: 412)

- b. C' est partir au Japon qu' il veut.
 it is leave to.the Japan that he wants
 'It is leaving for Japan that he wants.'

¹⁴Bare VPs and predicative XPs pronominalise to *le* – see Section 3.1.1.

Abeillé & Godard argue that the flat structure approach captures these properties quite effortlessly, since under their account auxiliaries do not take a VP as their complement, but rather a lexical V the arguments of which are raised. Their argument is that since raising and control verbs take a VP complement, this complement can pronominalise, extract or elide. Conversely, if tense auxiliaries do not take a VP complement in the first place, VP pronominalisation, extraction, and elision are all expected to be illicit, as is indeed the case.

3.3.2.2 Bounded dependencies

Another argument provided by Abeillé & Godard regards *tough* constructions, and MISSING OBJECT CONSTRUCTIONS more broadly. In these constructions, similarly to their English counterparts, an infinitival phrase introduced by *à* takes as its external argument an element corresponding to its locally missing direct object, as in (3.63).

- (3.63) Cette chanson est facile à apprendre.
 this song is easy to learn
 ‘This song is easy to learn.’

According to Abeillé & Godard (following Aissen & Perlmutter, 1976: 16–17), the dependency between the missing object and its external realisation is a bounded one, in the sense that an intervening control verb results in ungrammaticality, as in example (3.64).

- (3.64) Cette chanson est impossible à (*vouloir/*promettre d') apprendre en un
 this song is impossible to (want to/promise to) learn in a
 jour.
 day
 'This song is impossible to (want to/promise to) learn in one day.'
 (from Abeillé & Godard, 2002: 414)

- (3.65) C' est le genre de gens utiles à avoir fréquenté pendant
 it is the kind of people useful to have socialised_with during
 sa jeunesse.
 POSS.3SG youth
 'They are the type of people useful to have known during one's youth.'
 (from Abeillé & Godard, 2002: 415)

This fact is taken as independent evidence in support of the flat structure of French auxiliary constructions.

3.3.2.3 Manner adverb placement

Yet another empirical argument put forth by Abeillé & Godard is the placement of a subclass of manner adverbs, exemplified by *bruyamment* 'loudly', *attentivement* 'attentively'. Like most French adverbs, members of this class can intervene between the auxiliary and the participle; however, this is, according to Abeillé & Godard, the only context in which they can pre-modify a verb, as the sentences in (3.66)–(3.68) show. Furthermore, when the participle is involved in a coordinate structure (3.69), they are said to have narrow scope over the first conjunct only.

- (3.66) a. Jean a attentivement écouté son professeur.
 Jean has attentively listened his teacher
 'Jean carefully listened to his teacher.'
- b. Les députés sont bruyamment sortis de la salle.
 the deputies are loudly exited from the room
 'The deputies left the room loudly.'
- (3.67) a. Il détestait prendre attentivement des notes.
 he hated take attentively INDF.PL notes
 'He hated carefully taking notes.'
- b. * Il détestait attentivement prendre des notes.
 he hated attentively take INDF.PL notes
- (3.68) a. Entrés bruyamment, les députés avaient du mal à faire
 entered loudly the deputies had some trouble to make
 silence.
 silence
 'Having entered loudly, the deputies had difficulty being quiet.'
- b. ?? Bruyamment entrés, les députés avaient du mal à faire
 loudly entered the deputies had some trouble to make
 silence.
 silence

- (3.69) Jean a attentivement écouté son professeur et pris des notes.
 Jean has attentively listened his professor and taken notes
 ‘Jean listened carefully to his teacher and took notes.’
 (from Abeillé & Godard, 1996: 35–37, my translations)

These data are taken to jointly show that the adverb can neither attach to the downstairs VP, otherwise sentences (3.67)–(3.68) should be grammatical, nor form a cluster with the auxiliary, otherwise sentence (3.69) should allow wide scope over the whole coordinate structure. They suggest that the only appropriate attachment is therefore to the root of the flat structure, as in Figure 3.8.

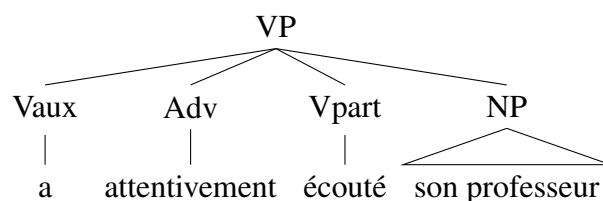


Figure 3.8: Manner adverb attachment in the flat structure

3.3.3 Passive structure

Having argued for a flat structure in the French tense auxiliary construction, Abeillé & Godard turn to a second case of clitic climbing in French, i.e. passive constructions. As exemplified in (3.70), pronominal arguments of a passive participle are expressed on the copula *être*.

- (3.70) Le message leur sera transmis.
 the message IO.3PL be.FUT transmitted
 ‘The message will be transmitted to them.’

The question therefore arises whether French passive constructions are to be taken as another case of argument composition. Abeillé & Godard consequently investigate the same properties put forward for tense auxiliary constructions in passive constructions. This time, only elision of the verbal complement is disallowed (3.72), while pronominalisation (3.71) and extraction (3.73) are grammatical.

- (3.71) Bien des bâtiments publics ne furent pas épargnés par les bombes,
 many INDEF.PL buildings public NEG were not spared by the bombs
 mais, heureusement, la cathédrale le fut.
 but fortunately the cathedral DO was
 ‘Many public buildings were not spared by the bombs, but fortunately, the cathedral was.’

- (3.72) * Bien des bâtiments publics ne furent pas épargnés par les bombes,
 many INDF.PL buildings public NEG were not spared by the bombs
 mais, heureusement, la cathédrale fut.
 but fortunately the cathedral was
- (3.73) C' est délestée de son portefeuille qu' elle a été, la malheureuse.
 it is relieved of her wallet that she has been the poor
 'It is relieved of her wallet that she has been, the poor woman.'
 (from Abeillé & Godard, 2002: 408–409)

In the argument composition approach, the flat structure is a necessary side effect of clitic climbing, in spite of the results of the constituency tests on the copula's VP complement. Abeillé & Godard therefore conclude that *être* exhibits a double structure here: argument composition applies optionally with copular verbs.

3.4 Interim summary

In this chapter, I have introduced the theoretical challenges associated with clitic climbing and the main approaches that have been suggested across different frameworks. As is now well-established based on research on the clitic–affix distinction, French weak object pronominals display key characteristics of lexical affixes, rather than post-lexical clitics: high host selectivity, rigid ordering, template effects, morphotactic gaps, and morphophonological idiosyncrasies. The main argument adduced against their treatment in morphology in syntacticist frameworks is precisely the phenomenon of clitic climbing, in which the affixes display apparent mobility. However, morphologists seldom consider this mobility as an obstacle to a morphological analysis.¹⁵ Lexicalist approaches in e.g. HPSG have devoted considerable attention to the phenomenon, and have shown that it is possible to maintain an affixal view of weak pronominals while still accounting for their slightly extended locality, reaping all the benefits of a morphological approach w.r.t. the affixal characteristics mentioned above while yielding adequate distributional coverage. I take these lexicalist analyses as proof of concept *contra* the view that clitic climbing should be a prohibitive argument against the affixal view of Romance weak pronominals, and in the analysis to come I will uphold the lexicalist approach and treat French weak pronominals in morphology.

Nevertheless, the particular mechanism by which previous approaches have derived clitic climbing in lexicalist frameworks, namely argument composition, leaves open a number of questions regarding the grammar of French clitic climbing constructions. Argument composition is a purely syntactic process, and it seems at odds with the

¹⁵See e.g. Spencer & Luís (2012: 176): “clitic climbing doesn't necessarily provide evidence that we are dealing with syntactic elements because we observe very similar patterns of long-distance agreement.”

morphological nature of pronominal affixes: how could lexical affixes syntactically climb? Although primarily motivated by clitic climbing, lexicalist authors have therefore sought independent effects of argument composition in the phrase structure of French clitic climbing constructions. Indeed, postulating a syntactic mechanism solely to account for the distribution of elements recognised as morphological in nature would be highly unsatisfactory. A number of claims have consequently been made to link clitic climbing with various syntactic properties taken as supportive of argument composition.

In the following chapter, I propose a critical review of the arguments advanced in favour of argument composition, on the basis of which I will conclude that little evidence remains for argument composition in clitic climbing constructions. I will then be able to propose, following much recent work in the morphological literature, that an independently required process, namely inflectional periphrasis, is readily able to account for cases of non-local affix realisation, and that it is well-motivated for French clitic climbing constructions, thereby capturing the phenomenon neatly within morphosyntax.

Chapter 4

Syntactic considerations

In this chapter, I shall subject the purported evidence in favour of a flat VP structure to some further scrutiny. We will see that the correlation between clitic climbing and failure of the verbal complement to undergo pronominalisation, extraction or elision does not carry over to other auxiliaries in French; in particular, I shall discuss cases where neither pronominalisation/extraction of the verbal complement nor clitic climbing are possible (the recent past and periphrastic future), as well as cases where both are (passives/predicatives). Similarly, I shall show that bounded dependencies, as found *inter alia* in the *tough* construction, are equally independent of clitic climbing. Moreover, I shall show that the evidence from manner adverbs (Abeillé & Godard, 1996) is not conclusive. Finally, I shall look into coordination of participial phrases, which favours an analysis in terms of a hierarchical VP structure.

4.1 Dissociating clitic climbing from VP structure

The classical HPSG approach to French tense auxiliaries derives its elegance from the fact that it relates clitic climbing as well as the failure of the participial VP complement to undergo extraction or pronominalisation to a single unifying property, namely argument composition. However, upon further scrutiny, we shall see that these empirical properties are actually disconnected.

4.1.1 More periphrastic tenses: *futur périphrastique* and *passé récent*

To start with, auxiliary *avoir* and *être* are not the only temporal auxiliaries in French whose verbal complements fail to extract, pronominalise or elide. As shown in (4.1) and (4.2), the very same holds for the auxiliaries *aller* and *venir de*, which are used in the PERIPHRASTIC FUTURE and the RECENT PAST

- (4.1) a. Marie va envoyer la lettre.
 Marie goes send the letter
 ‘Marie is going to send the letter.’
 b. * Envoyer la lettre, Marie (le) va.
 send the letter Marie PRED goes
- (4.2) a. Marie vient d’envoyer la lettre.
 Marie comes of send the letter
 ‘Marie has just sent the letter.’
 b. * (D’) Envoyer la lettre, Marie (en/le) vient.
 of send the letter Marie GEN/PRED comes

Most interestingly, neither of these auxiliaries may serve as a host for clitic climbing (4.3)–(4.4) in Modern French.

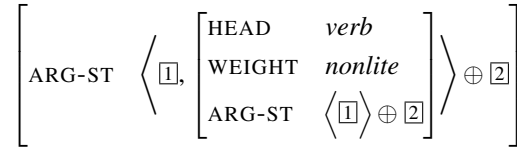
- (4.3) a. Marie va l’envoyer.
 Marie goes DO.3SG send
 ‘Marie is going to send it.’
 b. * Marie la va envoyer.
 Marie DO.3SG.F goes send
- (4.4) a. Marie vient de l’envoyer.
 Marie comes of DO.3SG send
 ‘Marie has just sent it.’
 b. * Marie la vient d’envoyer.
 Marie DO.3SG.F comes of send

Thus, failure for the VP complement to pronominalise, extract or elide does not correlate with argument composition. If the extraction and pronominalisation facts necessitate an explanation on independent grounds, a central piece of independent evidence for argument composition and a flat VP structure simply vanishes.

4.1.2 Predicatives and passives

By contrast, clitic climbing is indeed attested for the copula (4.5) and passive auxiliary (4.6) *être*.

- (4.5) Marie y était prête.
 Marie LOC was ready
 ‘Marie was ready for it.’
- (4.6) La lettre lui a été envoyée.
 the letter IO.3SG has been sent
 ‘The letter has been sent to him/her.’

Figure 4.1: Adaptable-complementation *être*

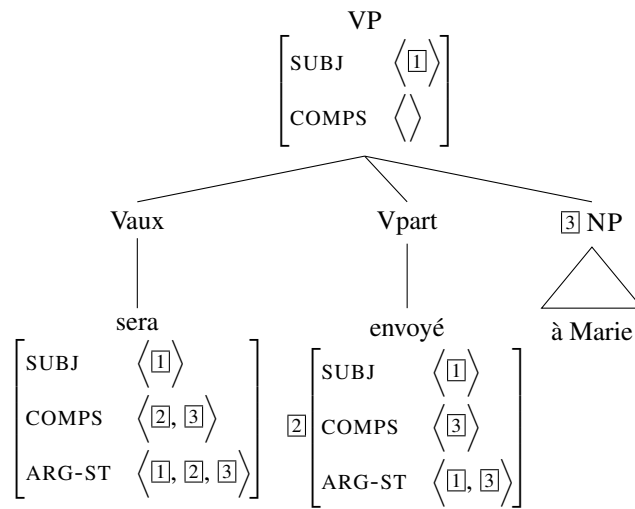
However, its verbal or predicative complements can in fact be extracted or pronominalised (Abeillé & Godard, 2002), as shown in (4.7) and (4.8).

- (4.7) a. Prête à la recevoir, Marie l' était.
 ready to DO.3SG.F receive Marie PRED was
 'Ready to receive it Mary was.'
- b. C' est prête à la recevoir que Marie était.
 it is ready to DO.3SG.F receive that Marie was
 'It was ready to receive it that Marie was.'
- (4.8) a. Envoyée à Marie, la lettre l' a été.
 sent to Marie the letter PRED has been
 'Sent to Mary the letter has been.'
- b. C' est envoyée à Marie que la lettre a été.
 it is sent to Marie that the letter has been
 'Sent to Mary the letter has been.'

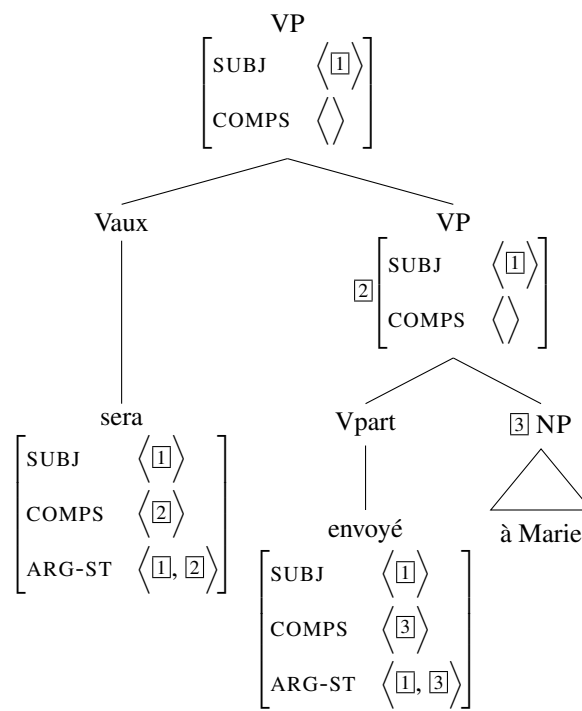
Abeillé & Godard (1996: 57) account for this behaviour by way of assuming that argument composition applies optionally here. They do so by underspecifying the degree of saturation of the verbal complement of *être*: as Figure 4.1 (adapted from Abeillé & Godard, 2002: 437) illustrates, *être*'s complement is a V with a complement list of unconstrained length (*complémentation à géométrie variable*, i.e. 'adaptable complementation'), which is raised by *être* and other copular verbs. The list can comprise the verb's complements, which correctly predicts clitic climbing, and it can be empty, in which case the complement is a saturated constituent VP which can be pronominalised or extracted. This contrasts with tense auxiliaries, which constrain their complement to be a lexical V using the feature WEIGHT, preventing prior saturation of any complements.

On the downside, this leads to spurious ambiguity between a flat and a layered structure when neither climbing nor pronominalisation/extraction is involved, i.e. in the case of canonical realisation *in situ*. This ambiguity is illustrated in Figure 4.2 with the VP *sera envoyé à Marie* 'will be sent to Marie', which receives two synonymous structures.

Since the adaptable-complementation approach crucially blurs the line between lexical and phrasal complements, it is also unclear how the latter can be prevented from



(a) Flat structure



(b) Layered structure

Figure 4.2: Two structures for passive/predicative VP

permuting with other complements: with tense auxiliaries, lexical complements get a fixed ordering as first complement thanks to the [WEIGHT *lite*] specification, but such a specification is impossible with adaptable-complementation *être* as phrases cannot be light. Copular constructions are therefore predicted to allow permutation of the passive participle with its complements, which is however no more grammatical than for past participles, cf. (4.9).

- (4.9) * Le colis sera à Marie envoyé.
the parcel be.FUT to Marie sent

4.1.3 Extraction and pronominalisation of lexical V

Finally, while the flat structure analysis of tense auxiliaries *avoir* and *être* captures that their VP complements do not extract, there being a V but no VP argument, this analysis predicts, *ceteris paribus*, pronominalisation and/or extraction of their V complement. The latter option is indeed available in German, the language for which argument composition was first suggested (Hinrichs & Nakazawa, 1990), yet neither option is licit with French tense auxiliaries (4.10).

- (4.10) a. * Jean croyait avoir compris son erreur, mais il ne (l') avait
Jean believed have understood his mistake but he NEG PRED had
pas.
not
(from Abeillé & Godard, 2002: 412)
- b. * C'est bu trop de vin qu' il a.
it is drunk too_much of wine that he has
(from Abeillé & Godard, 2002: 409)

Most noteworthy, the passive auxiliary, i.e. the copula, which does permit both clitic climbing and extraction or pronominalisation of its VP complement, also permits partial pronominalisation (4.11a) or extraction (4.11b) of its verbal complement.

- (4.11) a. Le premier rôle devait être offert à Gérard, mais il l' a
the first role should be offered to Gérard but it PRED has
finalement été à Jean-Paul.
finally been to Jean-Paul
'The lead role should have been offered to Gérard, but it was instead
offered to Jean-Paul.'
- b. C'est complètement détruite qu' elle a été par les bombes, sa
it is completely destroyed that it has been by the bombs her

maison, pas seulement touchée.

house not only hit

‘It is completely destroyed that her house was by the bombs, not just hit.’

(Abeillé & Godard, 2002: 408–409, my translation)

Thus, if partial pronominalisation or extraction of a lexical V is indeed possible in French, it comes as a surprise that it should only be so with passive participles, but not past or perfective ones. Given that neither a VP nor a V complement of the tense auxiliaries *avoir* and *être* can ever extract or pronominalise, we can conclude that a flat structure does not provide the relevant distinction, since the flat structure can only explain the absence of VP pronominalisation and extraction from the absence of a VP complement, but cannot explain the absence of V pronominalisation and extraction, since there is a V complement on ARG-ST. Abeillé & Godard (2000a) propose to capture the difference with respect to pronominalisation and extraction by classifying past participles with light constituents, which do not extract, yet classify passive participles as heavy, which do. However, a solution in terms of weight does not appear fully satisfactory, since passive and perfect participles in French are systematically syncretic, and neither can permute with complements (4.9).

4.2 Bounded dependencies

Another phenomenon taken as an argument for the flat structure is the transparency of analytic tenses to bounded dependencies, such as *à*-infinitival modifiers (Abeillé & Godard, 2002). In example (4.12), a dependency is established between the direct object of the lexical verb and the noun modified by the whole construction, even though the same dependency fails to be established across a control construction (4.13).

- (4.12) C’ est le genre de gens utiles à avoir fréquenté pendant
 it is the kind of people useful to have socialised_with during
 sa jeunesse.
 POSS.3SG youth
 ‘They are the type of people useful to have known during one’s youth.’

- (4.13) Cette chanson est impossible à (*vouloir/*promettre d’) apprendre en un
 this song is impossible to (want_to/promise_to) learn in a
 jour.
 day
 ‘This song is impossible to (want to/promise to) learn in one day.’

(from Abeillé & Godard, 2002: 414–415)

Abeillé et al. (1998a) provide an analysis of French bounded dependencies as reduced relative clauses that relies on object raising. Their analysis leaves three issues unresolved: first, it needs to stipulate the fact that these bounded dependencies may only involve direct objects. Second, it does not capture the predicative use of these *à*-infinitivals illustrated below, as relatives in French only appear attributively.

- (4.14) Ce livre est à lire (par les étudiant-es).
 this book is to read by the students
 ‘This book is to be read (by the students).’

The third issue, however, is the most pertinent in the present context: the argument composition perspective on bounded dependencies focuses too narrowly on auxiliary *avoir/être*, while failing to capture the very similar behaviour of various verbs taking VP complements, as illustrated below, none of which allow clitic climbing.

- (4.15) a. % une ville difficile à aller visiter en ce moment
 a town difficult to go visit nowadays
 ‘a town difficult to go to visit now’
 b. % un livre à devoir lire dès aujourd’hui
 a book to must read by today
 ‘a book to have to read today’

(Abeillé et al., 1998a: 4)

- (4.16) Ce n’ est pas un livre à vouloir lire en une nuit ou même 3 jours.
 this NEG is not a book to want read in one night or even 3 days
 ‘This is not a book to want to read in a night or even three days.’

(amazon.fr)

In the context of a separate study on modal *à*-infinitives (recounted in more detail in Chapter 9), a corpus search on the corpus frWaC (Baroni et al., 2009) was conducted. Numerous examples of verbs that pattern with the examples given in (4.15) and (4.16) were found, involving intervening verbs that do not allow clitic climbing, yet still prove to be transparent to this bounded dependency. Among the 18 different verb types found, there are motion verbs (*aller* ‘go’, *venir* ‘come’), modal verbs (*pouvoir* ‘can’, *devoir* ‘must’), aspectual verbs (*commencer* ‘begin’, *finir* ‘finish’, *continuer* ‘continue’), cognition verbs (*savoir* ‘know’, *apprendre* ‘learn’, *oublier* ‘forget’...), and conation verbs (*essayer* ‘try’, *éviter* ‘avoid’, *vouloir* ‘want’, *oser* ‘dare’...). Transparency thus cuts across the syntactic construction types of subject raising and subject control, and the VP complements these verbs take range from bare VPs to VPs marked with *de* or *à*.

The conclusion to be drawn from this apparent object raising with simultaneous subject demotion is that missing object constructions are best understood as a case of passivisation akin to modal infinitival passives found in German (see e.g. Haider, 1984).

4.3 Manner adverb placement

(4.17) a. Il détestait prendre attentivement des notes.
he hated take attentively INDF.PL notes
'He hated carefully taking notes.'

b. * Il détestait attentivement prendre des notes.
he hated attentively take INDF.PL notes
(Abeillé & Godard, 1996: 36, my translation)

(4.18) a. Le dernier aspect que ces politiques doivent attentivement
the last aspect that those policies must carefully
considérer [...] *consider*
'The last aspect that those policies must carefully consider'
(frWaC: oiseau.fr)

b. Solutions : il faut alors attentivement regarder la forme de
solutions it is_necessary then carefully look at the shape of
la tête.
the head
'Solution: one must then carefully examine the shape of the head.'
(frWaC: clematis.u-psud.fr)

c. Mais il a mieux aimé hautement protester [qu]' il savait les
but he has better liked highly protest that he knew DO.3PL
choisir, et non les acheter.
choose and not DO.3PL buy
'But instead he objected that he knew how to choose them, and not how
to buy them.'

(frWaC: amiens.iufm.fr)

Additionally, in a study of the distribution of French adverbs, Bonami et al. (2004) do not label such adverbs as outright ungrammatical before infinitives, attributing a more nuanced status (%) to the sentence in (4.19) below, and noting instead that “the extension of the class of VP manner adverbs seems to be particularly subject to variation” (p. 154).

- (4.19) % Jean s’ est décidé à bruyamment sortir de la pièce.
 Jean REFL.3 is decided to noisily go_out of the room
 ‘Jean (finally) decided to noisily go out of the room.’

(Bonami et al., 2004: 154)

In the light of this evidence, the alleged inability of these manner adverbs to pre-modify non-finite VPs cannot be maintained. Furthermore, it should be noted that Abeillé & Godard (1996)’s original example only attributed a judgement of marginal acceptability to the adverb pre-modifying an absolute participle (3.68), in contrast with their judgements as unacceptable for pre-infinitival position (3.67). Manner adverbs can indeed appear in pre-participial position, as attested by corpus data:

- (4.20) Si nous ne pouvions garder cette plante si étrangement née, [...]
 if we NEG could keep this plant so strangely born
 ‘If we could not keep this plant so strangely born, ...’

(frWaC: spirite.free.fr)

All in all, the evidence that adverbs of a certain class can pre-modify non-finite VPs suggests there is nothing remarkable about the fact that these adverbs can also show up between an auxiliary and a participle (3.66).

4.4 Coordination

A final problem faced by the argument composition approach, pointed out by Manning (1997) in an extensive argumentation against the flat structure of French tense auxiliaries, is contributed by cases of verbal coordination of the sort illustrated below.

- (4.21) Marie envoie une lettre et reçoit une réponse.
 Marie sends a letter and receives a reply
 ‘Marie sends a letter and receives a reply.’
- (4.22) Marie a envoyé une lettre et reçu une réponse.
 Marie has sent a letter and received a reply
 ‘Marie has sent a letter and received a reply.’

Under a traditional layered structure analysis, the two examples (4.21)–(4.22) receive a uniform analysis as VP coordination. Under the flat structure posited by Abeillé & Godard, however, the coordination in (4.22) is unexpected, since the conjoined sequences would not form constituents. Abeillé & Godard suggest resorting to a non-constituent coordination analysis, but this amounts to generalising to the worst case, as to my knowledge no criterion has been used to show a difference in status between (4.21) and (4.22).

At this point, let us come back briefly to the argument regarding alleged narrow scope¹ of manner adverbs, as shown in example (3.69): if non-constituent coordination is the only way, under a flat structure approach, to address VP coordination as in (4.22), it remains unclear how non-constituent coordination can be sufficiently constrained to be able to reconstruct the auxiliary in the second conjunct without reconstructing the adverb as well. As Abeillé & Godard (2002: 437, fn. 42) admit, the approach may prevent

¹I do have some reservations regarding the categorical unavailability of the wide scope reading. The previously noted vagueness in the definition of the class of adverbs, combined with the uncertainty associated with inferring the intended scope from text, makes it hard to verify the intuition on corpus. Nevertheless, several examples found on frWaC do seem to me to allow, and even favour given their complement-sharing pattern, a wide scope reading:

- (i) Elle a **patiemment trié et classé** les livres de la bibliothèque.
 she has patiently sorted and classified the books of the library
 ‘She patiently sorted and classified the library’s books.’
 (la-pomarede.cef.fr)
- (ii) un président qui a **soigneusement perpétué et entretenu** des rapports
 a president that has carefully perpetuated and fostered INDF.PL relations
 néocoloniaux
 neocolonial
 ‘a president who carefully perpetuated and fostered neocolonial relations’
 (survie67.free.fr)
- (ii) Après avoir **laborieusement mâté et gruté** notre Class 8 Pachyderme, ...
 after have laboriously masted and craned our Class 8 Pachyderme
 ‘Having painstakingly masted and craned our Class 8 Pachyderme, ...’
 (gabiers.univ-paris1.fr)
- (iv) une nouvelle polémique a surgi après que M. Sarkozy eut **discrètement**
 a new controversy has arisen after that Mr Sarkozy have.PST discretely
demandé et obtenu de Mme Merkel que soit abandonné un bout de phrase qui citait
 asked and obtained of Mrs Merkel that be abandoned a bit of sentence that cited
 la concurrence “libre et non faussée” comme un des objectifs de l’ UE
 the competition free and not skewed as one of the goals of the EU
 ‘a new controversy arose after Mr Sarkozy discretely asked and obtained of Mrs Merkel that a
 bit of text be removed which mentioned “free and even” competition as one of the EU’s goals’
 (radiofrance.fr)

modification of the group event, but not modification of both event variables.

To summarise the discussion, I have shown that the flat VP analysis of French analytic tenses complicates the treatment of coordination. I have shown, furthermore, that the core arguments against a layered VP either proved to be unstable, as was the case for modifier placement, or else did not correlate with the possibility of clitic climbing in the general case, as I established for the extraction and pronominalisation facts as well as for the behaviour with regard to missing object constructions. This lack of correlation is summarised in Table 4.1. As the first two columns show, all four logical combinations of clitic climbing and VP complement extractability/pronominalisability are attested.

	clitic climbing	clefting and <i>le</i> VP V		MOC
<i>vouloir/pouvoir</i>	—	+	—	+
<i>avoir/être</i> (past)	+	—	—	+
<i>aller</i> (future)	—	—	—	(—)
<i>être</i> (copula)	+	+	+	(—)

Table 4.1: Clitic climbing vs. status of verbal complement

Thus, while I concur with previous lexicalist research regarding the morphologically bound status of French pronominal affixes, I contend that argument composition does not provide a satisfactory analysis. Instead, I shall propose that clitic climbing in analytic tenses (and beyond) is to be related to a morphological phenomenon, namely inflectional periphrasis. Once clitic climbing is independently accounted for, the mechanism of argument composition loses much of its appeal in the analysis of such constructions; as I will show, a conventional layered VP structure can instead be maintained at no cost, simplifying considerably the treatment of coordination. As we shall see in Section 6.3, the difference with respect to VP/V extraction and pronominalisation can be captured in a unified fashion by means of lexical constraints on canonical vs. non-canonical argument realisation; as for the transparency of various constructions in missing object constructions, it will receive an analysis in Chapter 9.

Chapter 5

Towards a periphrasis analysis of clitic climbing

Inflectional periphrasis, which can be briefly defined as the expression of a morphosyntactic category by a syntactically independent ancillary element, has recently received a renewed interest by morphologists. Most familiar examples may involve deferral of the expression of a verb's tense, aspect or mood to an auxiliary verb. As will be justified more in depth in the next sections, some of the clitic climbing constructions, most clearly the tense auxiliary constructions, already fall under that definition. The core proposal of this thesis is then simply to reconcile this fact with the affixal status of French weak pronominals. Under the assumption of the first of these two ideas, it is expected that some morphological properties of a participle embedded under auxiliary *avoir* or *être* should be expressed non-locally, and such is manifestly the case for that verb's TAM information. But taking into account the second insight, the verb's non-local pronominals are to be regarded as just another set of morphological properties. Bringing the two together, it is only to be expected that pronominal arguments should sometimes belong in a set of periphrastically expressed properties. The position defended here is that this is exactly the case in French tense auxiliary constructions, and that in fact French clitic climbing in general can be favourably analysed as the periphrastic realisation of pronominal arguments.

The chapter is organised as follows. Section 5.1 introduces recent insights in the morphological literature about inflectional periphrasis, and the phenomenon's extent in the French verbal system. Section 5.2 outlines and motivates the pre-formal proposal of clitic climbing as periphrasis. Lastly, Section 5.3 reports on a specific theory of inflectional periphrasis (Bonami, 2015), which integrates periphrasis in HPSG and which relies on a mechanism of mutual selection with advantageous properties for the task at hand.

5.1 Inflectional periphrasis

Inflectional periphrasis is the phenomenon by which a cell in an inflectional paradigm is occupied by a multiword expression instead of a single word. A well-known case comes from the observation that the Latin passive is expressed differently depending on aspect: in the imperfective, it is expressed by synthetic, suffixal exponence on the verb, but in the perfective, a participial form of the verb is used together with an imperfective form of the copula (Table 5.1).

		ACTIVE	PASSIVE
IMPERFECTIVE	PRESENT	laudat	laudatur
	PAST	laudabat	laudabatur
	FUTURE	laudabit	laudabitur
PERFECTIVE	PRESENT	laudavit	laudatus/a/um est
	PAST	laudaverat	laudatus/a/um erat
	FUTURE	laudaverit	laudatus/a/um erit

Table 5.1: A 3SG partial paradigm of *laudo* ‘I praise’ (from Börjars et al., 1997: 167–168)

Crucially, the passive perfective is not a single, compound word, but a pair of two independent words in a syntactic relation. At the same time, it is fully integrated within the Latin verbal paradigm, corresponding to features (voice and tense) which are clearly morphological in that language. This makes inflectional periphrasis an important case of a morphology–syntax interface phenomenon: as Vincent & Börjars (1996: 14) put it, “[p]eriphrasis can be seen as the syntactic limit case where the requisite form is imported from what is often considered a separate module, namely the syntax”.

The morphological literature on periphrasis has generalised the notion beyond the canonical Latin passive periphrase to numerous other constructions in which “the paradigm of a lexeme [...] is extended beyond the word” (Matthews, 1991: 221). Studies such as those of Corbett (2012) and Anderson (2006) have established the clearly inflectional patterns in which periphrasis enters Pāṇinian competition or typical exponence patterns (respectively). In general, the bulk of recent research on periphrasis in morphology seems to adhere to the view that Ackerman & Stump (2004) call the PERIPHRASTIC REALISATION HYPOTHESIS:

(5.1) Periphrastic Realization Hypothesis

Inflectional rules that deduce the realizations of a morphological paradigm’s cells include rules defining periphrastic combinations as well as rules defining synthetic forms.

(Ackerman & Stump, 2004: 8)

Essentially, this is the inferential-realisation view of inflectional periphrasis: realisations

may include multiword expressions, and periphrases must be treated as paradigmatic (Spencer, 2003).

Despite this revival of interest towards the phenomenon in the field, the dividing line between periphrases and ordinary syntactic constructions remains an issue of current research, and embarrassing intermediate cases abound. For instance, Haspelmath (2000) distinguishes between suppletive periphrasis, a restrictive variant of the concept that only includes periphrases that “fill a gap in a paradigm” (as the Latin perfective passive does), while the broader (but still relatively restrictive) class of categorial periphrasis includes other constructions that “show a sufficiently high degree of grammaticalization to be described as part of the verbal paradigm rather than only in the syntax” (p. 663). Research on grammaticalisation has devoted considerable attention to the continuous diachronic reduction of syntactic forms to single-word ones (cf. e.g. Keller, 2005): it is no surprise that there should be a corresponding synchronic in-between. The same general conclusion of a spectrum of periphrasis is also reached, from a different angle, by the study of Brown et al. (2012) in Canonical Typology, according to which some constructions instantiate more canonical forms of the phenomenon than others: “[t]he approach we propose allows us to distinguish between constructions in actual languages which approximate the ideal of canonical periphrasis to various degrees without committing us to a categorical distinction between periphrastic and non-periphrastic constructions” (p. 233).

With this picture in mind, I now turn to some examples of French verbal periphrases in Sections 5.1.1–5.1.3, before returning to the problem of definition when addressing the relevance of periphrasis for French clitic climbing in Section 5.2.

5.1.1 *Temps composés*

First and foremost among French periphrastic constructions is the set of *temps composés*, i.e. tense- and aspect-related constructions that consist of *avoir* or *être* and a participle. As shown in Table 5.2, these constructions fill a subset of the French verbal paradigm.

		IMPERFECTIVE	perfective
PRESENT	DEICTIC	aime	a aimé
	ANAPHORIC	aimait	avait aimé
FUTURE	DEICTIC	aimera	aura aimé
	ANAPHORIC	aimerait	aurait aimé
	PAST	a aimé	a eu aimé ¹

Table 5.2: A 3SG partial paradigm of *aimer* ‘love’

¹See Section 5.1.1.2 for a discussion of the status of such forms.

More specifically, composed tenses serve to express a verb's perfective aspect.² The *passé composé*, the traditional name of the forms in which the tense auxiliary is in the (indicative deictic) present, is additionally used to express the (imperfective) past.³ This behaviour illustrates two important features of canonical inflection. Firstly, French *passé composé* is clearly integrated in the verbal paradigm, entering a Pāṇinian split with synthetic forms in the tense subparadigm, and expressing a feature (tense) that is clearly grammaticalised in the language. Secondly, the *passé composé* periphrase displays non-compositionality, since a past tense reading arises despite a present tense marking on the auxiliary.

5.1.1.1 Auxiliary selection

The majority of French verbal lexemes rely on *avoir* 'have' as the auxiliary to build their composed forms (5.2). A small number of verbs instead make use of *être* (5.3), which is ordinarily the copula.

- (5.2) Vous avez compris.
 you have understood
 'You understood.'

- (5.3) Vous êtes partie.
 you are left
 'You left.'

Auxiliary selection is thus almost entirely lexically conditioned⁴ in French, as opposed to some other Romance languages (cf. e.g. regarding Italian dialects Štichauer, 2019; Loporcaro, 2022), the determining properties of the verb being partly based on argument structure (see the syntactic studies on the UNACCUSATIVE HYPOTHESIS, e.g. Perlmutter, 1978; Rosen, 1984, 1988; Burzio, 1986; Loporcaro, 2007, 2015), partly based on lexical semantics (Sorace, 2000; Legendre, 2007), and partly arbitrary (Abeillé & Godard, 1996: 49–52). The only exception is the behaviour of the composed tenses in combination with certain pronominals: when a reflexive affix⁵ is expressed, the auxiliary is always *être*, even with verbs that would ordinarily take *avoir* (5.4).

²Or RETROSPECTIVE aspect according to the terminology of Verkuyl et al. (2004).

³This is not true of older and literary registers of French that still have a dedicated, synthetic past tense (the *passé simple*). Further similar variations and nuances of the French TAM system are omitted when not relevant.

⁴In the simple, descriptive sense that lexemes consistently select one auxiliary. See Section 6.4.2 for further discussion.

⁵This characterisation subsumes reflexives *stricto sensu* together with other uses of the same pronominals that are not true reflexives, such as intrinsics and medio-passives; or in other words, any time a class 3 pronominal (recall Section 3.1.1) shares an index with the subject.

- (5.4) a. Je me suis lavée.
 I OBJ.1SG am washed
 ‘I washed myself.’
- b. Elles se sont rencontrées.
 they REFL.3 are met
 ‘They have met each other.’

I return to this idiosyncratic interaction of the periphrastic and pronominal systems in Section 6.4.2.

5.1.1.2 Overcomposition

An interesting property of the French composed tenses is the existence of overcomposed forms (*temps surcomposés*; also sometimes called *bisantérieur*, i.e. ‘twice-anterior’ – Damourette & Pichon, 1911–1940). While this possibility is subject to much speaker variation, examples such as (5.5) are attested for at least some varieties of French.

- (5.5) % Il est parti dès qu’ il a eu terminé.
 he is left as_soon_as that he has had finished
 ‘He left as soon as he was done.’
- (5.6) * il a eu eu terminé
 he has had had finished

Importantly, and as would in principle be expected of a paradigmatic phenomenon, such periphrase stacking is not unboundedly recursive; that is, examples combining more than two successive auxiliaries are ungrammatical (5.6).⁶ Instead, the overcomposed form with two auxiliaries seems to be a definite part of the tense and aspect paradigm.

There is some question as to whether overcomposed tenses are compositional or not, a question which will be of some relevance in later discussion of other stacked periphrases. Verkuyl et al. (2004) describe a subsystem of French verbal inflection in which the *passé surcomposé*, i.e. the form composed of a present-tense auxiliary followed by a participle auxiliary itself followed by a lexical participle, such as in (5.5), seems to be regularly compositional, in the sense that the construction expresses features that are the intersection of the two distinct uses of the *passé composé*, i.e. as a perfective exponent and as a past exponent. In this case the construction can be thought of as an ordinary perfective periphrase whose auxiliary was itself involved in a past periphrase. From a different perspective, it is obviously not compositional in the sense that one of the

⁶See however Borel (2018: 13–14) for examples in regional variants of French comprising three auxiliaries. These cases, called *formes hypercomposées* ‘hypercomposed forms’, are suggested to relate to a special case of regional overcomposition discussed more extensively in Section 6.4.1.

component periphrases it builds on, viz. the past use of the *passé composé*, is itself non-compositional as previously mentioned. Additionally, other uses of the overcomposed forms are sometimes found that are not so well-behaved, such as (5.7)–(5.8).⁷

- (5.7) % J' ai eu su la différence entre les deux, mais j' ai oublié.
 I have had known the difference between the two but I have forgotten
 'I used to know the difference between the two, but I forgot.'
- (5.8) a. % j' aurai eu fait
 I have.FUT had done
 'I will have had the experience of doing'
- b. tu imagines pas le nombre de fois dans ma vie où j' aurai
 you imagine not the number of times in my life where I have.FUT
 eu entendu des conversations [téléphoniques] qui parlaient de
 had heard INDF.PL conversations telephone that spoke of
 moi
 1 SG
 'you can't imagine how many times in my life I will have heard telephone
 conversations about me'

(from Borel, 2018: 17, my translation)

In (5.7), the meaning is not a perfective past, that use being mostly limited to temporal adjunct clauses and expressing anterior aspect compared to the main clause's past tense; but rather some kind of distant past that can be translated in English as *used to*. This meaning, attested throughout French-speaking Switzerland and corresponding to the Franco-Provençal area according to the *Grande Grammaire du Français* (henceforth GGF – Abeillé & Godard, 2021: 1248), eschews the characterisation as the regular composition of the two uses of the *passé composé*, instead making use by way of iconicity of the stacking itself to distance the speaker from the events narrated. Overcomposition with an auxiliary in a tense other than present, as in (5.8), is another possibility that precludes any simple compositional analysis, since there is no future-tense analogue to the imperfective past *passé composé*. Both cases can be understood as multiple periphrastic exponence in the sense of Bonami (2015), i.e. a case of multiple exponence in which two exponents of a single property both consist of periphrasis involving two distinct (but in the present case, as it happens, homonymous) auxiliaries.

I return to the problem of overcomposition in Section 6.4.1.

5.1.1.3 Idiosyncrasies in the composed forms

Additionally, some verbs exhibit idiosyncratic behaviour in their composed forms. *Faillir* 'fail' is never found in synthetic form, except in the infinitive and in older texts, and its

⁷See Borel (2019) for a recent overview of French overcomposition.

use is now that of a (past/perfective) avertive.

- (5.9) J' ai failli tomber.
I have failed fall
'I almost fell.'

This restricted distribution illustrates that a well-known inflectional phenomenon, viz. defectiveness, applies to inflectional periphrasis, in this case restricting a verb to its periphrastic cells.

More interestingly, an unusual case is found with the verb *aller* 'go'. Alongside the regular composed forms, such as *être allée*, the composed forms of *être*, such as *avoir été*, are also found in seemingly free variation:

- (5.10) Je vais dans leur nouvelle maison.
I go in their new house
'I am going to their new house.'
- (5.11) Je suis allée dans leur nouvelle maison.
I am gone in their new house
'I went to their new house.'
- (5.12) J' ai été dans leur nouvelle maison.
I have been in their new house
'I have been in their new house' or 'I went to their new house.'

While the double meaning of example (5.12) could be ascribed to some semantic-pragmatic effect of the copula in perfective aspect with a locative predicate, this variation extends to the full range of uses that *aller* can take:⁸

- (5.13) a. Cette veste irait bien avec cette chemise.
this jacket would.go well with this shirt.
'This jacket would go well together with this shirt.'
- b. Cette veste serait bien allée avec cette chemise.
this jacket would.be well gone with this shirt
'This jacket would have gone well together with this shirt.'
- c. Cette veste aurait bien été avec cette chemise.
this jacket would.have well been with this shirt
'This jacket would have gone well together with this shirt.'
- (5.14) a. Je vais dormir.
I go sleep
'I'm going to sleep.'

⁸Except the periphrastic auxiliary use, which as described in Section 5.1.2 is only found in the (indicative, imperfective) present.

- b. Je suis allée dormir.
I am gone sleep
'I went to sleep.'
- c. J' ai été dormir.
I have been sleep
'I went to sleep.'
- d. * Je suis dormir.
I am sleep
- (5.15) a. Ça va.
it goes
'It's going (well).'
- b. C' est allé.
it is gone
'It went (well).'
- c. Ça/C' a été.
it has been
'It went (well).'
- d. * C' est.
it is

In example (5.13c), the meaning of *avoir été* translates to 'go (well or bad), match (with)', which is a possible meaning of *aller*, but not normally of the copula *être*. Even clearer is the case of example (5.14c), in which *avoir été* is followed by an infinitive, a complementation pattern that is common with *aller*, but otherwise never found with *être* (5.14d). Similarly, in (5.15c), *avoir été* follows the construction of *aller* with expletive *ça* and an optional manner complement, an idiomatic pattern not found with *être* (5.15d). These semantic and syntactic properties demonstrate that these forms are clearly separate from regular *être*. While it could be claimed that these are forms of a special lexeme *être* exhibiting defectiveness similar to *faillir* and which happens to share all its meanings with *aller*, the converse mapping of form and meaning seems more convincing: that all the similar meanings belong to a same lexeme (namely *aller*) despite the difference of form.⁹ This view makes these cases an instance of periphrastic overabundant strong suppletion: past and perfective forms of *aller* can be expressed regularly, or using a radically different stem, homonymous with the copula.

Table 5.4 summarises the relevant aspects of the lexical *aller*'s paradigm. It is interesting to notice both that *aller* is already prone to suppletion (cf. Table 5.3), and that

⁹As Boyé (2021) points out, this latter view makes *aller* a lexeme corresponding to two different FLEXEMES in the sense of Fradin & Kerleroux (2003).

the choice of auxiliary seems to be tied to the stem rather than to the lexeme's identity – i.e., auxiliary *avoir* is used as it normally is with *été*.

PRS.1PL	allons	/alɔ̃/
PRS.3SG	va	/va/
FUT.3SG	ira	/iʁa/
SBJV.3SG	aille	/aj/

Table 5.3: Partial paradigm of *aller* 'go' showing extensive strong suppletion

	IMPERFECTIVE	PERFECTIVE
PRESENT	je vais	je suis allée j'ai été
FUTURE	j'allais	j'étais allée j'avais été
IMPARFAIT	j'irai	je serai allée j'aurai été

Table 5.4: Partial paradigm of *aller* 'go' showing overabundant periphrastic suppletion

5.1.2 More verbal periphrases

Beyond the *temps composés*, several more cases of verbal inflectional periphrasis are found in French. Their exact number depends on the looseness of the definition of periphrasis: for instance, adopting a semantic definition that includes any verbal construction with a temporal or aspectual meaning, the GGF gives a list of 67 verbal periphrases in French (GGF: 1265–1266 Tableau XI-12). In this section I focus on two constructions which satisfy more strictly the criteria often given as diagnostic for inflectional periphrasis, and which will be relevant in later discussion: the RECENT PAST (*passé récent*) and the PERIPHRASTIC FUTURE (*futur périphrastique*).

The recent past is formed of *venir* 'come' followed by *de* + V [*inf*]. It is often included in the list of French verbal periphrases by virtue of its meaning:

- (5.16) Je viens de partir.
I come of leave
'I have just left.'

As the translation shows, the meaning is very much that of a recent past. Given the highly grammaticalised status of tense and aspect in French, this is often taken to suggest periphrasis status akin to a tense auxiliary. This kind of reasoning, which argues for the

periphrastic status of a construction on the basis of its expressing a feature otherwise known to be inflectionally expressed in the language, is described as MIXED EXPONENCE by Biswas (2017: 8), in the sense of a single category¹⁰ having both a synthetic and an analytic realisation. It also corresponds to the first criterion for (categorical) periphrasis used by Haspelmath (2000).¹¹

Additionally, the recent past is restricted in the set of forms ancillary *venir* can appear in:

- (5.17) a. ?? Je viens d' avoir fini.
I come of have finished
b. * Je suis venue de finir.
I am come of finish
- (5.18) ? On peut venir de manger et avoir encore faim.
one can come of eat and have still hunger
'You can have just eaten and still be hungry.'

In principle, nothing should prevent the logical combination of the recent past with a *temps composé*; but as the examples in (5.17) above attest, such combination seems illicit in either order. Uses of the construction with *venir* in the infinitive form also seem to have subpar acceptability (5.18).¹² This consideration can also be seen as evidence for

¹⁰Note that this criterion does not require a single feature *value* having both synthetic and analytic realisations.

¹¹"The first specific criterion asks whether the kind of meaning expressed by the periphrasis is expressed by monolectic forms elsewhere in the language. Thus, if a language has bound tense forms, then a complex construction expressing tense (e. g. the English *will*-future) will count as a periphrastic form (cf. Smirnickij, 1956; Mel'čuk, 1993: 355 on "analytic forms")." (Haspelmath, 2000: 660)

¹²A search on the corpus frWaC (Baroni et al., 2009) for *venir deld'* followed by an infinitive produces only five instances of this, out of over 100,000 (unfiltered) results when all inflected forms of *venir* are searched for instead of the infinitive specifically. Out of these five, one is a sentential infinitive seemingly used for humorous stylistic reasons (i), and another seems to have sounded unnatural enough to its author to require clarification by immediately rephrasing with a perfective (ii).

- (i) moi pas comprendre français merci. [...] **Moi venir de découvrir** ça.
1SG not understand French thanks 1SG come of discover that
'me no understand French thanks. Me have just discovered that.'
(atheisme.free.fr)
- (ii) C' est à prendre en considération comme possible, que vous élisiez à une de ces deux
it is to take in consideration as possible that you elect to one of these two
places vacantes l' un de ceux qui se seront présentés expressément comme
places vacant the one of those that REFL.3 beFUT presented expressly as
candidats au titre de **venir de passer**, d' être passés récemment.
candidates at.the title of come of pass of be passed recently
'It is to take into consideration as possible that you should elect to one of these two vacant
seats one of those who have expressly presented themselves as candidates for having just

the construction's periphrastic status, as it parallels the distribution of *avoir* and *être*, which as past tense auxiliaries (as opposed to perfective aspect auxiliaries) are only found in the present tense. In fact, this kind of evidence is given as a criterion for periphrasis by Haspelmath (2000: 661): "[i]n an ordinary combination of a finite and a non-finite verb, there are no restrictions on the forms of the finite verb, but in a periphrasis sometimes only a subset of the forms are allowed". See Laca (2004) for a more in-depth investigation of this criterion as a means of distinguishing Romance periphrastic constructions from regular syntactic constructions involving aspect-related verbs like *commencer à* 'begin to' etc.

The periphrastic future is a construction that consists of a form of *aller* 'go' followed by an infinitive. Its meaning is roughly that of a future, making it somewhat similar to English *be going to* + *Ving*. An example is given in (5.19).

- (5.19) L' an prochain, je vais voyager.
 the year next I go travel
 'Next year, I'm going to travel.'

As with the recent past, an indication of the construction's high degree of grammaticalisation resides in the set of forms ancillary *aller* can appear in. The periphrastic future is only found with *aller* in the present or *imparfait*¹³ forms. Although the sentences in (5.20)–(5.22) are grammatical, they cannot give rise to a tense meaning, and only signify *aller*'s ordinary movement meaning.

- (5.20) # J' irai voyager.
 I go.FUT travel
 'I will go and travel.'
- (5.21) # Tu veux que j' aille voyager.
 you want that I go.SBJV travel
 'You want me to go and travel.'
- (5.22) # Je dois aller voyager.
 I must go.INF travel
 'I have to go and travel.'

Just like the past meaning of the *passé composé* only occurs with auxiliary *avoir* in the indicative present form, the periphrastic future also imposes restrictions on the set of forms ancillary *aller* occurs in. Although the incompatibility with non-present tense as

passed, for having recently passed.'

(aejcpp.free.fr)

¹³The *imparfait* is an indicative form best analysed as an anaphoric present, contrasting with the deictic present usually meant by 'present' (Verkuyl et al., 2004).

in (5.20) may be explained by temporal semantics, there is no *a priori* reason to expect the paradigm gap in the subjunctive present (5.21) or in the infinitive (5.22).

Furthermore, in Québec French, the periphrastic future enters a paradigmatic split with the synthetic future conditioned on polarity: periphrasis is used in positive polarity, while synthesis is used in negative polarity (Poplack & Dion, 2009). As illustrated in (5.23), the two uses are synonymous, being used in reference to a same future frame ('four hundred years from now').

- (5.23) Dire que dans quatre cents ans d'ici bien, il **va avoir** encore
 say that in four hundred years from here well it goes have still
 des Fauteux puis ils **vont** encore **parler** français! Qu' ils
 INDF.PL Fauteux and they go again speak French that they
parleront pas l' anglais.
 speak.FUT not the English
 'To think that in four hundred years from now, well, there are still going to be
 Fauteux, and they are still going to speak French! They won't be speaking
 English.'

(from Poplack & Dion, 2009: 574)

More interestingly, the periphrastic future displays rather clear non-compositionality: inasmuch as its meaning is that of a true temporal future, this property can hardly arise compositionally from the present-tense ancillary verb and the tenseless, infinitive lexical verb. It is more specifically a feature clash, in the sense of Spencer (2013b): the tense property conveyed by the whole clashes with that carried by the auxiliary element. One could in principle argue based on temporal semantics that the meaning is not strictly temporal, but rather aspectual (e.g. posterior, or even irrealis). Although this might resolve the feature clash, such an analysis would only corroborate the previous point: if the meaning of the *aller* construction is not temporal, then there is no plausible semantic reason it should not freely combine with other tense specifications – i.e., the status of (5.20)–(5.22) would remain unaccounted for. One way or another, it seems this construction has to be considered a periphrase.

Importantly, neither the recent past nor the periphrastic future is a clitic climbing construction. As illustrated in (5.24)–(5.25), pronominal arguments are expressed on the lexical verb.

- (5.24) Je (*le) viens de *(le) voir.
 I DO.3SG.M come of DO.3SG.M see
 'I have just seen him.'
- (5.25) Je (*le) vais *(le) voir.
 I DO.3SG.M go DO.3SG.M see
 'I am going to see him.'

5.1.3 The passive

Unlike Latin and more closely to e.g. English, the French passive is entirely analytical: a verb in participle form simply combines with the copula *être*.

- (5.26) Ce poirier est attaqué par la rouille.
 this pear_tree is attacked by the rust
 ‘This pear tree is attacked by rust.’

Interestingly, however, passive participles are often found in the absence of any form of *être*, e.g. attributively (5.27a), in small clauses (5.27b), or predicatively with various copular verbs (5.27c):

- (5.27) a. un poirier attaqué par la rouille
 a pear_tree attacked by the rust
 ‘a pear tree attacked by rust’
 b. Une fois attaqué par la rouille, l’arbre perd souvent ses feuilles.
 once attacked by the rust the tree loses often its leaves
 ‘Once attacked by rust, the tree often loses its leaves.’
 c. Ce poirier semble attaqué par la rouille.
 this pear_tree seems attacked by the rust
 ‘This pear tree seems to be attacked by rust.’

Although the passive construction is often assumed to be periphrastic, the autonomous behaviour of passive participles displayed in (5.27) challenges that view. Their distribution is in fact highly reminiscent of that of predicative adjectives:

- (5.28) a. Ce poirier est malade.
 this pear_tree is sick
 ‘This pear tree is sick.’
 b. un poirier malade.
 a pear_tree sick
 ‘a sick pear tree’
 c. Une fois malade, l’arbre perd souvent ses feuilles.
 once sick the tree loses often its leaves
 ‘Once sick, the tree often loses its leaves.’
 d. Ce poirier semble malade.
 this pear_tree seems sick
 ‘This pear tree seems sick.’

Another crucial property of passive participles is clitic climbing: a participle's pronominal argument is obligatorily realised on the copula or copular verb (5.29)–(5.31). As mentioned in Section 3.1.4, past/passive participles never host pronominal arguments themselves.

- (5.29) a. Cette possibilité leur est permise par la loi.
 this possibility IO.3SG is allowed by the law
 ‘This possibility is allowed to them by law.’
 b. Cette possibilité leur reste permise par la loi.
 this possibility IO.3SG remains allowed by the law
 ‘This possibility remains allowed to them by law.’
- (5.30) a. Les dents, les pangolins en sont privés.
 the teeth the pangolins GEN are deprived
 ‘Teeth, pangolins are deprived of them.’
 b. Les dents, les pangolins en semblent privés.
 the teeth the pangolins GEN seem deprived
 ‘Teeth, pangolins seem deprived of them.’
- (5.31) a. Cet animal originaire d’Afrique y est souvent chassé par les
 this animal native of Africa LOC is often hunted by the
 braconniers.
 poachers
 ‘This animal from Africa is often hunted there by poachers.’
 b. Cet animal originaire d’Afrique y reste souvent chassé par les
 this animal native of Africa LOC remains often hunted by the
 braconniers.
 poachers
 ‘This animal from Africa is still often hunted there by poachers.’

Again, this behaviour is consistent with that of predicative adjectives, which can also only realise pronominal arguments on the copula or copular verb:

- (5.32) a. Le mouvement lui est toujours fidèle.
 the movement IO.3SG is still loyal
 ‘The movement is still loyal to them.’
 b. Le mouvement lui est resté fidèle.
 the movement IO.3SG is remained loyal
 ‘The movement has remained loyal to them.’
- (5.33) a. Elle en est fière.
 she GEN is proud
 ‘She is proud of it.’

- (5.34) b. Elle en semble fière.
 she GEN seems proud
 ‘She seems proud of it.’
- a. Elle y est prête.
 she LOC is ready
 ‘She is ready for it.’
- b. Elle y semble prête.
 she LOC seems ready
 ‘She seems ready for it.’

In fact, predicative nouns also share this form of clitic climbing:

- (5.35) a. Elle en est membre.
 she GEN is member
 ‘She is a member of it.’
- b. Elle en reste membre.
 she GEN remains member
 ‘She remains a member of it.’
- (5.36) a. Elle y est professeure.
 she LOC is teacher
 ‘She is a teacher there.’
- b. Elle y est devenue professeure.
 she LOC is become teacher
 ‘She has become a teacher there.’

In sum, the periphrasis status of passive constructions in French is not entirely self-evident, partly because their behaviour largely follows the regular rules for adjectives. I return to this issue in Section 5.2.2.

5.2 Clitic climbing as periphrasis

Having laid out the main features of inflectional periphrasis, we can now turn to the proposal at the centre of the present thesis, namely clitic climbing as periphrasis.

Inflectional periphrasis is an independently motivated concept that is required to understand the paradigmatic properties of constructions like e.g. the French composed tenses. At its core, inflectional periphrasis works by distributing the morphosyntactic properties associated with a set of paradigm cells (e.g. in French the perfective and past paradigm) over two distinct words: the lexical item from which the properties originate (e.g. the verb in participle form), and an ancillary item (e.g. auxiliary *avoir* or *être*).

Now, recall from earlier discussion (Section 3.1) that French weak pronominals are best understood as lexically bound pronominal affixes, i.e. the morphological realisation of a verb's arguments. This means these affixes are best regarded as being part of the verb's inflectional information, to be realised in the same way as e.g. the verb's tense and agreement. Under this perspective, it is no surprise that pronominal affixes could be realised on the auxiliary rather than on the lexical verb. In fact, this is actually what happens to most of the verb's morphosyntactic properties: in a tense auxiliary construction, agreement and (morphological) tense are expressed on the auxiliary.

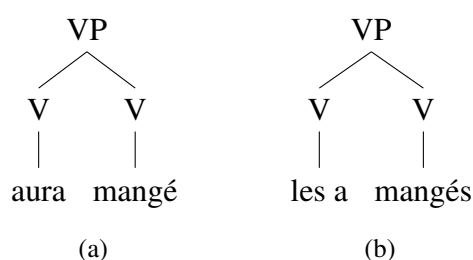


Figure 5.1: Periphrastic expression of future (a) and direct object (b) properties

Figure 5.1 illustrates the intuition behind clitic climbing as periphrasis. Essentially, the reanalysis of weak pronominals as affixes entails that *les* in Figure 5.1(b) should be treated similarly to the exponent of future tense (e.g. *-a*) in Figure 5.1(a): both are properties of the lexical verb *mangé*, displaced to ancillary *avoir* by virtue of a perfective aspect periphrase. On a formal level, any model of inflectional periphrasis capable of sharing morphosyntactic information across a periphrase can therefore be fully expected to readily have the means of handling clitic climbing, as there is no deep conceptual difference between the morphological exponence of pronominal arguments and that of e.g. tense.

The idea of clitic climbing as periphrastic exponence is the analytical hypothesis investigated in this thesis. It can be seen as a reconciling of the syntactic problem posed by the distribution of pronominals with the morphological state-of-the-art, taking into account not only the recent work on Romance lexical affixes, but also the modern realisational view of inflectional periphrasis as a case of a one-to-many morphological mapping to words.

In fact, this behaviour, i.e. clitic climbing, is not only possible, but typical of DISTRIBUTED EXPONENCE,¹⁴ a feature diagnostic of periphrasis (Ackerman & Stump, 2004). Informally, the morphosyntactic properties associated with a periphrase tend to be distributed among the parts of the periphrase, i.e. between the auxiliary and the lexical

¹⁴The use of the term as a criterion for inflectional periphrasis is parallel to, but somewhat distinct from that for a phenomenon of synthetic morphology related to multiple exponence (on which see e.g. Caballero & Harris, 2012; Carroll, 2016, 2022; Harris, 2017).

element.¹⁵ In this case, the expression of the morphosyntactic encoding of pronominal arguments is expressed on the auxiliary along with tense and aspectual properties, instead of the usual synthetic realisation. This distribution is at odds with regular syntactic constructions, in which pronominal arguments are normally realised on the lexical verb they pertain to. In this regard, French tense auxiliary constructions are AUX-headed according to the typology of Anderson (2006); i.e., inflection is mostly borne on the auxiliary rather than on the lexical verb, whereas regular verbal complementation relies rather on the split pattern, i.e. with pronominal affixes (and only pronominal affixes) being realised on the lexical verb.

The idiosyncrasies of French participle agreement with tense auxiliary constructions further add to the unusual patterning of exponence in this periphrase, and showcase the intricacy of the link between pronominalisation and periphrasis. The case of subject agreement, which occurs with auxiliary *être*, can be considered ‘split/doubled’ in Anderson’s typology, in the sense that part of the morphosyntactic information is expressed on the auxiliary, part on the lexical verb, and part on both:

- (5.37) Elle est morte en 2013.
 she be.PRS.IND.3SG die.PTCP.SG.F in 2013
 ‘She died in 2013.’

In this example, tense and mood are expressed on the auxiliary as usual, but subject agreement is distributed over the two parts: person agreement is expressed on the auxiliary, gender agreement is expressed on the participle, and number agreement arguably on both.

The case of object agreement, illustrated below, which occurs with considerable sociolinguistic variation with *avoir* and a non-canonical direct object, can also be thought of as split/doubled, with the added complication that the direct object may be a gap (5.39) rather than a pronominal affix (5.38), in which case the object number agreement is expressed solely on the participle and not on the auxiliary, resulting simply in a split construction.

- (5.38) Je l’ ai mise sur la table.
 I DO.3SG have.PRS.IND.1SG put.PTCP.SG.F on the table
 ‘I (have) put it on the table.’

¹⁵Brown et al. (2012) take issue with this criterion in its original formulation, which they find is too permissive. Citing cases from Japanese in which a periphrase makes use of double exponence, they highlight the fact that it is not whether exponence is distributed among the parts that is telling of periphrasis; rather, it is that in a periphrase the distribution of exponence may be unusual vis-à-vis the language-specific rules of syntactic construction. I retain the term distributed exponence for a criterion diagnostic of periphrastic status based on a language-internally *unusual* distribution of exponence.

- (5.39) l' assiette que j' ai mise sur la table
 the plate that I have.PRS.IND.1SG put.PTCP.SG.F on the table
 'the plate I (have) put on the table'

A functional explanation for this particular stipulation of French grammar – i.e., the unusual distribution of exponence in tense auxiliary constructions – readily presents itself: French (past or passive) participles exhibit defective morphology. Indeed, their form paradigm is restricted to at most¹⁶ four cells, which are the combination of the number and gender features (similar to French adjectival paradigms), to the exclusion of all other features normally found in verbal inflection: the TAM features, subject agreement in person, and, as was established in Section 3.1.4, pronominal affixation. Tense auxiliary periphrasis in French therefore fits the conception of periphrasis as a suppletive phenomenon (Vincent & Börjars, 1996) on two levels: an auxiliary supplies a form that is missing in the content paradigm (the past tense), but also supplies the exponents of all intersecting features, which are missing from the defective lexical verb.

While the extension of tense periphrasis to include pronominals makes immediate sense under the assumptions previously laid out, the rest of the French clitic climbing constructions deserve further attention. In the next sections I discuss the extension of the climbing-as-periphrasis hypothesis for the other two main cases of French clitic climbing, namely causatives and passives.

5.2.1 Causative constructions

Causativity can be defined as a valence-change morphosyntactic process in which a verbal form obtains a new argument (Dixon, 2000) in an agent-like role, which can be called the CAUSER. In many languages, the causer is expressed by a core function like the subject function, and the verb's other arguments may undergo demotion to object or oblique. For instance, the analytic English form *make (him) sleep* in (5.40) below can be seen as a causative form of the verb *sleep*.

- (5.40) He's making him sleep by singing a lullaby.

Causatives thus belong to the broader class of voice phenomena, and are related to e.g. applicatives, which also involve addition of a new argument, but differ in the range of semantic roles and functions said argument can receive.

Beside analytical forms as in the English example above, inflectional causatives are well-attested in a number of languages, e.g. Japanese (see e.g. Manning et al., 1999) and Chicheŵa (Hyman & Mchombo, 1992). In the example below from Japanese, a single

¹⁶Since subject agreement is restricted to participles that take auxiliary *être*, and object agreement is restricted to direct objects, some participles selecting *avoir* and lacking a direct object may never be given the opportunity of agreeing, and effectively only have a single cell, e.g. *menti* 'lied'.

verb form (*yomaseta*), belonging to the lexeme *yomu* ‘read’, obtains a causative reading ‘make read’.

- (5.41) Yumiko ga Ziroo ni sono hon o yom-ase-ta.
 Yumiko NOM Ziroo DAT that book ACC read-CAUS-PAST
 ‘Yumiko made/let Ziroo read that book.’

(Manning et al., 1999: 2)

Given the evidence that causativity can be a grammaticalised inflectional property, the set of analytical forms with causative meanings may very well contain, in some languages, inflectional periphrases; i.e. some analytical causatives may be best analysed as inflectional causatives similar to the Japanese case, but for which the exponent is not a synthetic affix, but an ancillary item instead.

French causatives are expressed analytically using the verb *faire* ‘make’. An example mirroring (5.40) is given in (5.42).

- (5.42) Il le fait dormir en chantant une berceuse.
 he DO.3SG.M makes sleep by singing a lullaby
 ‘He makes him sleep by singing a lullaby.’

Given the hypothesis explored here – clitic climbing as periphrasis –, the natural course of this discussion is to propose to analyse clitic climbing in French causatives as a periphrastic phenomenon. However, several properties of these constructions independently corroborate this idea: as the next sections develop, the *faire* construction is highly grammaticalised and satisfies a number of criteria for periphrasis.

5.2.1.1 Mixed exponence

A definitory feature of periphrasis is the expression of a grammatical property. Beside the evidence just given that causativity can be a grammaticalised property in other languages, one can wonder whether it is plausible for causativity to be a grammatical property in French. This line of reasoning, already mentioned in Section 5.1.2 as MIXED EXPONENCE, is phrased by Haspelmath (2000) as a “criterion [which] asks whether the kind of meaning expressed by the periphrasis is expressed by bound forms elsewhere in the language”. Although this criterion can hardly be considered sufficient for periphrasis diagnosis, it is at least suggestive, and perhaps necessary.

As we have seen in Section 5.1.3, a first example of a grammaticalised voice phenomenon is found in the French passive. A passive participle like the one in (5.43) below displays a typical pattern of voice alternation, i.e. valence-changing morphology – in this case, a long passive in which the initial direct object becomes a subject, and the initial subject is expressed as an oblique *par*-phrase.

- (5.43) Le chat a été poursuivi par un chien.
 the cat has been chased by a dog
 ‘The cat was chased by a dog.’

More interestingly, valence change in French is often expressed by pronominal affixes. This is firstly true in the trivial, but interesting sense that pronominal affixes are themselves arguments, and therefore come together with a corresponding valency reduction; although this would not typically count as a voice phenomenon, it is interesting to note that the grammar of French argument realisation is in general heavily morphologised. It is more relevantly true in that two clear cases of valence-changing processes involving pronominal affixes are found in French. The first kind is medio-passive *se* (Wehrli, 1986), an example of which is given in (5.44) below.

- (5.44) La vengeance est un plat qui se mange froid.
 the revenge is a dish that REFL.3 eats cold
 ‘Revenge is a dish best served cold.’

The normally transitive verb *manger* has its initial direct object being expressed as a subject, its initial subject is effectively suppressed, and interpreted generically, while *se* serves as an exponent of the valency change. The resulting construction therefore has all the characteristics of a medio-passive voice, and constitutes another example of voice being expressed in French by a bound form (*se*).

Ergative *se*, illustrated in (5.45), is very similar to medio-passive *se* but the subject argument is suppressed both syntactically and semantically, the event being interpreted as having occurred without any specific cause.

- (5.45) Le vase s’ est cassé.
 the vase REFL.3 is broken
 ‘The vase broke.’

Contrary to the medio-passive, it is an unproductive pattern restricted to certain lexemes in a causative–inchoative alternation, similar to English *break*.

Closer yet to causativity is the case of benefactives. In certain circumstances, French verbs can express benefactivity, i.e. a valence-change operation in which an argument (as with causativity) is added instead of suppressed or permuted. A relevant example is given in (5.46) below.

- (5.46) Elle lui a mis ses affaires partout dans le bureau.
 she IO.3SG has put her things everywhere in the office
 ‘She put her things all over the office on him.’

- (5.47) * Elle a mis ses affaires à M partout dans le bureau
 she has put her things to M everywhere in the office

Here the pronominal *lui* is itself simply a marker of the construction, and expresses the added argument (an affected entity) at the same time; that this is truly a morphological process can be attested by the ungrammaticality of trying to express the added argument syntactically, as in (5.47).

In sum, evidence from three valence-change operations, to wit passives, medio-passives and benefactives, supports the plausibility of the voice feature in French being susceptible to morphological expression.

5.2.1.2 Non-compositionality

A commonly used criterion for periphrasis is that of NON-COMPOSITIONALITY (e.g. Haspelmath, 2000; Ackerman & Stump, 2004). The point is simply that the meaning of periphrases may not be straightforwardly the sum of the meanings of its parts that would be expected from usual syntactic combination. This was illustrated in Section 5.1.1 with the case of the French periphrastic past, which despite the auxiliary being inflected for present tense can express a simple past tense meaning.

The question of compositionality in French causatives is obscured by the complexity of their semantics. A number of examples involving the *faire* construction diverge in meaning from traditional causativity, i.e. an agent-like argument causing the situation or event denoted by the verb, such as the following:

- (5.48) Tu as fait tomber ton écharpe !
 you have made fall your scarf
 ‘Your scarf fell off!’

(Caterina Donati, p.c.)

In (5.48), the causative meaning appears weakened: the added argument, here the second person, is clearly not an agent, since as the translation implies, the situation is one where the owner of the scarf had no control over its falling off. Instead, it seems to denote merely someone affected by the event, in this case negatively.

A more systematic case of non-compositionality is found in causatives which comes again from pronominal affixation. A form of *faire* marked with a reflexive affix and followed by an infinitive can obtain a passive-like meaning, as in (5.49):

- (5.49) Il s’ est fait poursuivre par un chien.
 he REFL.3 is made chase by a dog
 ‘He got chased by a dog.’

These forms, which are sometimes called the *se faire* construction, have received some attention for their peculiar semantics and syntax (see for instance Washio, 1993; Labelle, 2013). Their meaning is once again weakened from usual causative semantics to what is often translated in English with a *get* + Vpart construction, and the subject of the infinitive

verb may be expressed by a *par*-phrase, as with participial passives. For these reasons it is sometimes considered a passive form, and may exhibit a tendency towards events affecting the subject negatively, although both positive examples (5.50) and examples where control is clearly retained by the subject (5.51) also occur:

- (5.50) Elle s' est fait féliciter par le jury.
 she REFL.3 is made congratulate by the jury
 'She was congratulated by the jury.'
- (5.51) Il se fait masser dans un institut.
 he REFL.3 makes massage in a salon
 'He gets massaged in a salon.'

This form differs typologically from French participial passives in allowing promotion of an indirect, rather than direct object:

- (5.52) Il s' est fait offrir des fleurs.
 he REFL.3 is made offer INDF.PL flowers
 'He got some flowers offered to him.'
- (5.53) * Il a été offert des fleurs.
 he has been offered INDF.PL flowers

This last property might be explained by the fact that the reflexive marker does not distinguish between direct and indirect objects, although medio-passives do not allow promotion of indirect objects either, despite relying on the same marker:

- (5.54) * Les causes extérieures s' attribuent plus facilement les échecs que
 the causes external REFL.3 attribute more easily the failures than
 les réussites.
 the successes
 (intended) 'One attributes failures more easily than successes to external causes.'

The passive-like use of *se faire* extends in some (mostly literary) registers to at least two verbs of the clitic climbing class, *laisser* and *voir*:

- (5.55) % Elle s' est laissé dire une rumeur.
 she REFL.3 is let tell a rumor
 'She got told a rumor.'
- (5.56) % Il se vit condamner à un an de prison.
 he REFL.3 saw sentence to one year of prison
 'He was condemned to one year in prison.'

Given the bleached semantics associated with the introduced argument, these uses of *se faire*, *se laisser* and *se voir* are in fact near synonyms.

On the other hand, informal French sometimes operates a reanalysis of *se faire* + Vinf as *se faire* + Vpart, possibly because of the homophony of participles and infinitives in the largest inflectional class of French verbs. The (much stigmatised¹⁷) change to a participle, attested from verbs belonging to other classes (5.57), again seems to suggest that speakers associate it with passive voice.

- (5.57) a. % Neymar s' est **fait offert** un voyage express à Barcelone.
Neymar REFL.3 is made offer.PTCP a trip express to Barcelona
'Neymar was offered an express trip to Barcelona.'
(frWaC: rmcsport.bfmtv.com, 15/03/2022)
- b. % Au moi de juillet aucune amélioration ne s' est **faite**
in.the month of July no improvement NEG REFL.3 is made
ressentie puisque les températures ont encore largement dépassées
feel.PTCP since the temperatures have again largely exceeded
les 30°C
the 30°C
'In the month of July no improvement was felt as temperatures again
largely exceeded 30°C'
(frWaC: meteonice.free.fr, 2003)
- c. % Ce travail de la génétique, et ce n' est pas anodin, s' est
this work of the genetics and it NEG is not trivial REFL.3 is
fait soutenu par des associations de parents qui ont
made support.PTCP by INDF.PL associations of parents who have
permis de financer une partie de la recherche en biologie
allowed to finance a part of the research in biology
moléculaire.
molecular
'This genetics work, and this is not trivial, was supported by parents'
associations who allowed the financing of part of molecular biology
research.'
(frWaC: entretemps.asso.fr, 17/03/2006)
- d. % elle doit avoir honte de s' être **fait battu** par des
she must have shame of REFL.3 be made beat.PTCP by the

¹⁷In fact, even the regular use of *se faire* with passive-like semantics is normatively deprecated. Although widespread and possibly in the process of replacing the participial passive, one of my French teachers would correct it into a participial form in students' essays.

pays en retard comme ceux qui ont été choisis
countries late like those that have been chosen

‘she must be ashamed of having been beaten by backward countries like those that were chosen’

(frWaC: internationale.fr, 18/04/2007)

- e. % quelqu’un a fait une blague sur Rachida Dati en disant qu’elle
someone has made a joke on Rachida Dati by saying that she
s’ était **faite teinte** en brune de manière permanente
REFL.3 was made dye.PTCP in Brunette of way permanent
‘someone made a joke about Rachida Dati saying she has had her hair
permanently dyed brown’

(frWaC: metreya.blog.lemonde.fr, 27/01/2008)

- f. **se faire eu** \sə fɛ.ɥ\

1. (*Familier*) (*Par plaisanterie*) Se faire avoir.

Dictionary entry for *se faire eu* as a variant of *se faire avoir* ‘get tricked’

(fr.wiktionary.org)

Such a range of meanings seems hard to reconcile with a compositional analysis of the construction. Throughout its many lexical uses, *faire*, a prototypical action verb, normally attributes an agent-like role to its subject argument. The shift from causative to passive appears as the mark of a process grammaticalised beyond simple collocation, and the fact that the construction’s marker is again a pronominal affix only highlights the common theme of pronominalisation interacting with periphrasis. In cases where the interpretation is truly passive, the non-compositionality can even be said to involve a feature clash, since the construction carries a (grammatical) meaning, viz. passive voice, which is opposite the meaning one would naturally impute to *faire*, viz. causativity. At the very least, this set of weakened meanings constitutes evidence for the semantic bleaching of *faire*, a simple exponent of a morphosyntactic process, as are auxiliaries in periphrastic constructions (Sadler & Spencer, 2001).

5.2.1.3 Distributed exponence

Another criterion cited for inflectional periphrasis is DISTRIBUTED EXPONENCE (Ackerman & Stump, 2004). As was discussed earlier for tense auxiliary constructions, the basic generalisation is that the distribution of exponence (i.e. of the various morphosyntactic properties associated with the category involved) within a periphrase tends to be unusual according to the language’s normal grammatical rules. Brown et al. (2012) give the example of the Japanese negative polite past:

- (5.58) Tabe-mase-n desi-ta.
eat-POL-NEG be.POL-PST
'(I/you/...) did not eat.'
- (5.59) Tabe-te simai-masi-ta.
eat-GER finish-POL-PST
'(I/you/...) finished eating.'

The negative polite past is formed by using the negative polite of the verb followed by the copula in polite past form – see (5.58). This construction is unambiguously periphrastic, displaying Feature Intersection (it is the only multiword form in the Polarity–Politeness–Tense paradigm). The observation regarding the distribution of exponence is that multiple exponence of the Politeness feature is highly exceptional in Japanese, a language which normally only marks Politeness in embedded verbal constructions once, on the head (5.59). To put it differently, the negative polite past is a case of a split/doubled inflection pattern, where politeness is doubled, while the language normally uses the AUX-headed strategy (Anderson, 2006). This exceptional behaviour is characteristic of periphrasis.

As with tense auxiliary constructions, clitic climbing in causative constructions (5.60) constitutes an instance of unusual distribution of exponence indicative of periphrasis. Since weak pronominals are verbal affixes, their placement in a verbal construction is a matter of distribution of exponence. Regular (i.e. non-periphrastic) infinitival constructions, by contrast (5.61), do not allow clitic climbing.

- (5.60) Elle la fait traverser à ses petits.
she DO.3SG.F makes cross to her cubs
'She makes her cubs cross it.'
- (5.61) a. * Elle la persuade à ses petits de traverser.
she DO.3SG.F persuades to her cubs to cross
'She persuades her cubs to cross it.'
- b. * Elle l'essaye de traverser.
she DO.3SG tries to cross
'She tries to cross it.'
- c. * Elle la veut traverser.
she DO.3SG.F wants cross
'She wants to cross it.'

In fact, the periphrastic clitic climbing hypothesis can at its core be taken as an application of the Distributed Exponence criterion in French. While clitic climbing can be the norm in other languages, such as Polish (Kupść, 2000) and Czech (Hana, 2007), it is highly restricted in French. Although languages that have pronominal affixes but a

more intermediate prevalence of clitic climbing, like Italian, may require a more nuanced approach, it is the position of this thesis that in French any clitic climbing construction can be analysed as periphrastic.

In addition to the simple property of clitic climbing, a more interesting case of idiosyncratic distribution of exponence in causative constructions is found with intrinsic reflexives. Some verbs, like *en vouloir* ‘be mad (at)’, lexically specify a semantically empty pronominal affix, which in some cases may be a reflexive (with or without an ergative meaning), as in *se souvenir* ‘remember’, *se sentir* ‘feel (good/bad/...)’, *se rendre compte* ‘realise’. In colloquial French, such verbs may lose that intrinsic affix when embedded under *faire*:

- (5.62) Le manque d’oxygène a fait éteindre le feu.
 the lack of oxygen has made go_out the fire
 ‘The absence of oxygen made the fire go out.’

(Zubizarreta, 1982: 202)

- (5.63) a. Le vent a fait dissiper les nuages.
 the wind has made dissipate the clouds
 ‘The wind made the clouds dissipate.’
 b. Le vent a fait se dissiper les nuages.
 the wind has made REFL.3 dissipate the clouds
 ‘The wind made the clouds dissipate.’

(Enzinger, 2010: 244, my translation)

In (5.62), the expected form is *s’éteindre*, an intrinsic-*se* verb meaning ‘go out’ (cf. *éteindre* ‘blow out’). In (5.63), we expect *se dissiper*, the ergative form of *dissiper* ‘dissipate’. Note that both sentences are in principle ambiguous with a structure in which the postverbal NP is the direct object of the transitive use of the infinitive verb, the downstairs subject being omitted and interpreted generically; in both cases, however, it is clear that the verbs are semantically intransitive, with no agent being responsible for the blowing out of the fire or the dissipating of the clouds (except, of course, indirectly, the causer argument of *faire*).

Beside examples from the syntactic literature, a convincing number of examples are attested in corpora, most clearly by searching the corpus frWaC (Baroni et al., 2009) for a sequence of a form of *faire* followed by the verb *souvenir*, a common intrinsic-*se* verb with no corresponding transitive use (96 hits; compare with the 6 hits for the common preposition *à* followed by the verb *souvenir*, 5 of which come from mistagged noun uses of *souvenir*). Some examples, involving also *se sentir* ‘feel’ and *se rendre compte* ‘realise’, are reproduced below.

- (5.64) a. le blé, qui est doré, me **fera** **souvenir** de toi !
 the wheat that is golden OBJ.1SG make.FUT remember of 2SG
 ‘wheat, which is golden, will make me remember you!’
 (frWaC: sandys.unblog.fr)
- b. Le blé, qui est doré, me fera me souvenir de
 the wheat that is golden OBJ.1SG make.FUT OBJ.1SG remember of
 toi !
 2SG
- c. Le blé, qui est doré, me forcera à *(me) souvenir
 the wheat that is golden OBJ.1SG force.FUT to OBJ.1SG remember
 de toi !
 of 2SG
 ‘Wheat, which is golden, will force me to remember you!’
- (5.65) Il y a dans le film cette dose de kawai (mignon) qui, on ne sait
 there is in the film this dose of kawai cute that one NEG knows
 trop pourquoi, vous **fait** **sentir** bien
 too_much why OBJ.2PL makes feel good
 ‘There is in this film a certain amount of kawai (cute) which, you don’t really
 know why, makes you feel good’
 (frWaC: zeni.free.fr)
- (5.66) cela lui a **fait** **rendre compte** kil ne m’ aimais
 that IO.3SG has made realise that.he NEG OBJ.1SG loved
 plus comme avant...
 anymore as before
 ‘that made him realise that he didn’t love me like he used to...’
 (frWaC: jeunejolie.fr)

In (5.64a), the reflexive is omitted: compare the more standard (5.64b). Such omissions are in any other contexts fully ungrammatical (5.64c).

I take this phenomenon to belong in the broad class of unusual distributions of exponence in periphrasis: the elision of a usually obligatory lexical affix only in the context of a certain construction is another hint towards the latter’s highly morphologised status.

Another interesting idiosyncrasy is found with the iterative prefix *re-*. While the English counterpart is not fully productive and usually thought of as derivational, French *re-* can attach in spoken French to virtually any verb:

- (5.67) Le soir on a décidé de remanger dehors
 the evening we have decided of again.eat outside
 ‘In the evening we decided to eat outside again’

(frWaC: cromeuhnione.free.fr)

- (5.68) Voilà j' ai retrouver un travail, donc je vais rebouger à partir
 that's_it I have again.found a job so I will again.move from
 du 7 janvier
 of.the 7 January
 'I have finally found a job again, so I will be active again starting from
 January 7'

(frWaC: forum.doctissimo.fr)

Interestingly, as remarked by Tesnière (1976: 266), when attached to causative *faire*, the prefix can be interpreted as indicating that the caused event is repeated, rather than the causing event:

- (5.69) Ils ont été obligés de refaire faire le plafond.
 they have been obligated of again.make make the ceiling
 'They had to have the ceiling refurbished.'

(Tesnière, 1976: 266, my translation)

As shown by the translation, the intended meaning involves a renovation situation; that is, the *re-* prefix realised on the causative *faire* is really part of the lexical (i.e. non-causative) verb *refaire* with the specialised meaning 'refurbish, renovate'. In fact, this utterance would still be felicitous if the people designated by *ils* had never had someone do anything to their ceiling before; in other words, the example gives no indication of a prior event of causing anyone to do anything to the ceiling that would make the current causing event a repeated occurrence.

This behaviour displays a striking similarity to the clitic climbing property: with both clitic climbing and *re-* displacement as illustrated in (5.69), morphology denoting properties of the downstairs verb appears on causative *faire*. Although syntactic approaches to complex predicates may derive clitic climbing by argument raising, this account fails to extend to this phenomenon, as the prefix *re-* does not correspond to any valency or otherwise syntactic property amenable to raising. Under the periphrasis approach, on the other hand, there is no *a priori* expectation that only pronominal arguments should be displaced to causative *faire*: it is on the contrary expected under the Distributed Exponence criterion that various morphosyntactic properties may find their realisation on a different part of the periphrase than would be expected in an ordinary syntactic construction.

5.2.1.4 Interim conclusion

From its plausible integration in a productive voice paradigm, its non-compositionality, and its unusual distribution of exponence, it is clear that the French *faire* construction

exhibits properties typical of periphrasis. As was mentioned previously concerning periphrasis, typological research often highlights the non-categorical nature of crosslinguistic variation; in the case at hand, it is interesting to note that causatives themselves have been the subject of many typological investigations, and that the form that they may take across languages also appears to fall on a continuum. Thus Comrie (1989) defines the three causative types of ANALYTICAL (i.e. purely syntactic constructions like English *make*), MORPHOLOGICAL (e.g. Japanese *-ase*) and LEXICAL (e.g. the English lexeme *kill* in relation to *die*) as theoretical ideals, that language-specific causative constructions only approximate. From this point of view, Comrie notes, “[a]n excellent example of a type [of causative] intermediate between analytical and morphological is the French construction with *faire*, as in *j’ai fait courir Paul* ‘I have made Paul run’” (p.168–169). Indeed, according to him, the special marking of the subject of the infinitive found with *faire* is typologically characteristic of morphological causatives. It is hard to think of a better name for a construction intermediate between syntactic analysis and morphological synthesis than *periphrasis*.

5.2.2 Passives and predicatives

As was discussed in Section 5.1.3, the copula as well as copular verbs like *sembler* ‘seem’, *rester* ‘remain’ form another class of clitic climbing verbs in French, accepting pronominal affixes from their predicative AP, NP or passive VP complement. The relevant dataset is reproduced in (5.70).

- (5.70) a. Cette possibilité leur est permise par la loi.
 this possibility IO.3SG is allowed by the law
 ‘This possibility is allowed to them by law.’
- b. Le mouvement lui est toujours fidèle.
 the movement IO.3SG is still loyal
 ‘The movement is still loyal to them.’
- c. Cette possibilité leur reste permise par la loi.
 this possibility IO.3SG remains allowed by the law
 ‘This possibility remains allowed to them by law.’
- d. Le mouvement lui est resté fidèle.
 the movement IO.3SG is remained loyal
 ‘The movement has remained loyal to them.’

Again, under the climbing-as-periphrasis hypothesis, this property is best analysed as a case of periphrastic realisation. Under the Distributed Exponence criterion, it follows that adjectives and passive participles in predicative position are the lexical item in a periphrase. Indeed, all of (5.70a)–(5.70d) contain unusual distribution of argumental

exponence. Applied to the copular verbs beside *être*, a strict adherence to this position seems unwarranted theoretically: the rest of the criteria previously given for periphrasis mostly fail to confirm such a status, and few linguists would accept the idea of an evidential periphrase using auxiliary *ssembler*. It is possible that sentences (5.70c)–(5.70d) are the limiting case of the phenomenon of periphrasis in its gradient conception. However, the proposal presented here does not commit us strongly to ascribing periphrasis status to all copular verb constructions; we shall see in Chapter 6 that in the case of *ssembler* and *rester*, periphrastic clitic climbing can in fact be implemented separately from proper periphrasis.

On the other hand, the same position seems very advantageous when applied to *être*, as it immediately encodes an intuition widely held about copulas: that they are functional elements, required in order to express tense and other such properties of elements which, like adjectives or nouns, lack the morphology to express them on their own. Besides, French *être*, and copulas in general in various languages, are habitual auxiliaries for various other purposes, e.g. the past and perfective in French, the English progressive, or the Latin perfect. Moreover, the periphrasis analysis is already familiar for the specific case in which the predicate is a passive participle, a passive periphrase being often assumed for French in both traditional grammar and academic work. The only novelty is the inclusion in this class of constructions of the use of *être* followed by a non-verbal predicate, motivated by such predicates' near-identical behaviour in copular sentences with regard to (*inter alia*) clitic climbing.

In sum, uses of the copula with a predicative complement, whether passive (5.70a) or not (5.70b), can be analysed as periphrastic, the predicate projecting its tense paradigm to the copula-auxiliary. Clitic climbing from the former to the latter is then readily covered under the same light as with tense auxiliaries: as just another exponent realised periphrastically on an auxiliary rather than on the morphologically defective lexical item. Climbing to a copular verb (5.70c)–(5.70d), on the other hand, can be thought of as an edge case of periphrasis, in which the pronominal arguments are the sole exponents without a synthetic realisation.

5.3 Periphrasis as collocation (Bonami 2015)

The idea of periphrasis as an interface phenomenon relating inflectional morphology with syntax was given an important formalisation in Bonami (2015).¹⁸ Drawing on insights about the phenomenon in the morphology literature discussed in Section 5.1, and substantially adding to it, the proposal brings together elements of HPSG syntax with Paradigm Function Morphology (PFM – Stump, 2001) to provide a full lexicalist theory of periphrasis, which is detailed in this section.

¹⁸For more work on implementing periphrasis, see also Bonami & Webelhuth (2013, 2021), Bonami & Samvelian (2015), and Bonami et al. (2016).

After taking inventory of the most salient properties of periphrases to define the analysis' specifications, Bonami notes their similarity to another type of syntactic constructions, namely idioms. Firstly, both constructions can be non-compositional. In the case of periphrasis, this was shown in the previous section with the case of the French periphrastic past. A well-known idiom containing non-compositional meaning is given in (5.71): the interpreted meaning of 'die' is completely unrelated to those of the parts of the idiom *casser sa pipe*, which literally mean 'break one's pipe'.

- (5.71) Il a cassé sa pipe.
 he has broken his pipe
 'He kicked the bucket (died).'

Secondly, both idioms and periphrases may be syntactically flexible. In both cases, this can be shown by inserting a modifier between the parts, as the examples below illustrate.

- (5.72) Il est pas encore parti.
 he is not yet left
 'He hasn't left yet.'
- (5.73) Il cassera un jour sa pipe.
 he break.FUT one day his pipe
 'He will one day kick the bucket.'

Thirdly, both constructions involve tying together two items using a local grammatical function. The French past periphrase, for instance, has both elements tied by a head–complement relation, while e.g. the comparative periphrase (e.g. *plus grande* 'bigger') relies on an adjunct–head configuration. Similarly, the two parts of the idiom *casser sa pipe* are in a head–argument relation, syntactically functioning as a verb and its NP direct object.

Bonami consequently treats inflectional periphrasis as a case of collocation. Building on research by Sailer (2000), Richter & Sailer (2003), Soehn & Sailer (2003), Soehn (2006), and Richter & Sailer (2010), the collocation analysis of periphrasis relies on the idea of MUTUAL SELECTION between the two parts of the multiword expression; that is, the idiom or periphrase is considered to be bound together not just by a single grammatical function (e.g. head–complement in the case of a tense auxiliary and a participle), but also by an additional selection from the item being syntactically selected for to the other item. This additional selection is implemented by an analytical device named REVERSE SELECTION, which allows particular signs to impose selectional constraints on the head they are selected by.

“Intuitively, reverse selection is the situation where some lexical item places a selectional requirement on another item in a way that goes in the

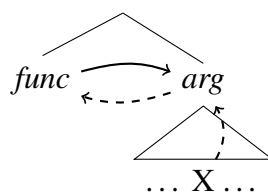


Figure 5.2: Schematic representation of reverse selection

opposite direction from ordinary selection: a complement selects properties of the head, rather than the head selecting properties of the complement; a head selects properties of an adjunct, rather than the other way around; and so on.”

(Bonami, 2015: 85)

A schematic representation of the mechanism is given in Figure 5.2. This selection, depicted by the dashed arrows, operates over any functor–argument configuration, and goes opposite the general direction of regular syntactic selection.

With this general perspective in mind, the proposal is then as follows. In Paradigm Function Morphology (Stump, 2001), the framework Bonami (2015) uses to implement his proposal, inflectional morphology is viewed as a function that associates a phonological form to a lexeme and a set of morphosyntactic features. A rule for affixation of the 1PL exponent *-ĩ* is given in (5.74) below as an example:

$$(5.74) \quad X_V, \sigma: \{\text{PER } 1, \text{NB } pl\} \rightarrow X \oplus \tilde{\sigma}$$

(from Bonami & Boyé, 2005: 300)

In short, this model of inflectional morphology takes as input a base (X) of a given category (V), and effects a form change (*-ĩ* suffixation) on the basis of its morphological properties (1PL).

However, the basic PFM model only covers synthetic exponence, i.e. non-periphrastic realisation. Taking periphrasis into account as a regular part of inflectional paradigms, phonological form can no longer be simply considered as the only possible output of morphology. Bonami therefore redefines the paradigm function to associate to a lexeme and its morphosyntactic features not only a phonological form, but also a set of requirements for an ancillary element, in the form of reverse selection constraints. Synthetic exponence involves as the output a phonological form and an empty set of periphrastic requirements. Note that periphrastic exponence also involves a phonological form, since the lexical element still needs to receive a form (e.g. participial form in the case of French tense periphrasis), but the output also contains a set of periphrastic requirements for an ancillary element.

An example rule describing comparative periphrasis for French adjectives (a periphrase akin to English *more* constructions with adjectives lacking an *-er* form) is given in (5.75) below.

$$(5.75) \quad \text{PF}(I_A, s : \supseteq \{\text{GRADE comp}\}) = \langle \phi, \sigma, \{\langle \textit{plus}, \emptyset \rangle\} \rangle$$

(adapted from Bonami, 2015: 93)

The Paradigm Function rule takes an adjectival base with $[\text{GRADE comp}(\textit{arative})]$, and associates with it, on top of the form associated with these features (described as $\langle \phi, \sigma \rangle$), a reverse selection requirement for ancillary *plus*, as well as a set of morphosyntactic requirements for it, which happens to be empty since *plus*, an inflectionless adverb, does not need to appear in any particular form.

The periphrastic approach can capture compositional and non-compositional cases in a similar fashion. In the case of the compositional present perfect, the realisation rule applying to e.g. *rencontré* selects a participle stem and relegates expression of present tense to the ancillary element, here the imperfective auxiliary *avoir*. In case of non-compositional periphrasis, the realisation rule expresses past imperfective by the exact same devices, namely selection of a participle stem and reverse selection for a present (imperfective) auxiliary. This is made possible by a strong featural dissociation between morphology and syntax-semantics (Sadler & Spencer, 2001): in the realisation model, the lexical item carries the property to be realised from the start of the derivation. The lexical verb therefore carries a past-tense specification. Meanwhile, the auxiliary is inflectionally present-tense, but as a semantically transparent ancillary element its semantic content is raised from its complement. This complement, the lexical verb, has the right temporal semantics, which resolves the whole construction to the correct past-tense specification.

I return to the HPSG implementation of periphrasis by reverse selection at the morphology–syntax interface in the next chapter.

To summarise this chapter’s discussion, I have reviewed modern definitions and criteria for inflectional periphrasis and shown that they apply to a number of French constructions, including (but not limited to) all clitic climbing constructions. I have formulated the proposal of clitic climbing as periphrasis, which holds that non-local pronominal affixation is simply periphrastic exponence. I have argued that this proposal is well-motivated based on the affixal properties of French weak pronominals and on the periphrastic properties of clitic climbing constructions, and that these premises in fact jointly predict clitic climbing as a case of distributed exponence. Finally, I have reviewed a specific proposal (Bonami, 2015) which will allow us to produce an integrated HPSG analysis of clitic climbing as periphrasis in the next chapter.

Chapter 6

Clitic climbing as periphrastic exponence: tense periphrases

In previous chapters, I have explored the interplay of syntax and morphology involved in French clitic climbing. Starting from the observation of the bound affix status of the so-called clitics involved, I have gone on to illustrate how the bulk of clitic climbing constructions can be considered to be periphrases, in the sense that these constructions also involve delegation of morphosyntactic exponence to an ancillary element. I then argued that the logical conclusion of these two considerations is that clitic climbing is simply an aspect of periphrasis in French; i.e., that the lower verb's pronominal affixes are hosted by the higher verb as part of the more general morphosyntactic phenomenon by which morphosyntactic properties of the lexical verb are delegated to the ancillary verb. I have also shown in Chapter 4 that this morphology-based proposal allows for a simplification of the complex phrase structure commonly proposed for French clitic climbing constructions in classical HPSG accounts.

With the proposal already developed on an informal level, and with the phrase-structural dimension out of the way, we can now turn to a more formal account of the proposal for clitic climbing as periphrasis.

This chapter¹ is organised as follows. Building on the previous formulation of pronominal affixation by Miller & Sag (1997) and on Bonami (2015)'s theory of periphrasis, Section 6.1 makes explicit a number of assumptions about the formal treatment of pronominalisation, morphology, and periphrasis, which will be necessary for the formulation of clitic climbing as periphrasis. Section 6.2 introduces the formal analysis of clitic climbing from participles, passives and predicatives. Section 6.3 addresses residual syntactic issues raised by Abeillé & Godard (2002) concerning VP extraction, pronominalisation and ellipsis. Finally, Section 6.4 builds on the core proposal to suggest a treatment of three idiosyncratic phenomena of the system of French periphrasis in

¹This chapter is partly based on Aguila-Multner & Crysmann (2020a).

light of the approach defended here, namely periphrasis stacking and overcomposition, reflexive auxiliary alternation, and participle agreement.

6.1 Implementing inflectional periphrasis

Before tackling clitic climbing as inflectional periphrasis, a working analysis has to be stated regarding the three ingredients in this formula, namely pronominal affixes (‘clitics’), inflection, and periphrasis. The details of the treatment of pronominals as bound affixes are exposed in Section 6.1.1, following among others Miller & Sag (1997). Section 6.1.2 then covers the implementation of inflectional morphology for French verbs. Section 6.1.3 elaborates on Bonami (2015)’s proposal for REVERSE SELECTION to propose an explicit implementation of the mechanism, which is central to the analysis of periphrasis as collocation. Finally, Section 6.1.4 combines the previous two sections to extend our model of French verbal morphology to include the periphrastic paradigm.

6.1.1 Mapping of arguments

While French weak pronominals are demonstrably lexically bound affixes, two properties set them apart from canonical inflection phenomena. Firstly, they are tied to a syntactic change, in that an affixed verb will display reduced syntactic valency. Indeed, Standard French at least lacks CLITIC DOUBLING, and an affixally realised argument cannot be additionally realised by a phrase (unless clause-peripherally in a dislocated structure). That is, they are true pronominal affixes and not agreement markers, in the sense of Corbett (2006), or anaphoric agreement markers in the sense of Bresnan & Mchombo (1987).² Some pronominal affixes, like reflexives and medio-passives, may in fact trigger even more complex syntactic and semantic change. Secondly (and perhaps simply an aspect of the same property), expression of a verb’ pronominal arguments is optional, in the sense that verbs may opt to realise all of their arguments syntactically, and thereby lack any values to express for the morphological category of pronominal arguments. This is in contrast to such typical inflectional processes as the expression of the verb’s tense, which always takes on a value.

The issue arises how best to accommodate these differences so that morphosyntactic requirements for pronominal affixation are properly tied to valence changes. Before tackling periphrastic expression of pronominal affixes, a few remarks are therefore due to the basic synthetic case in order to address the exact mechanisms by which arguments are mapped to their correct realisation.

In the lexicalist approach to argument realisation, pronominal affixation comes as a distinct possibility among the modes of argument realisation that the theory needs

²See De Cat (2005: 1211–124). See also Auger (1994, 1995) for variation concerning mainly Québec French.

to recognise. Other familiar modes of realisation, such as local syntactic realisation or gaps, were previously discussed in Section 3.3.1 along with their lexical treatment as proposed by Ginzburg & Sag (2000), Sag (1997), and Bouma et al. (2001). Following Miller & Sag (1997), we can place pronominal affixation together with gap arguments in the category of non-canonical modes of realisation (Figure 6.1). This ontology of *synsem* values classifies arguments by their mode of realisation: local syntactic arguments are *canonical*, gap arguments are *gap-ss*, and pronominal affixes are *aff-ss*. These last two are the cases that do not license direct syntactic combination with the argument in its phrasal form, and are therefore considered *non-canonical*. This readily ties together modes of realisation and valency reduction.

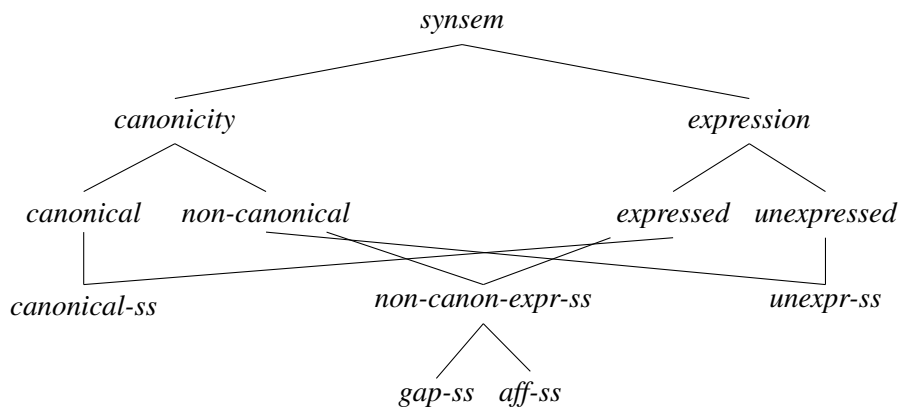


Figure 6.1: Hierarchy of *synsem* types

At this point, it remains to be made explicit how categorising of arguments can trigger the creation of morphosyntactic requirements for an affix. Two general kinds of formulations have been used: the process can be implemented as a relational constraint on verbs, equating values of their inflectional features with some of the content of their pronominal arguments; or it can be encoded as a lexical rule, adding morphosyntactic requirements in the output according to the pronominal arguments in the input. For simplicity, this latter approach is adopted here.

The argument mapping lexical rule (exemplified in Figure 6.2) applies to a verb before any inflection has taken place. The rule's effect is to resolve all of the elements on ARG-ST to one of the leaf types in the *synsem* ontology. In addition, it creates for each (non-subject) affixal element a new value in the output's INFL(ECTION) set. This value is a morphological category of type *pr(onominal)af(fix)*. It needs to contain minimally two additional pieces of information relevant for the subsequent interpretation by the inflectional component. Firstly the pronoun's CASE must be determined from the syntactic marking selected for by the verb, as the French weak pronominal paradigm distinguishes between accusatives (e.g. *les*), datives (*lui*), locatives (*y*), and the various

grammatical functions that pronominalise to *en*. Secondly, the argument's index needs to be conserved as well, since distinctions are also made according to person, number, and gender features of the argument's index. These two values are specified in the output by the argument mapping rule.

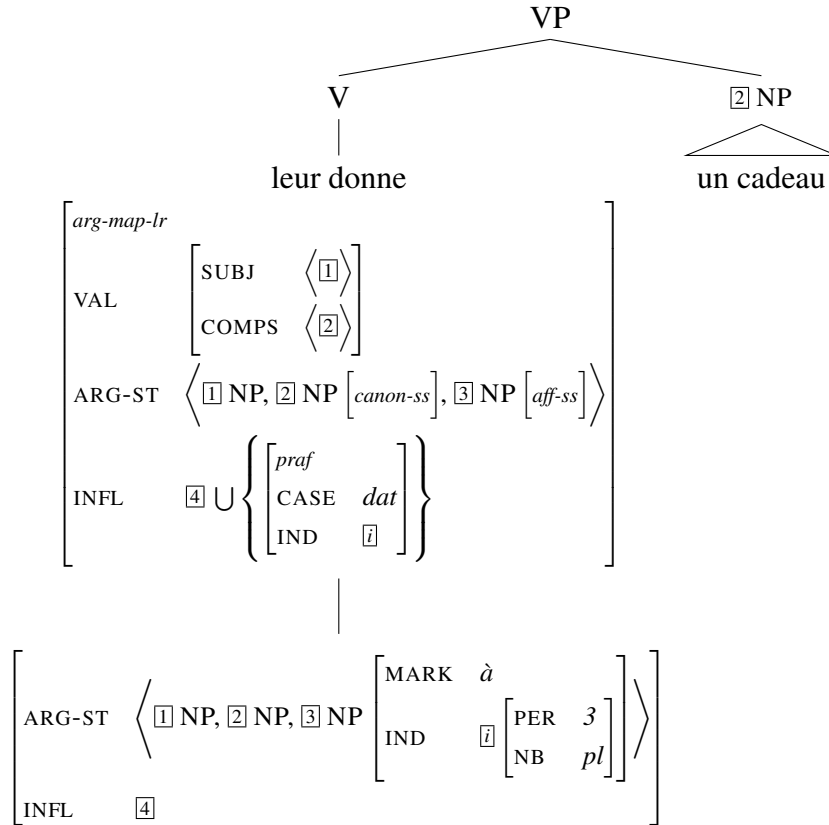
$$\left[\begin{array}{l} \text{arg-map-lr} \\ \text{ARG-ST} \quad \text{list}(\text{canon}) \circ \left\langle \left[\begin{array}{cc} \text{aff-ss} & \\ \text{HEAD.MRK} & \boxed{m_1} \\ \text{CONT.IND} & \boxed{i_1} \end{array} \right] \dots \left[\begin{array}{cc} \text{aff-ss} & \\ \text{HEAD.MRK} & \boxed{m_n} \\ \text{CONT.IND} & \boxed{i_n} \end{array} \right] \right\rangle \circ \text{list}(\text{gap}) \\ \text{INFL} \quad \boxed{i} \cup \left\{ \left[\begin{array}{cc} \text{praf} & \\ \text{CASE} & \boxed{m_1} \\ \text{IND} & \boxed{i_1} \end{array} \right] \dots \left[\begin{array}{cc} \text{praf} & \\ \text{CASE} & \boxed{m_n} \\ \text{IND} & \boxed{i_n} \end{array} \right] \right\} \\ \text{DTR} \quad \left[\text{INFL} \quad \boxed{i} \right] \end{array} \right]$$

Figure 6.2: Mapping of pronominal arguments

The tree in Figure 6.3 illustrates the application of the argument mapping rule to a verb (*donne*, ‘give’) with two complements: a local syntactic direct object (*un cadeau*) and a dative pronominal argument (*leur*). The verb’s lexical entry specifies descriptions of these two arguments (as well as the subject) on the ARG-ST list. The lexical rule applies to the entry, and resolves these objects’ types to the appropriate types *canon-ss* and *aff-ss*, respectively. The canonical element can now appear on the verb’s complement list; the pronominal affix on the other hand does not, but a morphosyntactic requirement for its morphological expression is created in the form of a *praf* object on the verb’s INFL set.

Finally, a remark is due to the treatment of *y*. Like the rest of the pronominals examined so far, this form can correspond to a subcategorised complement of the verb (6.1): in (6.1a) it is the locative argument of *habiter* ‘inhabit, dwell’; in (6.1b) it is the allative argument of the motion verb *aller* ‘go’; and in (6.1c) it is an oblique complement, alternating with an *à*-phrase, expressing the theme argument of *penser* ‘think (of)’.

- (6.1) a. J’ habite dans cette ville. J’ y habite.
 I live in that city I LOC live
 ‘I live in that city. I live there.’
 b. Je vais à l’ école. J’ y vais.
 I go to the school. I LOC go
 ‘I go to school. I go there.’
 c. Je pense à l’ avenir. J’ y pense.
 I think of the future I LOC think
 ‘I think of the future. I think of it.’

Figure 6.3: Example derivation: *leur donne un cadeau* ‘gives them a present’

In such cases, the generation of pronominal affix *y* follows the principles described above. The only difficulty resides in the correspondence with the various prepositional markings that alternate with *y*. This can be done by assuming subcategorised prepositions possess specific MARKING values (Figure 6.4), some of which can be put together under a common supertype comprising all syntactic markings that alternate with locative case (*y*) in the pronominal system. Figure 6.5 proposes such a hierarchy of case/marking values. The markings of direct objects, alternating with accusative pronominals, and indirect objects, alternating with dative pronominals, are subsumed under a common supertype *non-oblique*, on the basis of syncretism in the first two grammatical persons as well as in the reflexive in the pronominal paradigm. The remaining markings are oblique markings assigned by the preposition introducing the complement; these comprise those that are pronominalised to *y*, which are called *loc(ative)* here (regardless of their semantics), as well as other prepositions which are occasionally selected for, but do not pronominalise, such as *pour* ‘for’ and *avec* ‘with’.

However, *y* can also correspond to a locative modifier, as in (6.2):

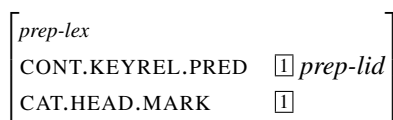


Figure 6.4: Prepositional marking

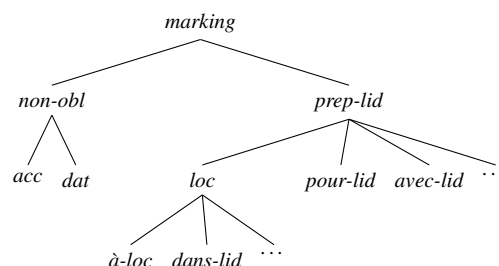


Figure 6.5: Hierarchy of marking values

- (6.2) a. J' ai bu du maté dans ce café. J' y ai bu
 I have drunk INDF.SG maté in this cafe I LOC have drunk
 du maté.
 INDF.SG maté
 'I had maté in that café. I had maté there.'
- b. Je dors dans mon lit. J' y dors.
 I sleep in my bed. I LOC sleep
 'I sleep in my bed. I sleep there.'

Neither of the verbs in these two examples strictly subcategorises for a locative or an oblique: *boire* 'drink' is a transitive verb, taking a single NP complement (here *du maté*), and *dormir* 'sleep' is intransitive.

Since the generation of pronominal affixes described above is treated by a general argument mapping principle operating on subcategorised elements of ARG-ST, such modifier uses of *y* require further attention. The simplest solution seems to be a type-raising approach, i.e. to turn a modifier into a selected dependent by lexical rule. In this I follow Miller & Sag (1997), who provide a similar treatment of non-local *en* (which I discuss in Section 7.3.2). The idea of type-raising of adjuncts also takes precedent in Bouma et al. (2001), who propose (citing earlier proposals by McConnell-Ginet, 1982; van Noord & Bouma, 1994; Manning et al., 1999) all postverbal modifiers should be type-raised to account for a range of non-canonical realisation phenomena, including chiefly extraction but also pronominalisation.³ Note that type-raising lexical rules are widely used in HPSG, cf. e.g. Crysmann (2011) concerning Hausa genitives, Przepiórkowski (1999a,b,c) for Polish adjuncts and their case assignment, and especially Kim & Sag (2002) for an analysis of French sentential negation. For the purposes at hand, it will be sufficient to restrict type-raising of adjuncts to the case of *y*, which amounts to a valence-alternation similar to an applicative.

The specifics of the type-raising lexical rule are given in Figure 6.6. It applies to the lexical entry of a verb, and augments its argument structure with a prepositional element.

³See critical discussion of this approach by Levine (2003), and a reply by Chaves (2009).

This new element is typed as *aff-ss*, ensuring it is realised as an affix, and its MARK(ING) is set to *loc* (recall Figure 6.5), which will trigger realisation as *y*. Along with the affixal element the locative pronominal semantics are simultaneously fixed relative to the verb's.

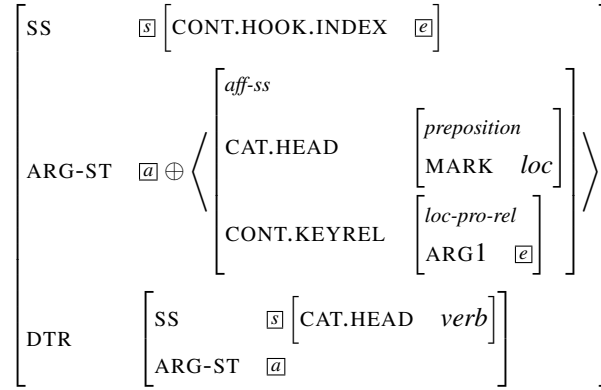


Figure 6.6: Locative argument extension rule

6.1.2 Verbal morphology

Now that the mechanisms that feed pronominal affixes into inflectional morphology have been made explicit, we can briefly address the assumptions to be made regarding the treatment of inflectional morphology itself. Although nothing crucial hinges on the exact choice of morphological framework or on the representation of the morphology–syntax interface, the expository formalisation proposed here will be useful in shedding light on the intricate morphosyntactic processes at play in the constructions under consideration.

In the spirit of recent work on inferential-realisation models of morphology, I consider that lexical entries start out with a specified inflectional paradigm, and that rules of inflection interpret the morphosyntactic properties in order to produce the desired realisation. Exponents are not stored in the lexicon, but rather introduced by the realisation rules, an especially convenient feature in dealing with the language's fusional typology.

Morphosyntactic properties are represented as unary or complex features habitually found under a lexical sign's INFL(ECTION), a set-valued feature appropriate of *lexical-signs*, which places inflectional information outside the reach of syntax in accordance with the principle of Lexical Integrity. For our purposes, the INFL feature can be seen as an agenda: inflectional morphology exhausts the contents it finds in the INFL set, and the fully inflected word enters syntax with an empty INFL set. This is illustrated by the two principles in Figures 6.7 & 6.8, where *word* refers to a subtype of *lex(ical)-sign* (distinct from e.g. *lexeme*) that can be manipulated by syntax.

$$\begin{bmatrix} \text{word} \\ \text{INFL} \quad \{ \} \end{bmatrix}$$

Figure 6.7: Inflection before syntax

$$\begin{bmatrix} \text{phrase} \\ \text{DTRS} \quad \text{list}(\text{word-or-phrase}) \end{bmatrix}$$

Figure 6.8: Word-based syntax

In the context of the present HPSG analysis, the simplest implementation of inflectional rules that will produce the desired outcome with our dataset is as extrinsically ordered unary rules operating on lexical signs. This formulation certainly loses some of the finesse of a full-fledged model of morphology like PFM (Stump, 2001) or IbM (Crysmann & Bonami, 2015), but will be simpler and sufficient for our purposes. An example is given in Figure 6.9, realising the masculine singular form *grand* (/gʁɑ̃/, ‘tall’) from the stem (assumed to be /gʁɑ̃d/ – see e.g. Bonami & Boyé, 2006). In modern versions of HPSG, lexical rules such as the one in Figure 6.9 are description-level schemata, and not meta-level rules generating lexical entries: certain subtypes of *lexical-signs* are simply given a feature, e.g. D(AUGH)T(E)R, which allows them to be derived from another *lexical-sign* (ultimately a daughterless *lexical-entry*). Thus the *word* in Figure 6.9 describes the application of an *infl(ectional)-rule* to the lexical entry of the adjective described under DTR. In such lexical rules, information not represented explicitly (e.g. here the features SYNSEM and ARG-ST) is often assumed to be structure-shared between daughter and mother. See Crysmann (2021) for an extensive presentation of morphology in HPSG.

$$\begin{bmatrix} \text{word} \\ \text{PHON} \quad f(\underline{p}) = /gʁɑ̃/ \\ \text{INFL} \quad \{ \} \\ \text{DTR} \quad \begin{bmatrix} \text{PHON} \quad \underline{p} /gʁɑ̃d/ \\ \text{INFL} \quad \left\{ \begin{bmatrix} \text{GEND} \quad \textit{masc} \end{bmatrix}, \begin{bmatrix} \text{NB} \quad \textit{sg} \end{bmatrix} \right\} \end{bmatrix} \end{bmatrix}$$

Figure 6.9: Inflection for SG.M of an adjective

In order to account for periphrasis and pronominalisation phenomena, a brief illustration of the analysis of French verbal inflection along the same lines needs to be sketched. The analysis that follows is largely based on Bonami & Boyé (2005). In addition to (chiefly suffixal) exponence, French verbal paradigms exhibit extensive stem allomorphy phenomena. Although French stem spaces are highly structured (Bonami & Boyé, 2002, 2003, 2007; Bonami et al., 2009), for convenience here I follow Bonami & Boyé (2005) in simply lexically listing words’ stems.

The structure in Figure 6.10 shows a step-by-step derivation of FUT.ANA.2PL *voud-*

riez ‘(you) would want’, a form that displays the maximum number of (non-pronominal) exponents. Since there are three such exponents ($/vud-ʁ-j-e/$), the derivation proceeds in four rules, one for each exponent following an initial stem selection rule. The first rule applies to a lexical entry with morphosyntactic properties [TREF *ana*, TNS *prs*, PRF —, AGR [PER 2, NB *pl*]] (the traditional *conditionnel*, or conditional, is analysed as an anaphoric future). It is a stem selection rule, which is represented by the providing of a PHON in the output that corresponds to one of the lexically listed stems, STEM10, a stem which is used in all future (deictic or anaphoric) forms, in this case $/vud/$. The next rule is an inflectional rule, which adds an exponent $-/ʁ/$ to the stem, also common to all future forms, generating $/vudʁ/$. The third step consists of another inflectional rule suffixing $-/j/$, an exponent specific to 1PL and 2PL of anaphoric and subjunctive tenses, producing $/vudʁj/$. Finally, a last inflectional rule appends the 2PL suffix $-/e/$, giving the fully inflected form $/vudʁje/$.⁴

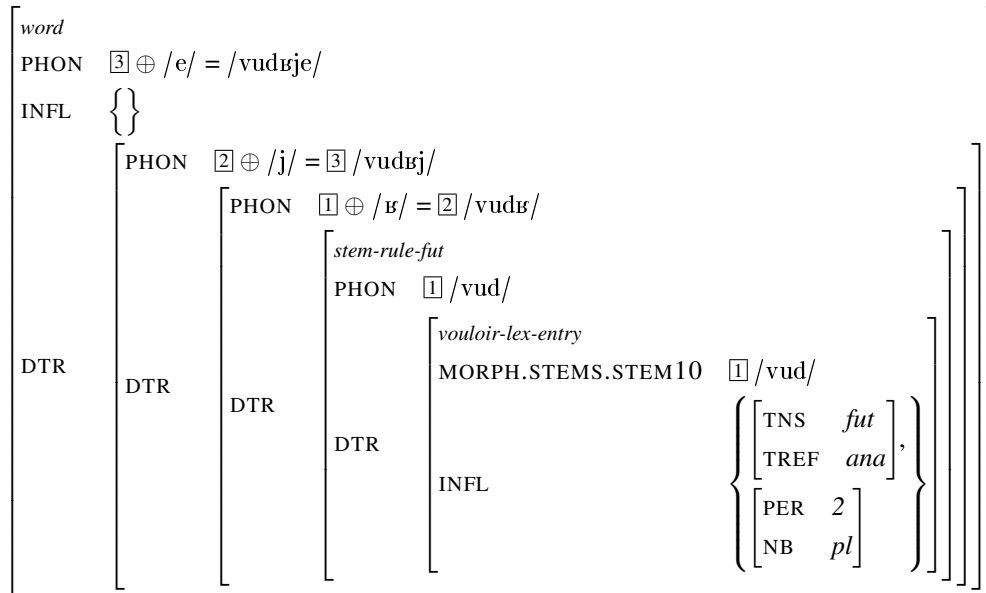


Figure 6.10: Inflection for FUT.ANA.2PL of a verb

⁴The question of what happens to the INFL feature over the various steps in the derivation is not addressed here explicitly. Because of multiple (mostly overlapping) exponence, such as the one displayed by the last two rules in the derivation in Figure 6.10, both of which concern 2PL, it is not sufficient to simply discharge the morphosyntactic properties off of INFL as they are expressed until the inflectional agenda is complete. This well-known problem means that the rules have to be extrinsically ordered. This is done in Bonami & Boyé’s analysis by organising the rules into PFM rule blocks, and can be equivalently formulated in the rule-cascade implementation by adding book-keeping features to inflectional rules, keeping track of what step in the derivation a given structure is in. The INFL set is percolated as is throughout the derivation, until the last inflectional rule which closes the derivation with an [INFL {}] constraint in the output.

Now that pre-pronominal inflection is covered, the treatment of weak pronominals as affixes can follow. The implementation is again based on Bonami & Boyé (2005)'s PFM analysis. Leaving aside subject pronominals (*je*, *tu* etc.) and negative marker *ne*, the French pronominal system consists of five affixal positions, which are suffixal in the positive imperative and otherwise prefixal. Contrary to pre-pronominal inflection, the full number of positions cannot easily be justified by a single form, as some combinations of pronominals go against morphotactic, valency, and possibly processing principles: e.g. there is no attested example of the form *me la leur y en* + V. However, the positions can still be demonstrated by pairwise oppositions, e.g. *y en* in *il y en a* 'there is some' and *leur y* in *leur y donnera sa décision* 'will give them her decision there'.

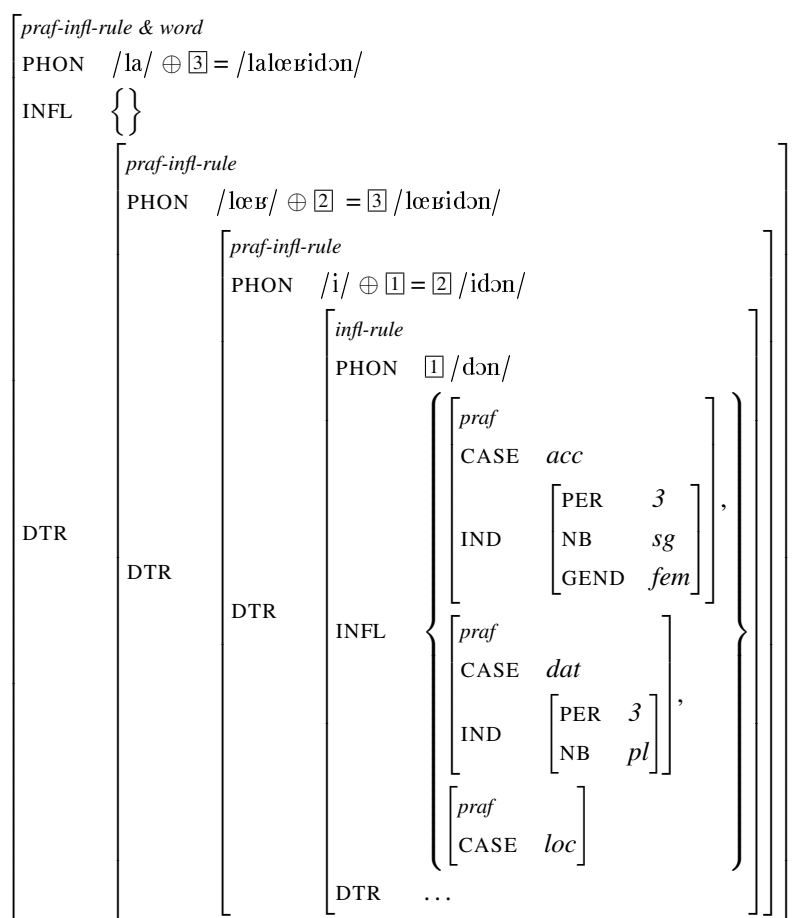
An analysis in five rule blocks can therefore account for the data. As an example, Figure 6.11 illustrates the derivation of *la leur y donne* (/lalœʁidɔ̃/) 'gives it to them there'. Picking up from an already tense- and agreement-inflected form,⁵ having also previously undergone the argument mapping rule at the lexical entry level (Figure 6.2), a rule inserts the (derivationwise) first prefix, locative *y* /i/-. The second step consists of prefixation of dative *leur* /lœʁ/-, and the derivation straightforwardly concludes with accusative *la* /la/-.

In sum, the proposal will assume an approach to morphology in which unary rules realise morphosyntactic properties from an inflectional agenda INFL that may contain, in addition to TAM and agreement features specified in the entry, pronominal arguments.

6.1.3 Reverse selection

In this section we turn to the implementation of periphrasis by reverse selection (Bonami, 2015). As exposed in Section 5.3, the core intuition behind this approach is that periphrases, like idioms, are tied together not just by usual syntactic dependencies, but by mutual selection between the two parts. That is, in addition to syntactic selection from the ancillary to the lexical element, the lexical element in turn imposes selectional constraints on the ancillary element. This mechanism is called REVERSE SELECTION. Although Bonami (2015) formalises the mechanism on the morphological side in the framework of PFM (Stump, 2001), the syntactic workings of the REV(ERSE)-SEL(ECTION) feature remain to be fully worked out. I now propose a formalisation of periphrastic reverse selection and of its application to French periphrasis.

⁵The issue arises again whether to empty the INFL set before the end of the full derivation. For the sake of simplicity, the structure in Figure 6.11 represents the input inflected form /dɔ̃/ without any of the non-pronominal morphosyntactic properties; some of the phenomena listed in Section 3.1.5 as morphophonological idiosyncrasies, such as the null realisation of a locative with the future stem of *aller*, militate instead in favour of INFL staying constant from stem selection to the very end of the derivation (i.e. pronominal affixation).



6.1.3.1 Value of REV-SEL

(6.3) j' ai déjà eu travaillé un peu partout dans la principauté
I have already had worked a bit everywhere in the principality
'I've had the opportunity to work here and there in the principality'
(Borel, 2018: 3, my translation)

The overcomposed form in (6.3) is a single periphrase, in which the lexical verb requires two different auxiliaries to express an experiential meaning (Borel, 2018). Bonami cites a similar case from Bulgarian by Popova & Spencer (2013), in which (a possible realisation

of) the perfective future is realised using two successive forms of the copula, one of which is not otherwise found in the Bulgarian periphrastic system. Such cases clearly attest to the possibility of multiple periphrastic exponence (Bonami, 2015: 37), in which a morphosyntactic feature's exponent is not synthetic, nor simply the presence of a single auxiliary in the syntactic context, but that of (at least) two separate auxiliaries.

The existence of multiple periphrastic exponence alone justifies an iterable value of the REV-SEL feature. But there is at least one more reason why this encoding is desirable, which comes from the analysis of copular sentences. Recall from the discussion in Section 5.2.2 that I take the position that copular constructions constitute a form of periphrasis, the copula acting as an auxiliary to allow non-verbal predicates to express tense and other properties. When that predicate is an adjective, an additional periphrastic dependency can independently take place, beside the one with the copula, in the case of a comparative:

- (6.4) Ce livre est plus récent.
 this book is more recent
 ‘This book is more recent.’

Under our assumptions, *récent* in (6.4), like *travaillé* in (6.3) but for different reasons, selects for two different ancillary elements (*est* and *plus*), corresponding to two different periphrases that both involve the same lexical item.

The second point to consider concerns percolation. An encoding of reverse selection that only allows for one dependency would cause too much rigidity in dealing with classes of words that can intervene in a periphrase. As will be further discussed in the next section, examples such as the one below point to the need for reverse selection to be percolated across modifiers.

- (6.5) Vous avez clairement démontré le théorème.
 you have clearly proved the theorem
 ‘You have clearly proved the theorem.’

In other words, *clairement* in (6.5) needs to allow the selection from the participle to the auxiliary to go through. In the tradition of HPSG, this is best done via lexical threading, similar to SLASH amalgamation (cf. Section 2.3 – Ginzburg & Sag, 2000). What this means is the adverb's own description will contain the specification for the auxiliary originating on the participle it modifies; more generally, words may carry reverse selection requirements that they did not create themselves, but are simply passing up the structure. When such words are themselves entering a periphrase, this makes for a third kind of multiple REV-SEL values, as in (6.6) where *clairement* additionally enters a periphrase of its own with comparative auxiliary *plus*.

- (6.6) Vous avez plus clairement démontré le théorème que moi.
 you have more clearly proved the theorem than 1SG
 ‘You have more clearly proved the theorem than me.’

To summarise, evidence suggests that reverse selection should be encoded using a data structure rich enough to contain more than one dependency, such as a set.

The reasoning above does not necessarily entail that the value of the feature REV-SEL be a set rather than e.g. a list. However, cases in which the order of the ancillary elements cannot be derived independently from outside-in syntactic selection and/or appropriate morphological constraining of the auxiliaries have yet to be found. Although the possibility of stipulating the order in which the auxiliaries should be met could be interesting should cases arise in which *X Y* and *Y X* are both licit sequences and *X Y Z* but not *Y X Z* is allowed with *Z* reverse-selecting for *X* and *Y*, for the present purposes we can dispense with ordering issues and rely on a set.

As to the contents of the set, Bonami assumes they are of type *infl*, a type used to describe the value of the feature INFL and describing inflectional content: “I assume that elements of REV-SEL are of type *infl*, because I have not encountered situations where more information needs to be referred to via reverse selection. However nothing crucial hinges on this choice.” (Bonami, 2015: 45). Although such situations will be discussed later concerning medio-passive causatives (see Section 8.4), I shall start out by accepting this assumption and adapting it to the feature geometry, in which INFL is itself set-valued. Reverse selection is therefore implemented as a set of sets of inflectional properties.

6.1.3.2 Feature geometry and percolation of REV-SEL

The second issue to settle is the placement of REV-SEL in the sign’s feature geometry, and the principles governing its percolation and satisfaction.

In order to regulate the percolation of REV-SEL requirements and their discharge, Bonami (2015) states that the ancillary element in a periphrase must syntactically select a projection of the lexical head carrying the reverse selection requirement. If this configuration is met, the INFL of the ancillary element can satisfy corresponding requirements in REV-SEL. In his original informal formulation it is a direct relation between words, licensed by the syntactic relation they stand in. To make the geometry more explicit, we need to encode percolation and discharge of REV-SEL explicitly in our phrase structure schemata. Syntactic selection in HPSG proceeds via valence lists (SUBJ, COMPS) with the head selecting the non-head, or, via MOD, from an adjunct to the head. A relevant case of an adjunct acting as an ancillary element is *plus* in comparatives such as *plus intelligente* ‘more intelligent’, selecting the adjectival head that carries the reverse selection requirement via MOD. I therefore propose to place REV-SEL under CAT, a feature available to both words and phrases, and which (unlike HEAD) is not systematically projected. We can then require that in head–valence structures, i.e. subject–head and

head–complement structures, the REV-SEL of the mother is token-identical to that of the head daughter, whereas in head–adjunct structures (and in functor–head structures in general, including e.g. specifier–head), it is token-identical to that of the adjunct daughter, as given in Figure 6.12.

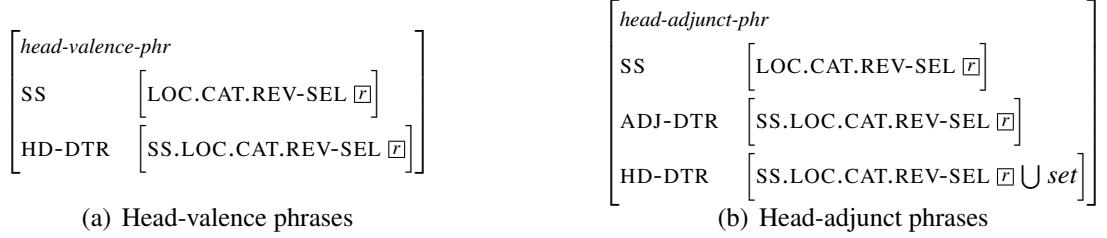


Figure 6.12: Percolation of REV-SEL

Similarly, we can distinguish saturation of an argument’s REV-SEL by a head from saturation of a head’s REV-SEL by an adjunct: because adjuncts do not close off the projection of a head, an adjunct may satisfy some requirement of the head, leaving the others open to be satisfied by another adjunct or a higher head. A relevant case are (again) predicative comparatives, such as *elle est [plus intelligente]* ‘she is [more intelligent]’, where the adjunct periphrastically realises the comparative, but tense and agreement are realised by the copula. By contrast, a governing head closes off the projections of its arguments, meaning that all REV-SEL requirements of its arguments must be met. We can capture these two situations by means of the constraints on lexemes in Figure 6.13.

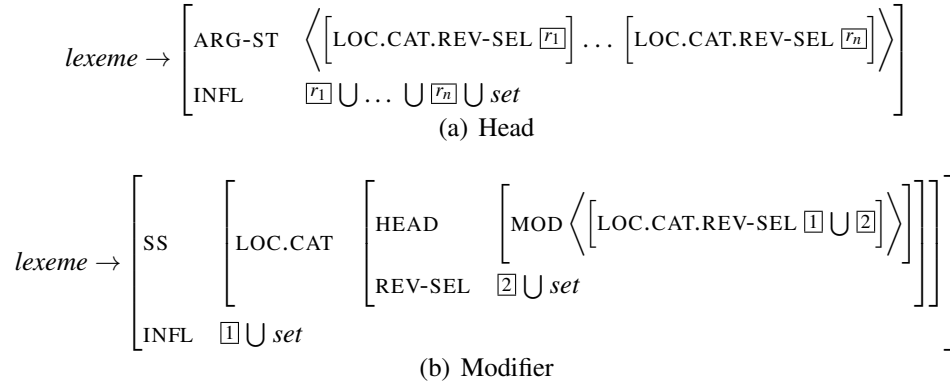


Figure 6.13: Constraints on saturation of REV-SEL

This way, we can ensure that adjuncts, such as comparative *plus* ‘more’ can discharge a head’s REV-SEL requirement. Adjuncts that are not ancillary elements in a periphrasis simply pass on the head’s REV-SEL value by equating it with their own REV-SEL. By placing REV-SEL under CAT, we also make the right predictions with respect to coordinate

structures, requiring the ancillary element to satisfy the same requirement in all conjuncts (see Bonami, 2015).

The phenomenon we are interested in here is a bounded dependency, and consequently only the lexical element and its projections in syntax should be able to pass on the periphrastic exponence constraint. To clarify, the issue of the percolation of the reverse selection feature is distinct from that of the possible syntactic configurations in which the auxiliary and the lexical element may stand. As Bonami & Webelhuth (2013); Bonami (2015) show, such configurations are numerous, but this variation should be accounted for in the subcategorisation pattern of the ancillary element. An analysis of clitic climbing as periphrastic exponence will therefore be compatible with the hierarchical structure of the VP defended in Chapter 4, since the VP node projected by the participle will successfully inherit its head's REV-SEL constraint according to the constraints in Figures 6.12–6.13.

In summary, reverse selection is implemented as a feature REV-SEL appropriate of *category*, valued as a set of dependencies (each one itself a set of morphosyntactic properties). Its percolation is defined in phrase structure in a way that makes reverse selection a local dependency between a functor and its argument which can hold across a wide range of syntactic configurations, including both head and adjunct ancillary elements.

6.1.4 Application: French verbal periphrases

This section combines the ingredients from the previous sections with the description of the periphrastic data from Section 5.1 to provide a working analysis of the French periphrastic system.

Given the analysis of periphrasis by reverse selection proposed in the previous section and the practical implementation of morphology introduced in Section 6.1.2, we now have all the tools to produce specific rules for periphrastic exponence. These rules are formalised in the same way as synthetic rules (e.g. Figure 6.9), but additionally introduce a REV-SEL dependency, thus approximating Bonami (2015)'s PFM analysis.

An example is given in Figure 6.14 for perfective periphrasis, i.e. an aspectual periphrase that subsumes (*inter alia*) the traditional labels of *futur antérieur*, *subjonctif passé* and (one of the uses of the) *passé composé*. The rule selects for a verb carrying a [P(E)RF(ECTIVE) +] property under INFL, but applies regardless of the values of T(E)NS(E), T(EMPORAL)REF(ERENCE) and AGR(EEMENT), since the perfective periphrastic pattern combines regularly with the entire TAM and agreement paradigm.

Beside discharging the realised properties from INFL, it has two effects in the output. Firstly, the local, synthetic exponent is produced, in the form here of the selection of the stem corresponding to participles (*vclass-12*). Secondly, the periphrastic exponent is selected for as a reverse selection for an auxiliary. This takes the form of a set of properties under REV-SEL. The properties selected for in the auxiliary include all the TAM and agreement properties that are in the perfective periphrase expressed on the

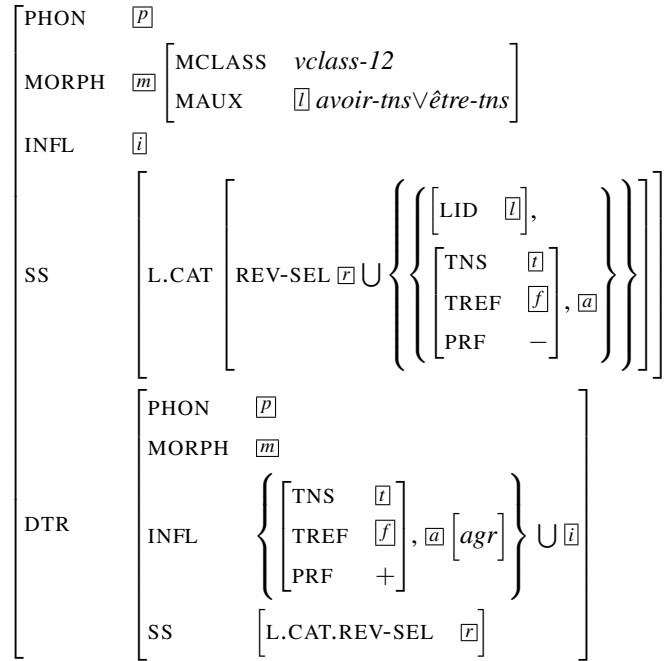


Figure 6.14: Perfective periphrasis

auxiliary: TNS, TREF and AGR. The perfectivity feature PRF is also included, but its value is the opposite (–) of that of the participle (+): the auxiliary in the perfective periphrase is itself a synthetic, morphologically imperfective form.

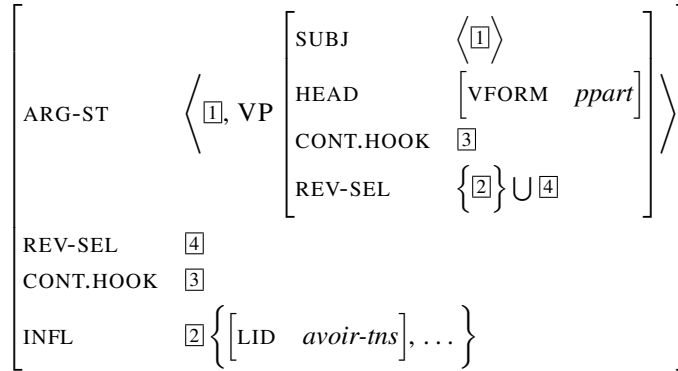
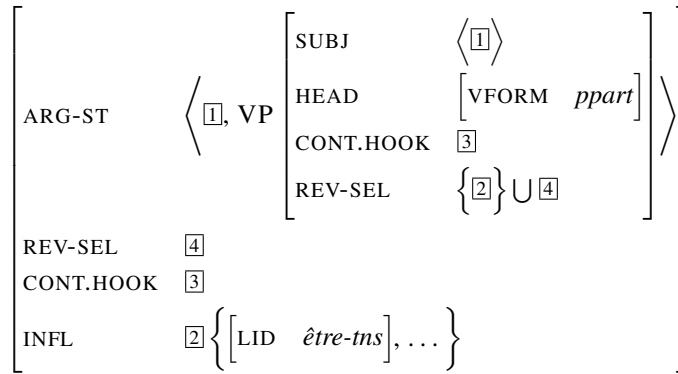
The final element in the newly created periphrastic dependency is a reference to the auxiliary’s identity to account for auxiliary selection. As was discussed in Section 5.1.1.1, auxiliary selection is lexically conditioned, and a treatment as inflectional classification following Bonami (2015) will suffice for our purposes.⁶ The information regarding a verbal lexeme’s choice of auxiliary is therefore encoded under its MORPH feature as either [MAUX *avoir-tns*] or [MAUX *\acute{e}tre-tns*]. The value of this feature is used to constrain the type of the selected auxiliary’s L(EXEME)ID(ENTIFIER), thus ensuring the auxiliary’s identity matches the one specified by the participle’s morphological information.

With the bottom half of the construction now covered by the perfective periphrasis rule, we can now account for the top of the construction by describing the entries for tense auxiliaries *avoir* and *\acute{e}tre*. These entries are given in Figures 6.15–6.16.⁷ In the light of the discussion in Chapter 4, *avoir* and *\acute{e}tre* are both subject-raising verbs with a VP complementation pattern (I return to the tense auxiliaries’ phrase-structural properties in

⁶I clarify the view of auxiliary selection adopted here upon extending the analysis to the *avoir-s’\acute{e}tre* alternation in Section 6.4.2.

⁷The two entries are overly redundant for expository purposes, and all of their commonalities can be ascribed to a single supertype *tense-aux-lex* to streamline the analysis.

Section 6.3). They are semantically empty auxiliary verbs, which can translate in HPSG to the raising of the content feature HOOK. The only innovation is that their auxiliary status allows them to terminate a periphrastic dependency originating in a dependent: their complement, a participial VP, carries a REV-SEL requirement. This requirement is evaluated by matching it against the contents of the auxiliary's INFL.⁸ Since INFL contains the lexeme identifier (LID), this enforces not only the inflectional constraints imposed by the participle, but also the correspondence with the specified choice of auxiliary.

Figure 6.15: Lexical entry of tense auxiliary *avoir*Figure 6.16: Lexical entry of tense auxiliary *\acute{e}tre*

The tree in Figure 6.17 summarises the analysis with a derivation for *aura fini son travail demain* ‘will have finished their work tomorrow’. The past participle *fini* has undergone the perfective periphrasis rule (Figure 6.14), and is therefore in participial form and launches a REV-SEL dependency. This dependency contains information corresponding to the verb’s tense (in this case deictic future) and agreement properties (corresponding

⁸In contrast to the proposal in Bonami (2015: 45–46), this is essentially an entirely lexicalised implementation of periphrastic dependencies, which allows us to adequately transmit inflectional constraints across various phrase structure configurations without modifying the standard HPSG syntactic schemata.

here to the index of the subject NP_{*i*}). It also selects the LID value *avoir-tns* in accordance with the auxiliary specification on the verb’s MAUX feature. The reverse selection feature is projected to VP from the verb as the phrase’s head, according to the percolation defined for head–valence phrases in Figure 6.12(a); it is again projected to the next VP node after combination with a VP modifier, this time threading the feature through the modifier – recall the head–modifier phrase from Figure 6.12(b). Finally, the dependency is terminated by the auxiliary *avoir*, which inherits the correct INFL properties from the VP complement’s REV-SEL. Note that the lexical verb’s tense semantics are inherited by the raising of HOOK, which is projected along head paths.

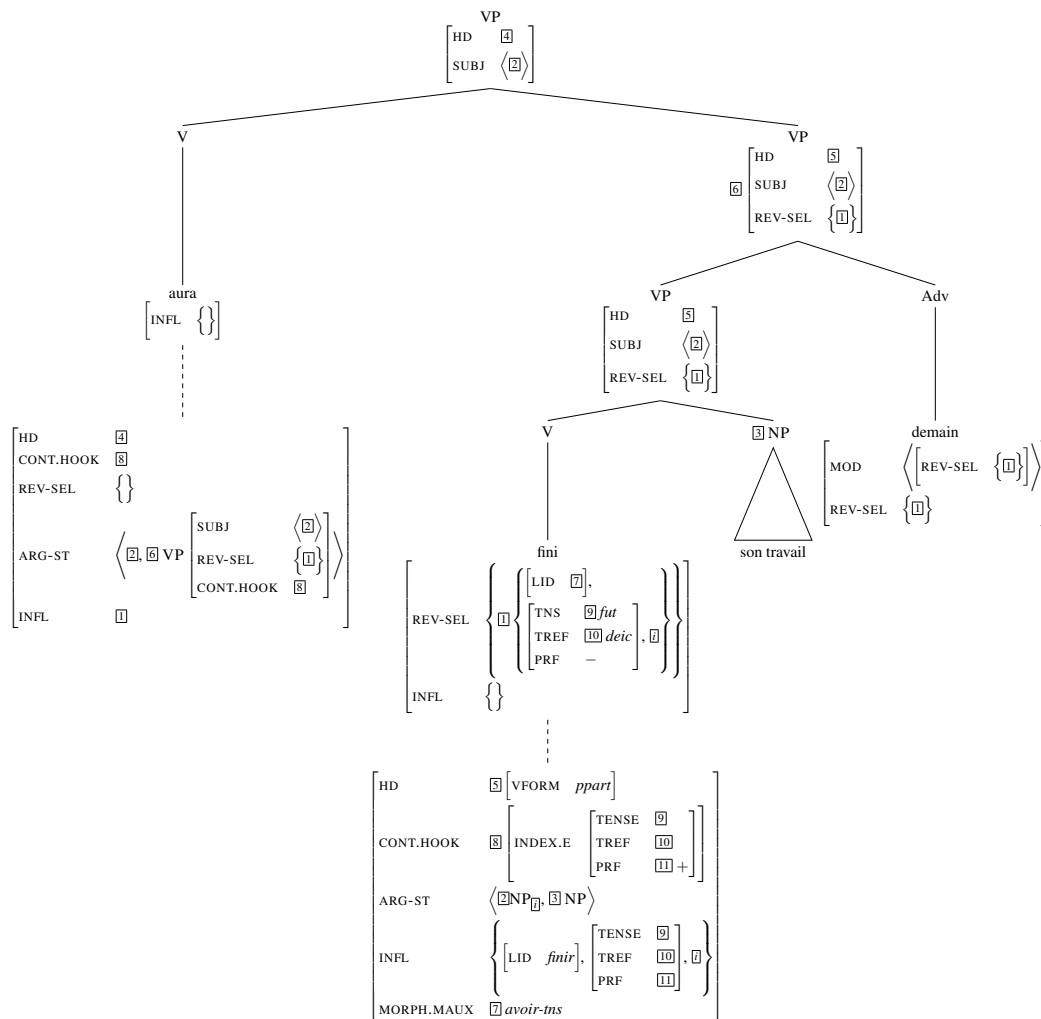


Figure 6.17: Information flow in the perfective periphrase

Notice that the simple perfective case already allows us to illustrate the treatment of non-compositionality. While morphological information is governed by the INFL and

REV-SEL features, semantic composition follows its course in the standard way: *avoir* is a semantically empty auxiliary verb, which raises its complement's content. This means that even though the syntactic head of the finite VP is inflectionally imperfective, the correct perfective aspect is produced in the semantics.

The past use of the *passé composé* will now let us explore the treatment of non-compositionality further, as this use requires an auxiliary in the present tense. The structure in Figure 6.18 represents the rule for past periphrasis.⁹ This time the rule applies to a verb with a deictic past property (i.e. [TNS *pst*, TREF *deic*]), and the auxiliary selected by REV-SEL has to be present tense (i.e. [TNS *prs*, TREF *deic*]).¹⁰

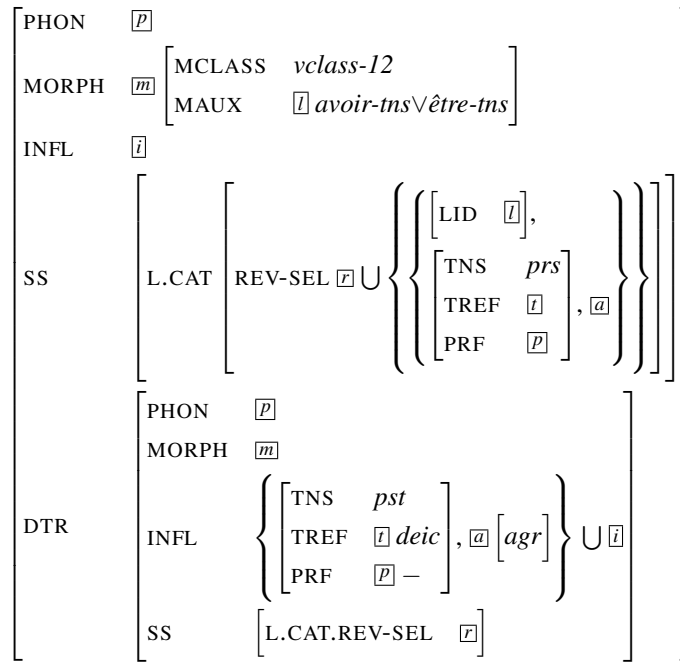


Figure 6.18: Past periphrasis

The current analysis does not call for a distinction between perfective and past auxiliaries. We can therefore proceed immediately to give a derivation for a past periphrase. Figure 6.19 represents the relevant features of the structure for *a fini son travail hier* ‘finished their work yesterday’. The structure is exactly parallel to the previous perfective example, except for the inflectional and semantic TAM features. For the same reasons as

⁹Much of the similarity between the perfective and past periphrasis rules can be abstracted under a common supertype, i.e. *participle-periph-rule*, capturing the stem selection, auxiliary selection and agreement periphrasis, and leaving the two subtypes to simply cover the differences in TAM specifications.

¹⁰Notice that aspect is constrained to imperfective. This is motivated by considerations of ordering of the combination of the two uses of the *passé composé* in standard overcomposition. I elaborate on this in Section 6.4.1.2.

which depends instead of the infinitive's own semantics.

$$\left[\begin{array}{l} \text{PHON} \quad \boxed{p} \\ \text{MORPH} \quad \boxed{m} \left[\text{MCLASS} \quad \text{vclass-12} \right] \\ \text{INFL} \quad \boxed{i} \\ \text{SS} \quad \left[\begin{array}{l} \text{L.CAT} \quad \left[\text{REV-SEL} \quad \boxed{r} \cup \left\{ \left[\begin{array}{l} \text{LID} \quad \text{aller-tns} \end{array} \right], \left[\begin{array}{l} \text{TNS} \quad \text{prs} \\ \text{TREF} \quad \boxed{r} \\ \text{PRF} \quad \boxed{p} \end{array} \right] \right\} \right] \end{array} \right] \\ \text{DTR} \quad \left[\begin{array}{l} \text{PHON} \quad \boxed{p} \\ \text{MORPH} \quad \boxed{m} \\ \text{INFL} \quad \left\{ \left[\begin{array}{l} \text{TNS} \quad \text{fut} \\ \text{TREF} \quad \boxed{r} \text{ deic} \\ \text{PRF} \quad \boxed{p} \end{array} \right], \boxed{a} \left[\text{agr} \right] \right\} \cup \boxed{i} \\ \text{SS} \quad \left[\text{L.CAT.REV-SEL} \quad \boxed{r} \right] \end{array} \right] \end{array} \right]$$

Figure 6.20: Future periphrasis

The entry for tense auxiliary *aller* is equally straightforward: as Figure 6.21 illustrates, *aller* can also be treated as a semantically empty, subject-raising periphrastic auxiliary. The only difference is, again, in the VP complement's VFORM.

$$\left[\begin{array}{l} \text{ARG-ST} \quad \left\langle \boxed{1}, \text{VP} \left[\begin{array}{l} \text{SUBJ} \quad \langle \boxed{1} \rangle \\ \text{HEAD} \quad \left[\text{VFORM} \quad \text{inf} \right] \\ \text{CONT.HOOK} \quad \boxed{3} \\ \text{REV-SEL} \quad \{ \boxed{2} \} \end{array} \right] \right\rangle \\ \text{CONT.HOOK} \quad \boxed{3} \\ \text{INFL} \quad \boxed{2} \left\{ \left[\text{LID} \quad \text{aller-tns} \right], \dots \right\} \end{array} \right]$$

Figure 6.21: Lexical entry of tense auxiliary *aller*

A derivation for *allait finir son travail le lendemain* ‘would finish their work the next day’, mirroring the one for the previous past periphrase, is given in Figure 6.22.

Inflectional periphrasis can therefore be formulated on a par with synthetic inflection, i.e. in the implementation proposed here as a lexical rule on verbs that outputs not only a change in phonology, but also a periphrastic dependency in the form of a reverse

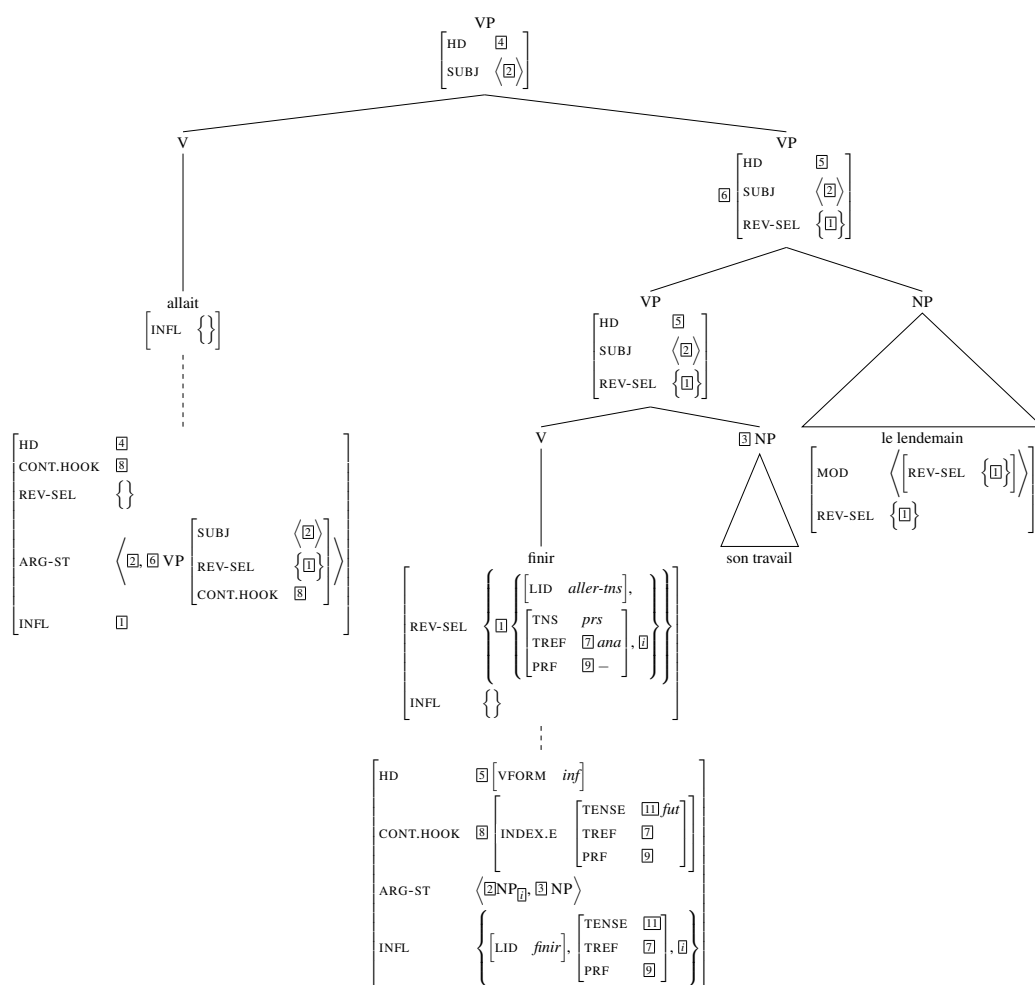


Figure 6.22: Sample derivation: future periphrase

selection for an auxiliary. In the next section we can finally turn to clitic climbing, which reduces to the special case in which the input of such rules contains the specification of a pronominal affix.

6.2 Basic clitic climbing

I have now provided a basic model of French verbal inflection (Section 6.1), including how affixal morphology fits in the paradigm (Section 6.1.1) and the basics of synthetic inflection (Section 6.1.2). Building on Bonami (2015), I have made explicit the general constraints on percolation and saturation of REV-SEL requirements (Section 6.1.3). I have shown in Section 6.1.4 how inflectional rules can introduce requirements for periphrastic realisation via REV-SEL, complementing direct synthetic realisation. We are now in a position to discuss how pronominal affixes fit in the picture.

6.2.1 Composed tenses

All that is needed now to generate clitic climbing in tense auxiliary constructions is to apply the mechanisms responsible for transmitting TAM and agreement properties from the participle onto the auxiliary to pronominal affixes. This requires only a slight adjustment to the rules for perfective and past periphrasis previously given, namely that they delegate not only TAM and agreement properties from INFL to REV-SEL, but additionally any *praf* properties they may find on INFL. This is done in Figures 6.23 and 6.24, respectively, in which *set(praf)* describes a (possibly empty) set of pronominal affixes.

The descriptions of tense auxiliaries *avoir* and *être* in Figures 6.15–6.16 are readily capable of accommodating clitic climbing. Indeed, the two auxiliaries do not constrain the contents of their complement’s REV-SEL that they inherit onto INFL, except for controlling the value of LID. This means that pronominal affixes will enter the auxiliaries’ property set in exactly the same way as TAM-related properties.

Thus, we can now produce a full derivation of clitic climbing as periphrasis. Figure 6.25 illustrates the analysis with a structure for *lui a parlé de botanique* ‘talked to her about botany’. Having undergone the argument mapping rule in Figure 6.2¹¹ and the past periphrasis rule in Figure 6.24, the lexical element (participle *parlé*) now carries a reverse selection constraint for auxiliary *avoir* to express its indirect object as an affix, along with a TAM and agreement specifications. This is projected to the participial VP, which makes it accessible for auxiliary *avoir* to use as input on its own INFL at the level of the lexical entry; inflectional rules subsequently apply to the auxiliary’s inherited INFL to produce the required outcome, a present form with a dative 3SG affix (*lui a*).

¹¹Note that Figure 6.25 and subsequent derivations start directly with the output of the argument

$$\begin{array}{c}
\left[\begin{array}{c}
\text{PHON} \quad \boxed{p} \\
\text{MORPH} \quad \boxed{m} \left[\begin{array}{c} \text{MCLASS} \quad vclass-12 \\ \text{MAUX} \quad \boxed{l} \textit{avoir-tns} \vee \textit{\hat{e}tre-tns} \end{array} \right] \\
\text{INFL} \quad \boxed{i} \\
\text{SS} \quad \left[\begin{array}{c} \text{L.CAT} \quad \left[\text{REV-SEL} \quad \boxed{r} \cup \left\{ \left\{ \begin{array}{c} \text{LID} \quad \boxed{l}, \\ \text{TNS} \quad \boxed{l} \\ \text{TREF} \quad \boxed{r}, \boxed{a} \\ \text{PRF} \quad - \end{array} \right\} \cup \boxed{f} \right\} \right] \end{array} \right] \\
\text{DTR} \quad \left[\begin{array}{c}
\text{PHON} \quad \boxed{p} \\
\text{MORPH} \quad \boxed{m} \\
\text{INFL} \quad \left\{ \left[\begin{array}{c} \text{TNS} \quad \boxed{l} \\ \text{TREF} \quad \boxed{r} \\ \text{PRF} \quad + \end{array} \right], \boxed{a} \left[\textit{agr} \right] \right\} \cup \boxed{f} \textbf{set}(\textit{praf}) \cup \boxed{i} \\
\text{SS} \quad \left[\text{L.CAT.REV-SEL} \quad \boxed{r} \right]
\end{array} \right]
\end{array} \right]
\end{array}$$

Figure 6.23: Perfective periphrasis, revised

$$\begin{array}{c}
\left[\begin{array}{c}
\text{PHON} \quad \boxed{p} \\
\text{MORPH} \quad \boxed{m} \left[\begin{array}{c} \text{MCLASS} \quad vclass-12 \\ \text{MAUX} \quad \boxed{l} \textit{avoir-tns} \vee \textit{\hat{e}tre-tns} \end{array} \right] \\
\text{INFL} \quad \boxed{i} \\
\text{SS} \quad \left[\begin{array}{c} \text{L.CAT} \quad \left[\text{REV-SEL} \quad \boxed{r} \cup \left\{ \left\{ \begin{array}{c} \text{LID} \quad \boxed{l}, \\ \text{TNS} \quad \textit{prs} \\ \text{TREF} \quad \boxed{l} \\ \text{PRF} \quad \boxed{p} \end{array} \right\} \cup \boxed{f} \right\} \right] \end{array} \right] \\
\text{DTR} \quad \left[\begin{array}{c}
\text{PHON} \quad \boxed{p} \\
\text{MORPH} \quad \boxed{m} \\
\text{INFL} \quad \left\{ \left[\begin{array}{c} \text{TNS} \quad \textit{pst} \\ \text{TREF} \quad \boxed{l} \textit{deic} \\ \text{PRF} \quad \boxed{p} - \end{array} \right], \boxed{a} \left[\textit{agr} \right] \right\} \cup \boxed{f} \textbf{set}(\textit{praf}) \cup \boxed{i} \\
\text{SS} \quad \left[\text{L.CAT.REV-SEL} \quad \boxed{r} \right]
\end{array} \right]
\end{array} \right]
\end{array}$$

Figure 6.24: Past periphrasis, revised

mapping rule, omitting the lexical entry for the sake of representational conciseness.

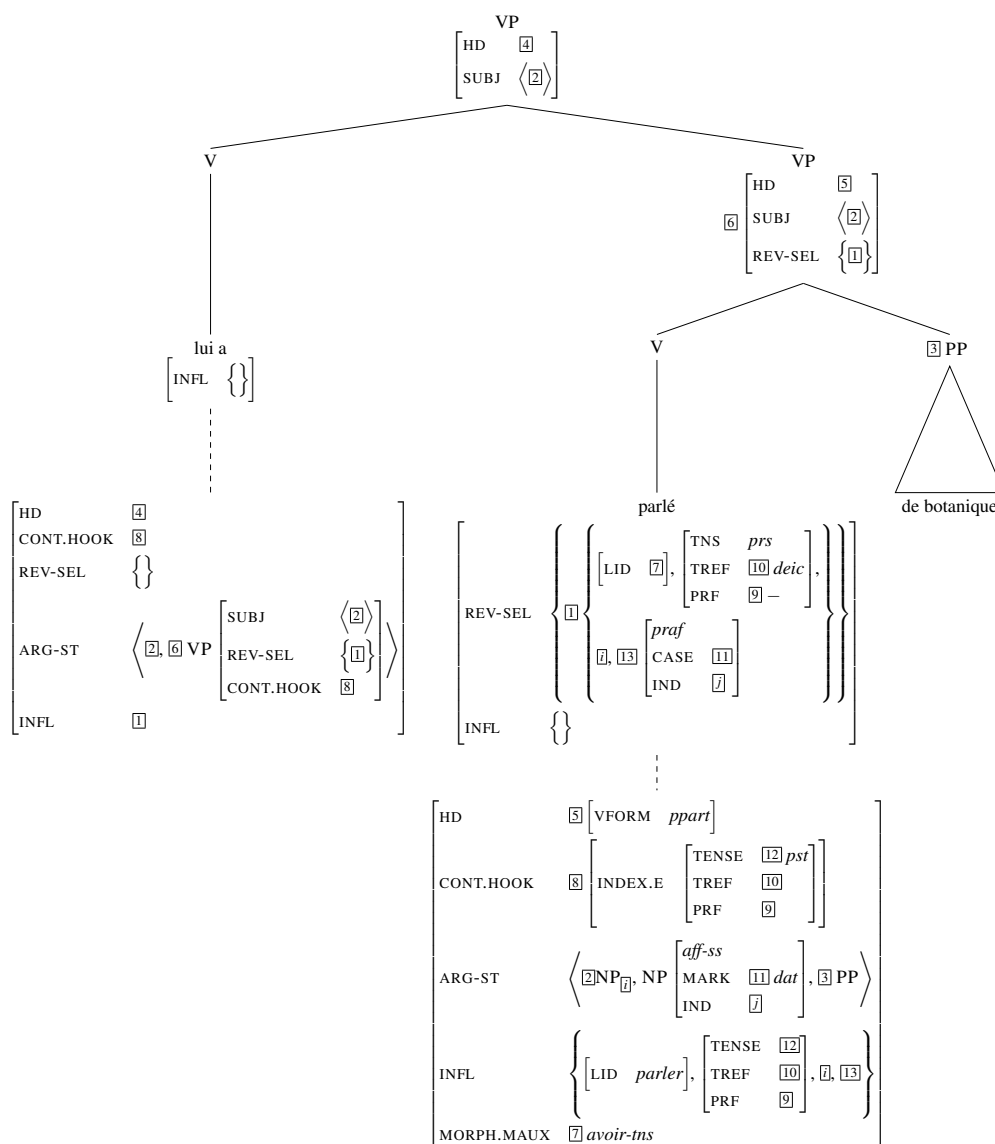


Figure 6.25: Clitic climbing as periphrasis

In sum, we can see that clitic climbing to tense auxiliaries can be derived as a near by-product of a morphological treatment of pronominal affixation combined with an implementation of inflectional periphrasis *à la* Bonami (2015); the only addition to the independently required ingredients formulated in Section 6.1 is simply the inclusion of pronominal arguments in the relevant periphrastic inflectional rules.

6.2.2 The recent past and periphrastic future

As was discussed in the previous chapter (Table 4.1), clitic climbing and periphrasis do not fully coincide in French. In particular, the periphrastic future and the recent past are periphrases that do not license clitic climbing. This fact allows us to justify a tacit analytical choice in the proposal for clitic climbing made in the previous section: that clitic climbing is encoded in the past/perfective periphrasis rule, rather than as a separate, general rule. In principle, nothing prevents us from segmenting (so to speak) the various components of the periphrastic dependency into separate subsequent periphrasis rules; taking into account only the *avoir* and *être* constructions, one might want to separate TAM periphrasis from pronominal periphrasis. This would have the benefit of a more coherent organisation of the inflectional rules, as the pronominal periphrasis rule could then be placed in the same rule block as the synthetic pronominal inflectional rules. However, the periphrastic future and the *venir de* construction suggest otherwise, as they do not license clitic climbing.

At this point, another possibility presents itself: the contrast between the behaviour of *avoir/être* and that of *aller/venir de* could be attributed to the form of the lexical item. The past participles found in the first case are defective (recall Section 3.1.4): perhaps because of their adjective-like morphology, they can never host pronominal affixes. *Aller* and *venir de*, on the other hand, involve infinitival complements. It would be possible then to treat the contrast as Pāṇinian competition: pronominal affixes are realised synthetically with forms that are verbs *stricto sensu*, i.e. to the exclusion of past/passive participles and predicative adjectives, which are adjectival, while periphrastic realisation acts as a last-recourse default strategy for the aforementioned adjectivals, which lack the morphology to realise pronominals synthetically.

However, this generalisation does not hold up to the diversity of clitic climbing in French. Indeed, it is contradicted by causative and perception verbs: as already mentioned and illustrated again in (6.7) below, such constructions are able to combine clitic climbing and an infinitival lexical item.

- (6.7) Je leur ai fait offrir des fleurs par leurs amies.
 I 3PL.IO have made offer INDF.PL flowers by their friends
 ‘I had their friends offer them flowers.’

I return to the treatment of causative constructions in the next chapter.

The heterogeneity of French clitic climbing therefore seems irreducible to morphosyntactic properties of the constructions it appears in, and seems to involve some degree of arbitrariness. I therefore propose to treat clitic climbing in French as a morphological stipulation: rules of periphrasis in French may decide on a case-by-case basis which properties to delegate to the auxiliary, and in particular whether to include pronominal affixes. This is essentially what was done in the previous section for the past and perfective rules, and the same can be done for the future and *venir de* periphrases by specifying that their rules only select for TAM and agreement properties of the auxiliary, and not for pronominal affixes. This is already done by the rule for future periphrasis in Figure 6.20. In this way, the French recent past and periphrastic future are both cases of SPLIT PATTERNS in Anderson (2006)'s typology: morphosyntactic information is split between the auxiliary and lexical elements, with TAM and agreement being realised on the former, while the latter realises pronominal arguments.

A derivation can now be given for a future periphrase involving pronominal affixes: as illustrated by Figure 6.26 for *allait le finir le lendemain* 'would finish it the next day', the lexical verb launches a periphrastic dependency for auxiliary *allait*, but also realises its accusative affix synthetically.

6.2.3 Passives and predicatives

Clitic climbing in passive and predicative constructions can also be covered by the periphrasis approach quite straightforwardly. Let us start by defining the extent of the phenomenon explicitly. The class of predicates *from which* clitic climbing is licit comprises most predicative complements the copula can take: adjectives, passive participles, as well as some nouns.¹² Since some members of these categories (at least among the adjectives) cannot be used predicatively (6.8), I assume a feature [PR(E)D(ICATIVE) ±] represents this lexical variation, and is set to – for words like *précédente* 'previous'.

- (6.8) * Elle est précédente.
 she is previous

The relevant predicate class can therefore be characterised as X[PRD +].

Much like the past/perfective participles from the previous section, predicative Xs are morphologically defective: neither passive participles, which are morphologically identical to past/perfective participles, nor adjectives or nouns can directly realise tense and associated properties. They can however make use of the copula as a tense auxiliary, delegating their unrealised morphosyntactic properties to *être* in order to extend their paradigm. In our approach, this is done quite simply by means of an inflectional periphrasis rule.

¹²Clitic climbing is however illicit from predicative PPs, a fact that will be addressed in Section 6.3.

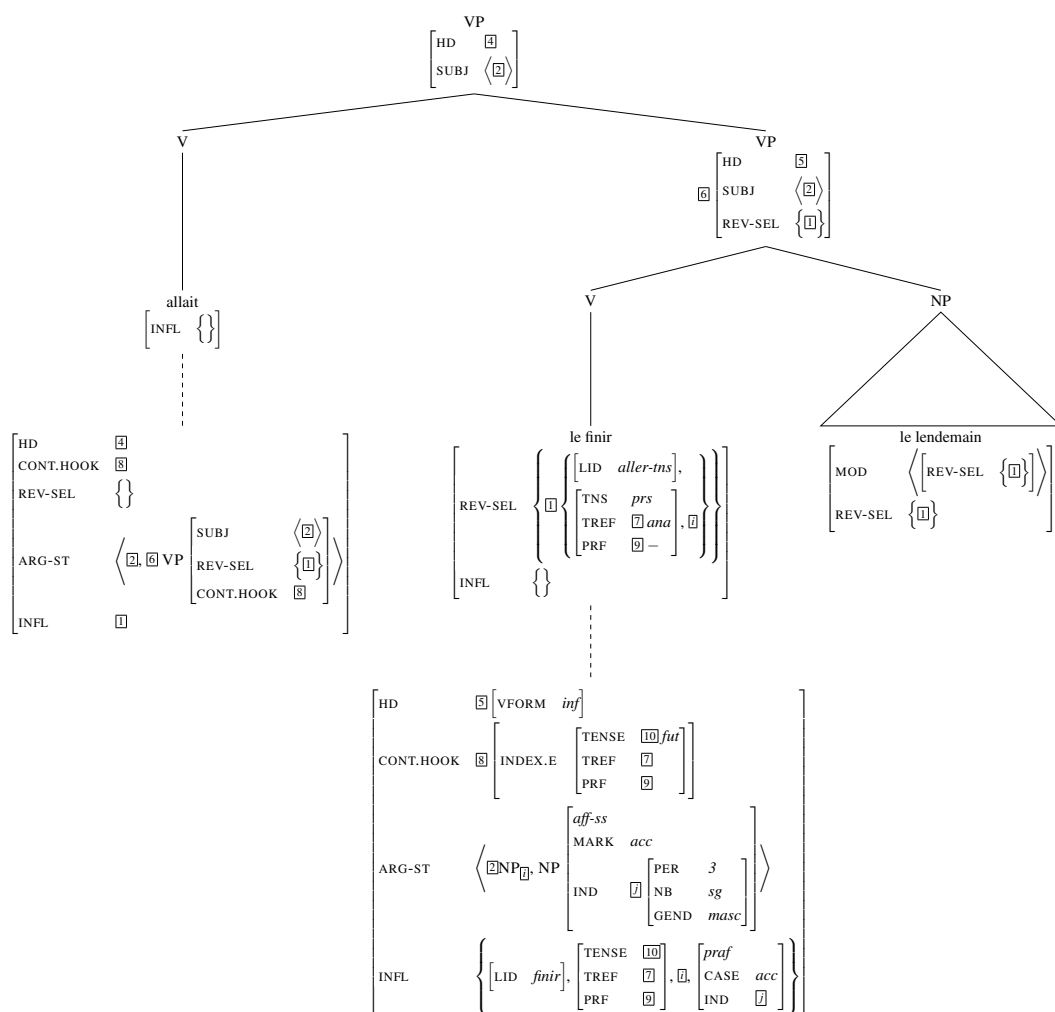


Figure 6.26: Sample derivation: future periphrase in a split exponent pattern

The relevant rule is given in Figure 6.27. I assume the lexical entries associated with the relevant predicates contain a full paradigm of morphosyntactic properties under the feature INFL, just as with verbs. The rule applies to a predicative ([PRD +]) element and inserts a periphrastic dependency for the copula (*être-tns*). It also delegates realisation of subject agreement and of all TAM features appropriate of French predicates. Contrary to the previous past and perfective periphrases, these features are structure-shared with the predicate, and no mismatch is required between REV-SEL and INFL: the morphological tense, aspect etc. of the copula compositionally match the predicate's. Tense periphrasis involving non-verbal predicates thus appears simply as a case of CANONICAL PERIPHRA-SIS in the sense of Brown et al. (2012), lacking the non-compositionality of other French verbal periphrases.

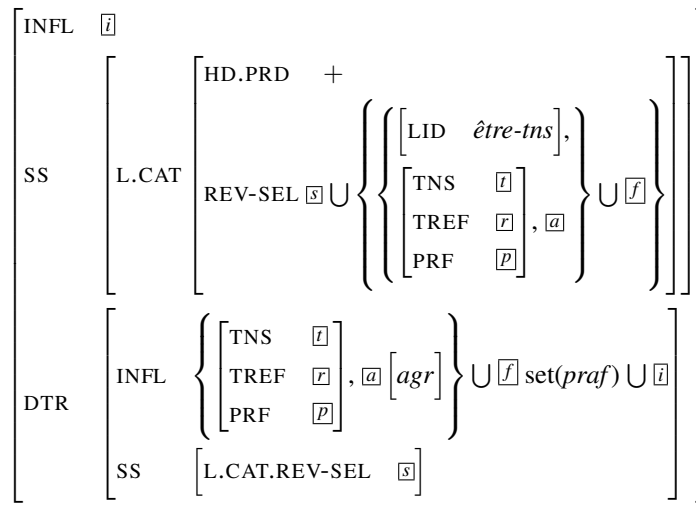


Figure 6.27: Periphrastic tense inflection

Predicative Xs not only lack the ability to realise their TAM paradigm, they are also unable to realise their pronominal arguments synthetically, again like past/perfective participles. The periphrasis rule therefore also includes a (possibly empty) set of pronominal affixes to be realised by the copula. This presupposes that the rule of argument mapping (Figure 6.2) can apply to all predicates, and associates pronominal affixes (a *praf* element on INFL) with pronominal arguments (*aff-ss* on ARG-ST). No further mechanism is required to derive clitic climbing from predicative XPs.

A derivation is given in Figure 6.28 for *leur est très cher* ‘is very dear to them’. The predicative adjective starts out in present deictic imperfective tense, and with a pronominal affix corresponding to its dative argument. It undergoes the periphrasis rule, and delegates all of its inflection to the copula via REV-SEL, including the pronominal affix, producing the form *leur est*. Regular adjectival morphology (i.e. number and gender agreement) is not represented here.

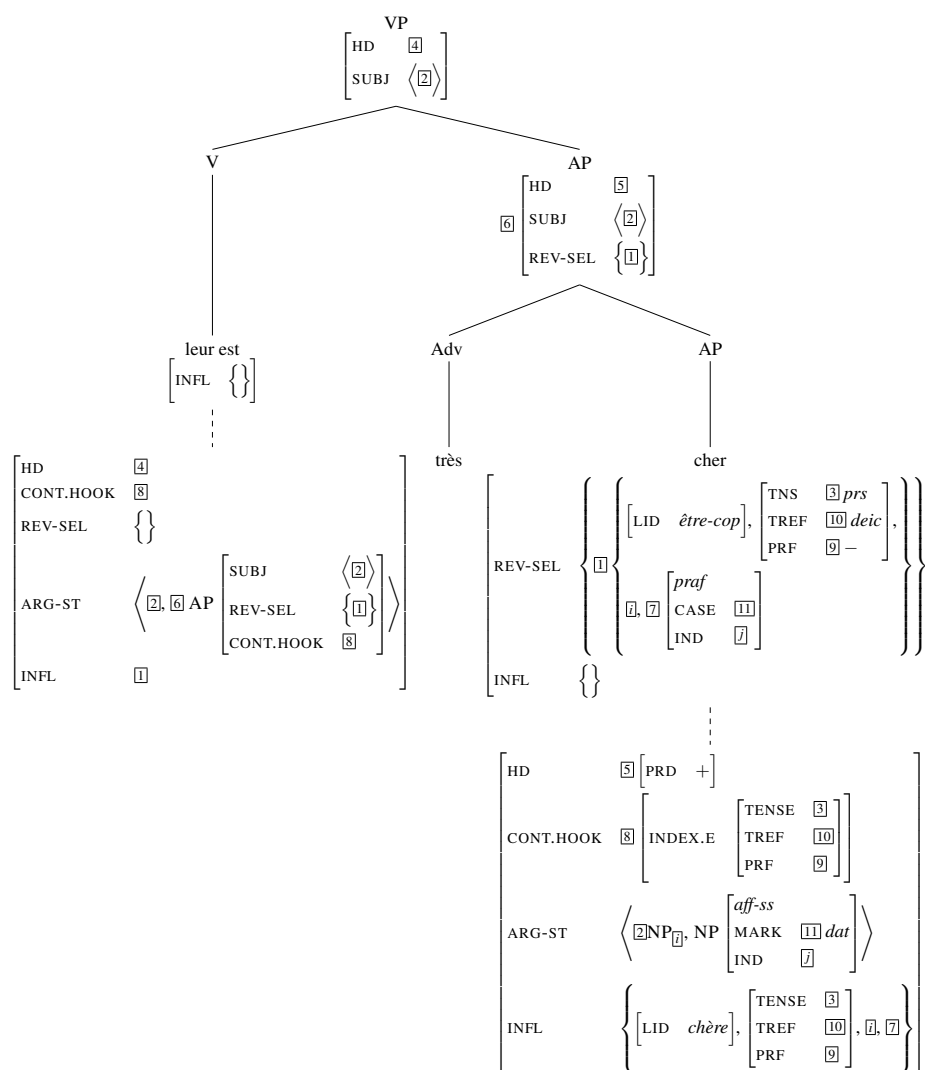


Figure 6.28: Sample derivation: clitic climbing to the copula

Note that the auxiliary being selected for, *être-cop*, needs to be distinguished from the tense auxiliary involved with composed tenses. This is due to *être*'s different syntactic behaviour with regard to pronominalisation and clefting of its complement (recall Section 3.3.3).¹³ The copula is independently a highly polyfunctional element, being also involved in presentational (6.9) and identifying (6.10) constructions, with different semantic composition compared to the auxiliary uses.

- (6.9) C' est l' animal dont je te parlais.
 it is the animal of.which I OBJ.2SG talked
 'It's the animal I was telling you about.'

- (6.10) L' animal dont je te parlais est le protégé.
 the animal of.which I OBJ.2SG talked is the olm
 'The animal I was telling you about is the olm.'

We must therefore admit that two distinct lexical entries correspond to *être*.

We can additionally capture the commonalities between the various lexical entries by using a supertype for auxiliary verbs, and leaving the lexeme-specific properties (e.g. subcategorisation and the value of LID) to the lexical entries. This auxiliary ontology is sketched in Figure 6.29, including the other auxiliary entries discussed so far. In the analysis proposed so far, all auxiliaries are semantically transparent, which is encoded as raising of the feature HOOK; they are also subject-raising verbs. Their specificity as periphrasis auxiliaries comes from their inheriting their INFL(ECTIONAL) content from their complement, via the feature REV-SEL. The various auxiliaries are then distinguished exclusively by their lexemic identity (LID) and (of course morphological and phonological properties); and by the realisation mode of their complement, to which I return in Section 6.3.

As for the differences in the category and/or verbal form of the auxiliaries' complements, it is sufficient that elements that can appear as complement of the various auxiliaries are elements that reverse-select for them (specifically). In the grammar fragment presented so far, and as long as REV-SEL is restricted to periphrastic dependencies, only the output of the periphrasis rules for past, perfective, and predicatives can do so. This means that constraints on these rules' input are sufficient to control for the category and other syntactic properties of *être*'s complement. Thus nothing more needs to be said about categorial selection, or the value of the features PRD and VFORM. In sum, the approach can abstract away the common semantic and morphological properties, and leaves the idiosyncratic difference in syntactic behaviour as residual redundancy due to the copula's functional versatility.

In order to produce a similar derivation for passive participles in predicative use, we must first describe how they relate to their finite counterparts. By contrast with

¹³See also Abeillé & Godard (2000b) for arguments in favour of a differential treatment of tense auxiliary *être* and copula/passive auxiliary *être* (*contra* the generalisations of the Unaccusative Hypothesis).

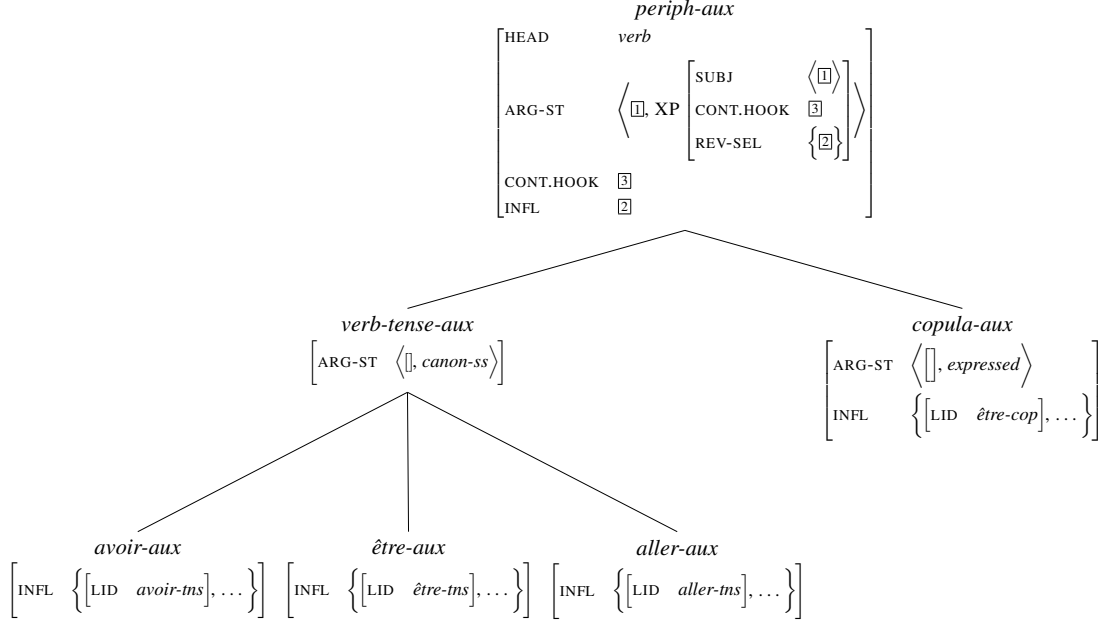


Figure 6.29: Ontology of French auxiliary verbs

past/perfective participles, passive participles have a different valency, and constitute a form of voice alternation. In keeping with principles of realisational morphology, the analysis of participial passives proposed here distinguishes between grammatical function change (the passivisation effect), a process applying to verbal lexemes, and its realisation in morphology, which in this case is stem allomorphy.

Through the grammatical function change rule, as detailed in Figure 6.30, the direct object is promoted on ARG-ST, and the subject demoted to an optional oblique PP. The verb also becomes predicative, since passive participles, like adjectives but unlike verbs, can be used predicatively; this is represented by the feature [PRD +]. Finally, the rule introduces a passive morphosyntactic property under INFL. This requirement will trigger the correct choice of stem in subsequent inflectional rules, namely the participle stem.

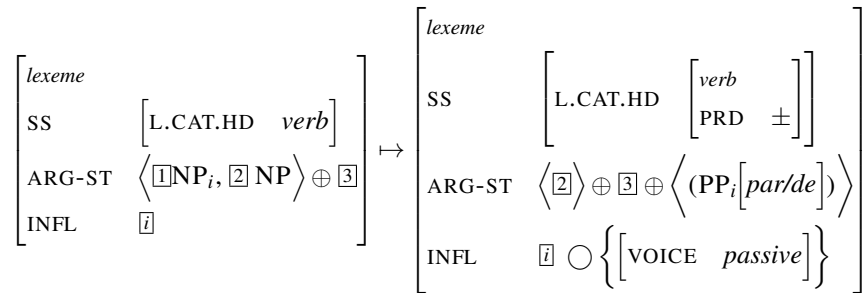


Figure 6.30: Lexical rule for participial passive

The structures just given provide us with a working analysis of clitic climbing to *être*, but the class of predicates to which clitic climbing from predicatives is possible is in fact broader than the copula. As was discussed in Section 5.1.3, predicate-taking verbs like *sembler* ‘seem’, *rester* ‘remain’, *devenir* ‘become’ may also host pronominals from their predicative complement. The simplest way to accommodate these cases is to allow the relevant verbs to fill the role of the copula by acting as auxiliaries in the tense periphrasis involved. Since these verbs must have their own, distinct lexemic identifier, they cannot however satisfy the predicative complement’s entire inflectional selection under REV-SEL. Instead, they act like substitutes, accepting the periphrastic dependency but keeping their own lexemic identity. In a sense, this is in line with the overall referral-like character of periphrasis; an alternative could be to resort to a hierarchy of LID values, the tense periphrasis rule selecting for a supertype that could be resolved to any member of the class including e.g. *être-lid*, *sembler-lid* etc.

This auxiliary-like behaviour is described in the lexical entry for *rester* in Figure 6.31. Copular *rester* is similar to *être* in taking an XP complement reverse-selecting for *être*, and in its subject-raising pattern, but has its distinct LID value and is not semantically empty, introducing its own predicate. Given the prior rule for predicative periphrasis, which may include pronominal affixes, this is enough to properly cover clitic climbing to copular verbs.¹⁴

$$\left[\begin{array}{l} \text{ARG-ST} \left\langle \begin{array}{l} \text{SUBJ} \quad \langle [1] \rangle \\ \text{REV-SEL} \quad \left\{ \left\{ [\text{LID} \quad \textit{être-cop}] \right\} \cup [2] \right\} \right\} \end{array} \right\rangle \\ \text{INFL} \quad \left\{ [\text{LID} \quad \textit{rester}] \right\} \cup [2] \end{array} \right]$$

Figure 6.31: Lexical entry of partial auxiliary *rester*

To summarise, the periphrasis approach can be straightforwardly generalised to clitic climbing from adjectives, nouns and passive participles by treating these categories as morphologically defective predicates. The copula thus appears as a general auxiliary, and copula-like verbs as partial auxiliaries which may selectively realise part of the periphrastic requirements.

¹⁴Some object predication verbs also license clitic climbing from their predicative complement:

- (i) Marie les en croit capables.
 Marie DO.3PL GEN believes capable
 ‘Marie believes them to be capable of it.’

As nothing crucial in the treatment of clitic climbing to copular verbs proposed here hinges on their subject-to-subject subcategorisation pattern, the proposal should naturally extend to such subject-to-object cases without further stipulation.

6.2.4 Coordination

Finally, an immediate benefit of the periphrasis approach is the simplicity of the treatment of coordination structures such as the one in (6.11) reproduced from (4.22):

- (6.11) Marie a envoyé une lettre et reçu une réponse.
 Marie has sent a letter and received a reply
 ‘Marie has sent a letter and received a reply.’

Since the analysis disposes with the need for a flat structure of the composed tenses, such examples reduce to the simplest form of coordination, namely coordination of likes (i.e. obeying the ‘Law of Coordination of Likes’, see Chomsky, 1957: 36). Indeed, the two conjuncts here (i.e. *envoyé une lettre* and *reçu une réponse*) can simply be assumed to be participial VPs. Such constructions then straightforwardly involve structure-sharing of REV-SEL between the conjuncts; as a feature found under CAT (cf. Section 6.1.3.2), this is expected behaviour given the standard formulation of basic coordination as category sharing – see Figure 6.32, adapted from the Coordination Principle (Pollard & Sag, 1994: 202).

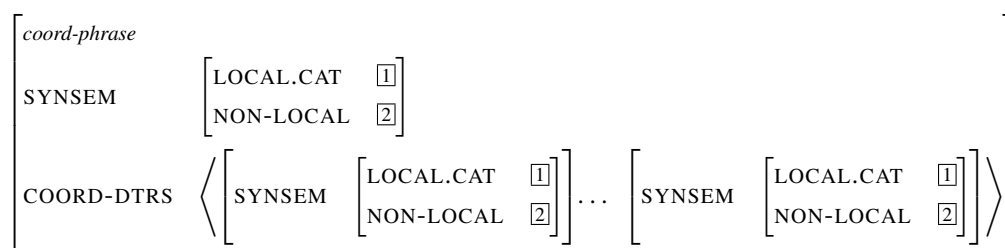


Figure 6.32: The Coordination Principle

The proposed analysis in fact further extends to the more interesting case of a coordination with across-the-board clitic climbing, e.g. (6.12):

- (6.12) Elle leur aura parlé et donné des conseils.
 she IO.3PL have.FUT talked and given INDF.PL tips
 ‘She will have talked to them and given them some tips.’

Here the pronominal affix realised on the auxiliary corresponds to an argument of both verbal conjuncts. Under the perspective developed here this is no different from the two conjuncts jointly expressing their future tense as a single exponent on the auxiliary, viz. *-ra*.

The tree in Figure 6.33 illustrates the derivation of such examples. The VP complement of the auxiliary is a coordinate phrase, which introduces its own semantics (HOOK), but with head, valency and REV-SEL values obtained by structure-sharing of the two conjuncts’ respective values for the corresponding features. This means that they share

the same subject, but more importantly that their periphrastic dependencies involve the same morphosyntactic information, matching the one found on the auxiliary. Since the auxiliary hosts a dative plural pronominal affix, this means both verbs have a dative plural pronominal affix in their reverse selection dependency, output by a periphrasis rule from their own inflectional content. The presence of the pronominal affix itself necessarily follows, by argument mapping, from the presence of an affixal argument on ARG-ST. We therefore effectively obtain the distributive reconstruction of the pronoun realised on the auxiliary on the two conjunct verbs' respective argument structures.

6.3 Canonicity

	PERIPHRAISIS	PROPERTIES OF COMPLEMENT	
		CATEGORY	CANONICITY
<i>pouvoir,</i> <i>vouloir,</i> <i>savoir...</i>	—	VP[VFORM <i>inf</i>]	<i>synsem</i>
<i>sembler,</i> <i>rester,</i> <i>devenir...</i>	<i>praf</i>	XP[PRD +, TAM <i>none</i>]	<i>expressed</i>
<i>être-cop</i>	<i>praf, tam, agr</i>	XP[PRD +]	<i>expressed</i>
<i>avoir-tns,</i> <i>être-tns</i>	<i>praf, tam, agr</i>	VP[VFORM <i>ppart</i>]	<i>canon-ss</i>
<i>aller-tns,</i> <i>venir-tns</i>	<i>tam, agr</i>	VP[VFORM <i>inf</i>]	<i>canon-ss</i>

Table 6.1: Inventory of French verbs taking VP or predicative complements

As we have seen in Section 3.3, the main evidence in favour of a flat structure independent of clitic climbing is provided by the failure of the tense auxiliaries' complement to undergo extraction, pronominalisation, or elision, and we further observed in Chapter 4 that this property is actually independent of clitic climbing.

Under the lexical, head-driven approach to unbounded dependencies (Sag, 1997; Bouma et al., 2001; Ginzburg & Sag, 2000), gaps are represented on argument structure in terms of a *synsem* type *gap-ss* distinct from that of canonically realised arguments (*canon-ss*) – cf. Figure 6.1. Thus, in order to control whether a complement can be extracted or not, it is entirely sufficient to constrain it to be of type *canon-ss* if it cannot extract, yet leave it underspecified if it can. Thus, by restricting the VP complement of tense auxiliaries such as *avoir/être* and *venir de/aller* to be of that type, non-extractability is readily captured.

Given that pronominalisation of French VPs is expressed by pronominal affixes, the same constraint will equally account for the pronominalisation facts, because *aff-ss*,

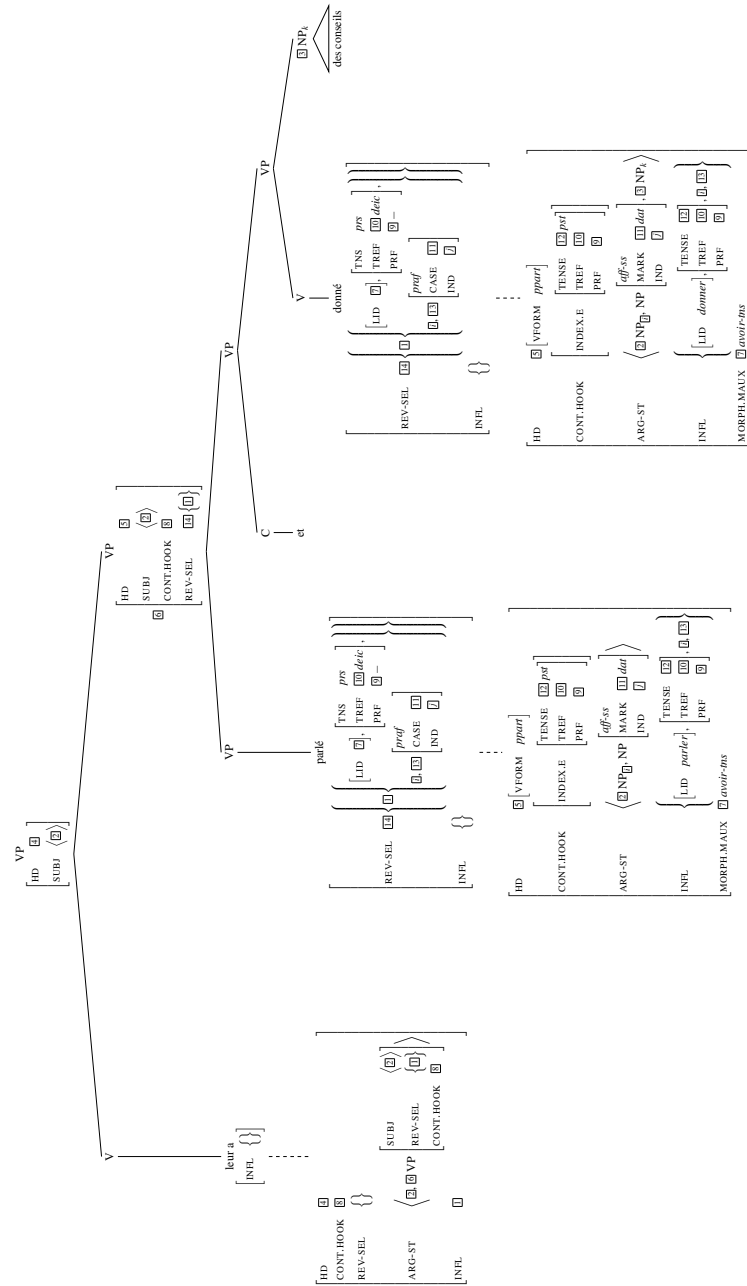


Figure 6.33: Sample derivation: across-the-board clitic climbing

according to Miller & Sag (1997), is just another subtype of a non-canonical *synsem* (see Figure 6.1).

Finally, if we assume that unexpressed arguments such as found in VP ellipsis – cf. examples (3.61a) vs. (3.62a) – are equally a case of non-canonical realisation (an

assumption explicitly made in the English Resource Grammar – Copestake & Flickinger, 2000), all three phenomena are straightforwardly accounted for by a simple constraint. In contrast to the flat structure approach, this constraint generalises across constructions with and without clitic climbing.

Regular control and subject verbs, such as *vouloir* and *pouvoir*, do not permit clitic climbing, but their VP complements can extract, pronominalise or elide. Thus, their restriction regarding the *synsem* type of their verbal complement is fully relaxed, permitting resolution to *gap-ss*, *aff-ss* and *unexpr-ss* (Figure 6.34). Absence of clitic climbing is reduced to the fact that these verbs do not serve in any periphrastic expression at all, as indicated by the empty REV-SEL set on their VP complement.

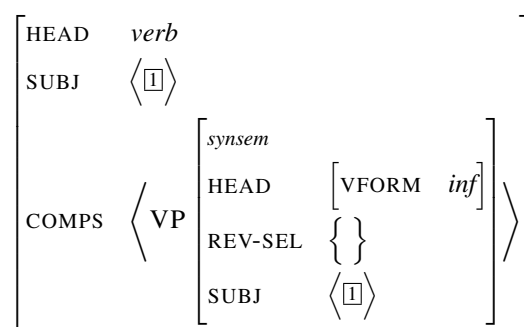


Figure 6.34: Lexical entry for raising and control verbs (e.g. *vouloir/pouvoir*)

As to tense auxiliaries, they conversely do not allow any special realisation for their complement beyond canonical, phrasal realisation. Their verbal complement is therefore constrained to *canon-ss*, a type that enforces phrasal realisation. This is described in Figure 6.35 (isolated and refined from Figure 6.29), which applies to *avoir*, *aller*, *venir*, and tense auxiliary *être*.

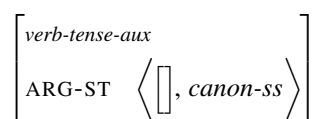
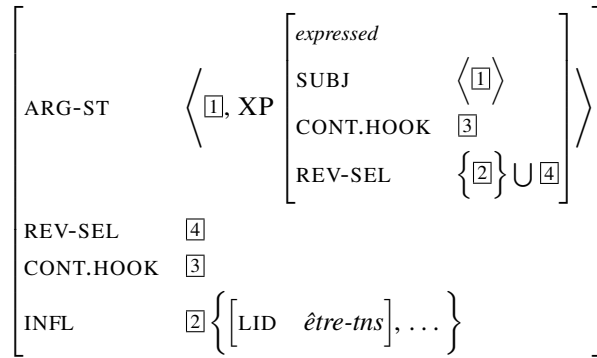


Figure 6.35: Constraint on the realisation of the complement of tense auxiliaries

The copula and other verbs taking predicative complements finally combine the possibility of clitic climbing with canonical and non-canonical realisation of their verbal/predicative complement. While the copula permits pronominalisation and extraction of its verbal complement, it does not permit elision, contrasting in this respect with modals. This is effected by the constraint on the *synsem* type of the complement in Figure 6.36 (isolated from Figure 6.29), namely *expressed*, a supertype that includes all realisations in which some overt element realises the complement, i.e. extracted elements and pronominal affixes, but not elided elements.

Figure 6.36: Lexical entry of tense auxiliary *être*, finalised

One case that needs some special attention is the possibility of partial extraction (or pronominalisation) with passives and predicatives (Abeillé & Godard, 2002), as illustrated in (6.13). In such cases, the lexical participle is extracted (or pronominalised) without any of its dependents.

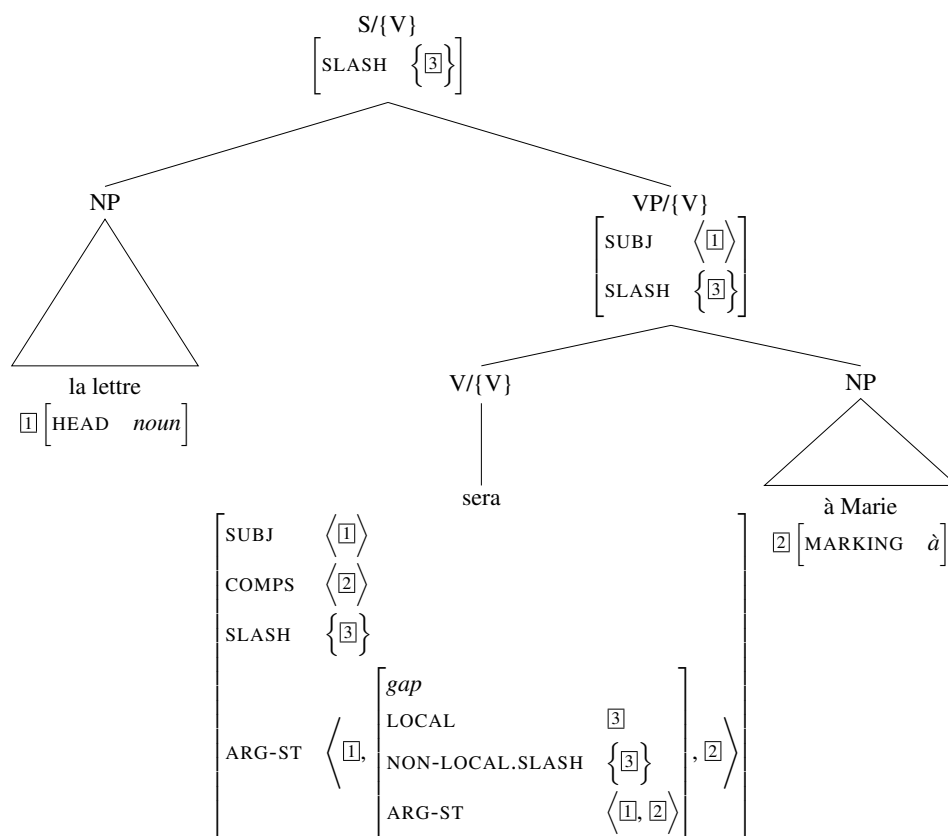
- (6.13) C' est envoyée que la lettre a été à Marie.
 it is sent that the letter has been to Marie
 'It is sent that the letter has been to Mary.'

Most strikingly, the verbs that permit partial extraction or pronominalisation independently allow extraction of their XP complement. Conversely, auxiliaries that do not permit extraction or pronominalisation of their VP complement, such as tense auxiliaries, do not allow partial extraction or pronominalisation of V either. This provides further evidence that canonicity of realisation is actually a lexical property, unrelated to phrase structure. To derive partial extraction and pronominalisation, I shall propose a lexical rule that (i) restricts the predicative complement of a verb to be non-canonical and (ii) raises the complements of its predicative complement onto its own argument structure. This is sketched in Figure 6.37.

$$\left[\begin{array}{l} \text{HEAD} \quad \text{verb} \\ \text{ARG-ST} \quad \left\langle \boxed{1} \text{ NP, XP} \left[\begin{array}{l} \text{non-canon} \\ \text{HD.PRD} \quad + \end{array} \right] \right\rangle \right\rangle \end{array} \right] \mapsto \left[\begin{array}{l} \text{ARG-ST} \quad \left\langle \boxed{1}, \left[\begin{array}{l} \text{non-canon} \\ \text{COMPS} \quad \boxed{2} \text{ ne-list} \end{array} \right] \right\rangle \right\rangle \oplus \boxed{2} \end{array} \right]$$

Figure 6.37: Argument-raising lexical rule

As can be seen in Figure 6.38, the output of the argument-raising rule has a non-canonical complement, the arguments of which are raised. In this example, the non-canonical item is a gap, as in e.g. a cleft (*c'est envoyée que la lettre sera à Marie*), which creates a SLASH dependency. The resulting valency is simply that of the introduced

Figure 6.38: Partial extraction by type-raising: (*c'est envoyée que*) *la lettre sera à Marie*

lexical item (in this example, taken to correspond to *envoyée* 'sent'), having inherited both its subject and its complements.

Thus, we can derive the connection between XP extraction/pronominalisation and partial extraction/pronominalisation, effectively rule out application to tense auxiliaries, which are lexically constrained to take a canonical VP complement, and avoid spurious ambiguity for *in situ* passives and predicatives.

Finally, the canonicity hierarchy allows us to deal with a covert issue regarding clitic climbing from predicatives (Section 6.2.3). Adjectives, nouns and passive participles are in fact not the only categories that may appear as the complement of the copula: preposition phrases are another possible complementation, cf. (6.14).

- (6.14) a. Je suis devant toi.
I am in_front_of 2SG
'I am in front of you.'

- b. Je suis près d' elle.
I am near of 3SG.F
'I am near her.'
- c. L' inondation est jusque dans la maison.
the flood is up_to in the house
'The flood is up to inside the house.'

However, clitic climbing does not seem to be licit from predicative PPs, whether the intended pronominal's case is accusative (6.15a), genitive (6.15b), or locative (6.15c) – compare the parallel examples with phrasal complements in (6.14).

- (6.15) a. * Je te suis devant.
I OBJ.2SG am in_front_of
(‘I am in front of you.’)
- b. ?? J' en suis près.
I GEN am near of
(‘I am near her.’)
- c. * L' inondation y est jusque.
the flood LOC is up_to
(‘The flood is up to it.’)

It therefore appears that prepositions in French simply do not license weak pronominal arguments. This is in fact unsurprising, given the fact that they are also syntactic islands (Abeillé et al., 2006). We can therefore make use (following Abeillé & Godard, 1996: 57) of the type *canon-ss* on the complements of French prepositions to control for their correct mode of realisation, simultaneously excluding gaps (and therefore deriving islandhood) and pronominal arguments (thus preventing clitic climbing). This is briefly illustrated in Figure 6.39.

$$prep-lex \rightarrow \left[\text{ARG-ST} \quad \text{list}(\text{canon-ss}) \right]$$

Figure 6.39: Constraint on the complementation of prepositions

In sum, the simple mechanism of *synsem* classification, widely used to control for the realisation mode of arguments, is sufficient by itself to account for the observable facts on extraction, pronominalisation and elision that had been adduced as evidence for the flat structure; as summarised in Table 6.1, this approach captures the extent of these facts much more adequately than the argument composition approach.

6.4 Addressing other issues

In this section I discuss three phenomena at the morphology–syntax interface and explore how they are best handled in the periphrasis approach, namely periphrasis stacking, the *avoir*–*s’être* alternation, and past participle agreement, as well as their interactions.

6.4.1 Periphrasis stacking and overcomposition

In this section I examine some of the various possibilities for periphrasis stacking in French, i.e. the application of two or more types of periphrasis to a single verb. Some such cases are illustrated below in (6.16)–(6.19).

- (6.16) *Future perfective:*
 Je vais avoir fini avant demain.
 I go have finished before tomorrow
 ‘I will have finished before tomorrow.’
- (6.17) *Passive past:*
 J’ ai été contrôlée à la sortie du métro.
 I have been controlled at the exit of the metro
 ‘I was inspected on leaving the metro.’
- (6.18) *Passive future perfective:*
 À ce rythme-là, le travail va avoir été fini avant midi.
 At this rhythm=DEM the work will have been done before noon
 ‘At this rate, the work will have been finished before noon.’
- (6.19) *Overcomposition:*
- a. % Quand j’ ai eu fini, je suis partie.
 when I have had finished I am left
 ‘When I had finished, I left.’
 - b. % J’ ai déjà eu essayé.
 I have already had tried
 ‘I have already tried that (in the past).’

Among the periphrastic constructions addressed here (past, perfective, passive, future, and *venir de*), not all logical combinations are attested. First of all, some combinations are in direct semantic conflict because of their temporal properties: this is the case of the past and future periphrases. Even though the combination of auxiliaries *aller* and *avoir/être* is attested (6.16), it is a clear instance of a perfective future and not of a ‘future past’. Similarly, *venir de* does not seem to combine with either the past (6.20) or the future (6.21) periphrase, and combination with the perfective periphrase seems marginal (6.22), perhaps because of redundancy.

- (6.20) * Je suis venue de finir et je suis partie.
 I am come of finish and I am left
 ('I had just finished and I left.')
- (6.21) ?? Je vais venir de finir.
 I go come of finish
 'I will have just finished.'
- (6.22) ? Je viens d' avoir fini.
 I come of have finished
 'I have just finished.'

The passive construction, on the other hand, freely combines with any other auxiliary, such as a past auxiliary in (6.17), and can even combine with an already stacked periphrase (6.18).

The most interesting case of French stacked periphrasis is the use of *surcomposition* ('overcomposition'), which refers to a sequence of two tense auxiliaries, as in (6.19). The resulting construction is subject to variation and seems to be limited to some informal registers and regional variants of the language (see the discussion in Section 6.4.1.2, based on Borel, 2018, 2019).

As pointed out by Bonami (2015: 36), there are in principle two ways to deal with stacked periphrases. One is to consider the stacked auxiliaries as a multiple exponent, in a periphrastic equivalent to the way synthetic multiple exponents (such as German *geruf-en* PTCP-call-PTCP) work. Similarly to the synthetic case, this solution is preferable when the property denoted by the two auxiliaries is either (i) the same simple property (like the German participle example) or (ii) a case of overlapping (like French *manger-ont* eat-FUT-FUT.3PL), where the property denoted by each exponent is complex but cannot be easily divided between the exponents involved. An example of such MULTIPLE PERIPHRASTIC EXPONENCE (Bonami, 2015: 37) is found in Bulgarian conjugation (Popova & Spencer, 2013: 206): the future perfect can make use of a periphrastic form *šte băda mislila* 'will have thought' which contains auxiliaries *šte* and *băda*, but neither the future (*šte mislja*) nor the perfect (*săm misila*) contains auxiliary *băda*. In our inside-out approach, the way to formalise this multiple periphrastic exponence will be to provide a rule for the particular properties that simultaneously inserts multiple reverse selection requirements, corresponding to the multiple auxiliaries.

The second approach to the phenomenon is to reduce the stacked auxiliaries to the regular combination of independent periphrastic constructions. This approach is preferable whenever the stacking appears compositional, i.e. when the properties expressed by the stacked periphrase can clearly be attributed to each item involved (lexical or ancillary), according to their usual (semantic or morphosyntactic) contribution. In the framework at hand, this approach is implemented by THREADING of periphrasis rules. In a threading configuration, the lexical item undergoes inflection, resulting in a local form and a single

reverse selection requirement for an auxiliary with a TAM specification to match the lexical verb's; the (derivationwise) first auxiliary then receives this specification, which it can only expound by inflecting periphrastically itself, resulting in a second reverse selection dependency being generated as soon as the first one is realised (and so on if three or more auxiliaries are present).

Figures 6.4.1–6.4.1 illustrate the difference between the double reverse selection approach, appropriate for multiple periphrases, and the threading analysis, appropriate for compositionally stacked periphrases.

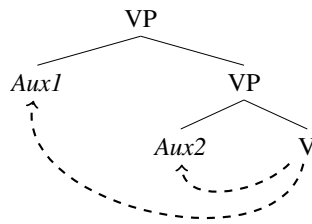


Figure 6.40: Double reverse selection in a multiple periphrase

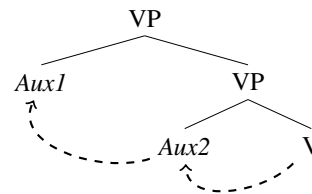


Figure 6.41: Reverse selection threading in a stacked periphrase

In the following sections I show that most of the stacked constructions above lend themselves well to an analysis of the second type – they can be reduced to regular combinations of two independent periphrases. The one exception, the regional, experiential use of the overcomposed past found in (6.19b), is, on the contrary, a clear case of multiple periphrastic exponence based on its special semantic and morphosyntactic properties (Borel, 2018, 2019). It therefore calls for an analysis with a single rule introducing selection for multiple auxiliaries.

6.4.1.1 Periphrasis stacking: the future perfective

The future perfective periphrase, exemplified in (6.23) reproduced from (6.16), is the combination of the perfective and future periphrases. Formally, it consists of a present form of auxiliary *aller* followed by an infinitive tense auxiliary (*avoir* or *être*), itself followed by the lexical verb in participle form. Semantically, it is similar to the *futur antérieur*, which also involves perfective periphrasis but realises future tense synthetically on the auxiliary, making it a simplex periphrasis and not a stacked one. It is overall quite similar to English *will have* + Vpart. It can occur with either a deictic (6.23) or anaphoric (6.24) time reference; the latter case, which is similar to the *conditionnel passé* (i.e. a conditional, or anaphoric future, form of *avoir/être* followed by a participle), involves auxiliary *aller* in the *imparfait* (anaphoric present) rather than *présent* (deictic present).

- (6.23) a. Je vais avoir fini avant demain.
 I go.PRS.DEIC have finished before tomorrow
 ‘I will have finished before tomorrow.’
- b. Je vais être rentrée avant demain.
 I go.PRS.DEIC be returned before tomorrow
 ‘I will have returned before tomorrow.’
- (6.24) a. J’ allais avoir fini avant le lendemain.
 I go.PRS.ANA have finished before the morrow
 ‘I would have finished before the next day.’
- b. J’ allais être rentrée avant le lendemain.
 I go.PRS.ANA be returned before the morrow
 ‘I would have returned before the next day.’

Both form and meaning are entirely unsurprising in this stacked periphrase: they are the regular result of inflecting a perfective tense auxiliary in periphrastic future form. This possibility is licit given the rules for perfective and future periphrasis given earlier in this chapter (Figures 6.23 & 6.20): nothing in the description of the perfective rule prevents it from applying to a verb with a future tense property, and nothing in the description of the future rule prevents application to an auxiliary. We can therefore provide a derivation for a future perfective stacked periphrase, *va l’avoir fini* ‘will have finished it’, illustrating the intermediate placement of the pronominal, in Figure 6.42.

The derivation starts with the lexical item carrying the requirements for deictic future tense, and perfective aspect, as indicated by its semantics (HOOK.INDEX.E). This configuration triggers the application of the rule for perfective periphrasis. This gives the verb its correct participle form, and also creates a REV-SEL dependency for auxiliary *avoir* (as lexically specified under MORPH.MAUX). This dependency includes, in addition to the auxiliary’s LID, TAM specifications in accordance with the perfective periphrasis rule, i.e. transmitting the lexical verb’s own TENSE and TREL, but specifying that the auxiliary should be [PRF –]. The participle additionally needs to express an accusative affix, and so this is included in the REV-SEL dependency, along with subject agreement.

Tense auxiliary *avoir* then combines with *fini*, and incorporates the contents of REV-SEL. Among these is a [TNS *fut*] specification, and this triggers application of the future periphrasis rule. In accordance with the future periphrasis rule, *avoir* locally takes on infinitival morphology, and directly realises the pronominal affix inherited from the complement, producing the form *l’avoir*. It also launches its own distinct REV-SEL dependency, which selects for [LID *aller-tns*], i.e. the periphrastic future auxiliary. Along with agreement, TAM constraints are imposed on the future auxiliary, which comprise a present tense constraint (recall Figure 6.20). The associated aspect specification is based on the auxiliary’s morphology (recall Figure 6.23): albeit used as a perfective auxiliary,

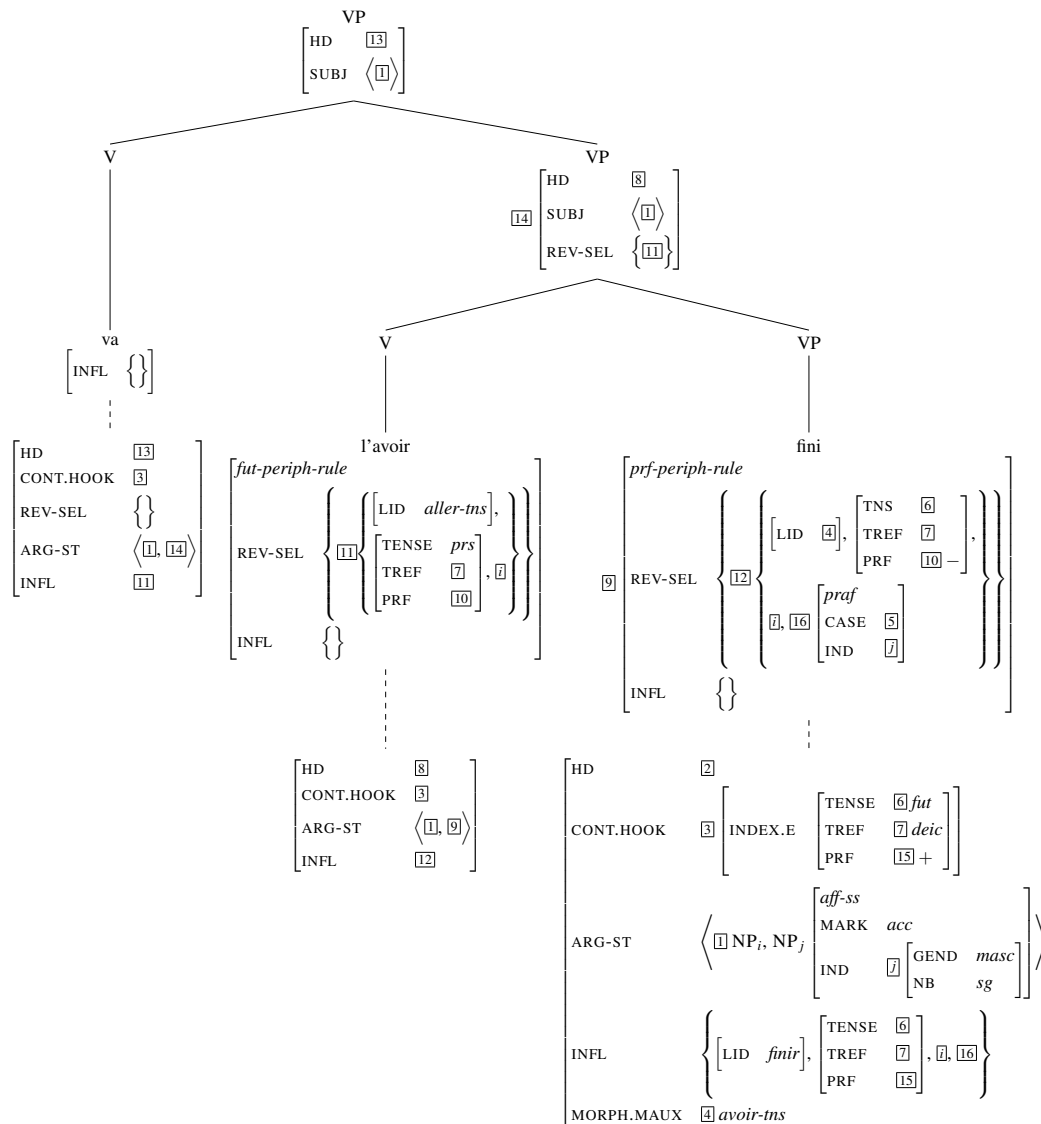


Figure 6.42: Sample derivation: future perfective periphrase

l'avoir is itself an imperfective form, and so the property [PRF –] is propagated to *va*. As for TREF, its value (*deictic*) is once more passed on to the next auxiliary.

Future auxiliary *va* thus receives an inflectional agenda corresponding to the observed form: it is morphologically a present deictic imperfective form, without any pronominal affixes. Note again that semantics are kept constant throughout the entire derivation by virtue of both auxiliaries' HOOK-raising behaviour, correctly producing the top-level mismatch in morphological vs. semantic TAM properties.

The case of the future perfective therefore illustrates how a compositional stacked periphrase can be derived without appealing to any special inflectional rule, instead relying on a threading of simplex periphrastic rules. However, nothing in the analysis so far precludes this derivation from applying in the opposite order: the rule of future periphrasis could apply to a verb, implicating auxiliary *aller*, which itself could undergo perfective periphrasis. The result would be of the form *a été* + Vinf, which is grammatical with a movement meaning (cf. Section 5.1.1.3), but not with a future meaning.

The solution to this overgeneration is however quite straightforward. The first rule in the incorrect derivation, namely the future periphrasis rule, can simply be restricted to imperfectives. In this way the perfective rule can never apply to future auxiliary *aller*, as the future rule effectively bleeds the perfective one. The revised description of the future periphrasis rule is produced in Figure 6.43.

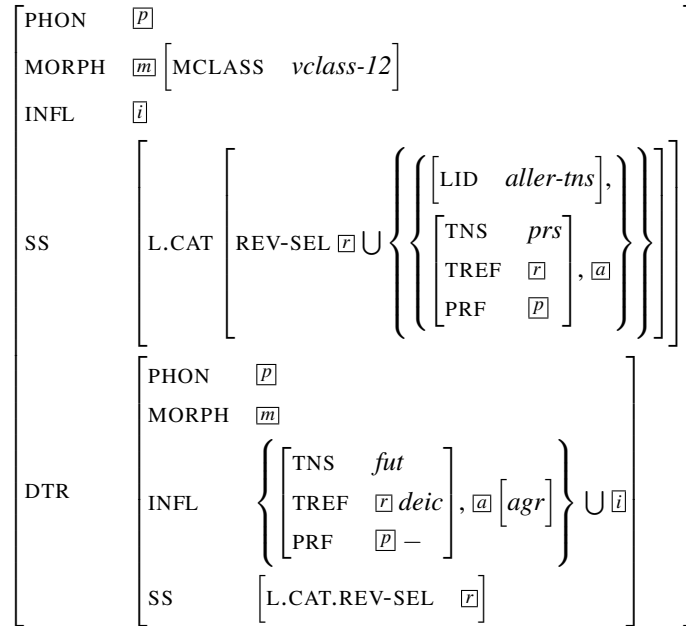


Figure 6.43: Future periphrasis, revised

The threading approach proposed for future perfectives generalises to all cases that can be analysed as periphrasis stacking, i.e. the regular composition of two different

periphrasis rules. This is the case for the combination of any of the previously seen periphrases with a passive, such as the passive past (6.17) or the passive future perfective (6.18), as well as for some (but not all) of the uses involving a sequence of *avoir* and *être*, to which we now turn.

6.4.1.2 Overcomposition

Overcomposed forms such as the one in (6.19a) are often thought of as the result of stacking of two different periphrases. As discussed by Verkuyl et al. (2004), tense auxiliary constructions are primarily an aspect periphrase, and in some conservative registers it is the only use they can have. In most common registers, however, and concurrently with the loss of the synthetic past tense (*passé simple*), which is now mostly restricted to literary styles, a composed form with the auxiliary in the (deictic) present tense has taken on an additional possible meaning equivalent to a past tense. As Verkuyl et al. argue, overcomposition is then simply the combination of these two distinct periphrases: the perfective aspect periphrasis and the past tense periphrasis. This combination fills another gap in the modern verbal paradigm left by the obsolescence of the literary perfective past (*passé antérieur*), a periphrastic form comprising a participle and an auxiliary in the *passé simple*.

Since the analysis readily makes use of two distinct rules for these two distinct periphrases, we can model (6.19a) as a stacked periphrase in much the same way as the previously discussed future perfective stacked periphrase. However, the question of ordering presents itself: which periphrasis applies first? To put it differently, does the top-level auxiliary play the role of a tense or aspect auxiliary? An answer is easily found in the properties of the past tense periphrase: this variant requires its auxiliary to be in (deictic indicative) present form and nothing else (cf. Section 5.1.1). The periphrasis that applies (derivationally) first therefore has to be the perfective one, and the past one second; in other words, the top-level auxiliary has to be used as a past tense auxiliary. This parallels the ordering of future tense and perfective aspect in the future perfective stacked periphrase as previously analysed. As before, this is captured simply by constraining the PRF value of the past periphrasis rule to –, as the rule in Figure 6.24 does.

Note that what is captured by this constraint can in fact be considered a higher-level constraint on the grammar of French: as often observed in generative theory, tense tends to structurally precede aspect (see e.g. Cinque, 1999). In the terms of the present theory of periphrasis, this can be formulated as a constraint on tense periphrasis itself: as the structure in Figure 6.44 illustrates, tense periphrasis rules (as defined in a hierarchy of periphrasis rule types such as that in Figure 6.45) can only target verbs of unmarked aspect (i.e. [PRF –]). This applies to both the future periphrasis rule and the past periphrasis rule.

Figure 6.46 provides the details of the stacking analysis of overcomposition for (*quand elle*) *y a été arrivée* ‘(when she) had arrived there’. The derivation starts out with

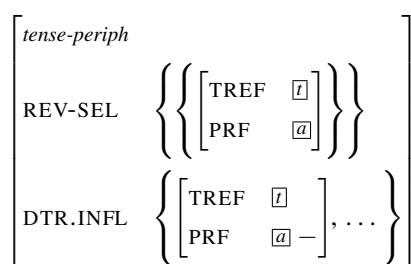


Figure 6.44: Tense before aspect

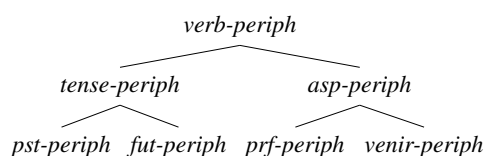


Figure 6.45: Partial ontology of periphrasis rules

a lexical verb realising a deictic present perfective property set, as well as an affixal PP complement corresponding to a locative *praf*. The past tense periphrasis rule cannot apply at this point, because the feature PRF has a positive value. The perfective aspect periphrasis rule applies instead, creating a reverse selection requirement. In this example, the lexical verb belongs to the class that selects for auxiliary *être*, so the selected LID is *être-tns*. The TAM specifications match the input's TNS and TREF values, but the auxiliary needs to be morphologically imperfective, hence [PRF –]. As usual, subject agreement and the pronominal affix are delegated to the auxiliary as well. These specifications are inherited by auxiliary *être* via REV-SEL. Morphologically, *être* therefore needs to express a deictic past imperfective; accordingly, it undergoes the past periphrasis rule. *Être* itself is an *avoir*-taking verb, and the new periphrastic dependency therefore selects for *avoir*. Since this tense periphrasis rule, unlike the future periphrasis rule, includes pronominal affixes, *été* does not locally realise the pronominal affix, but further delegates it to the next auxiliary. In accordance with the description of the past periphrasis rule, *avoir* is required to appear in (deictic imperfective) present tense form, and also receives subject agreement and a pronominal affix from *été*, yielding *y a*.

Note that at this point in the derivation, no further rule of periphrasis could apply: the top-level auxiliary is necessarily in a present imperfective form, and cannot trigger more stacking. This correctly rules out recursive examples like **quand elle y a eu été arrivée*.

However, this analysis is not sufficient to account for the full extent of the variation found with overcomposition. As exposed by Borel (2018, 2019), a range of syntactic, morphological and semantic properties set apart a distinct use of overcomposed forms:

- (6.25) *Le courrier international* je l' ai eu lu pendant mes
the *courrier international* I DO.3SG.M have had read during my
années d' étude
years of study
'I used to read the *Courrier international* back when I was a student.'
(www.thecocooningaroundthecorner.fr, from Borel, 2018: 4, my translation)

This use is termed REGIONAL OVERCOMPOSITION after its mostly French-provincial and Swiss geographical distribution. Most relevantly for our matter, Borel shows that

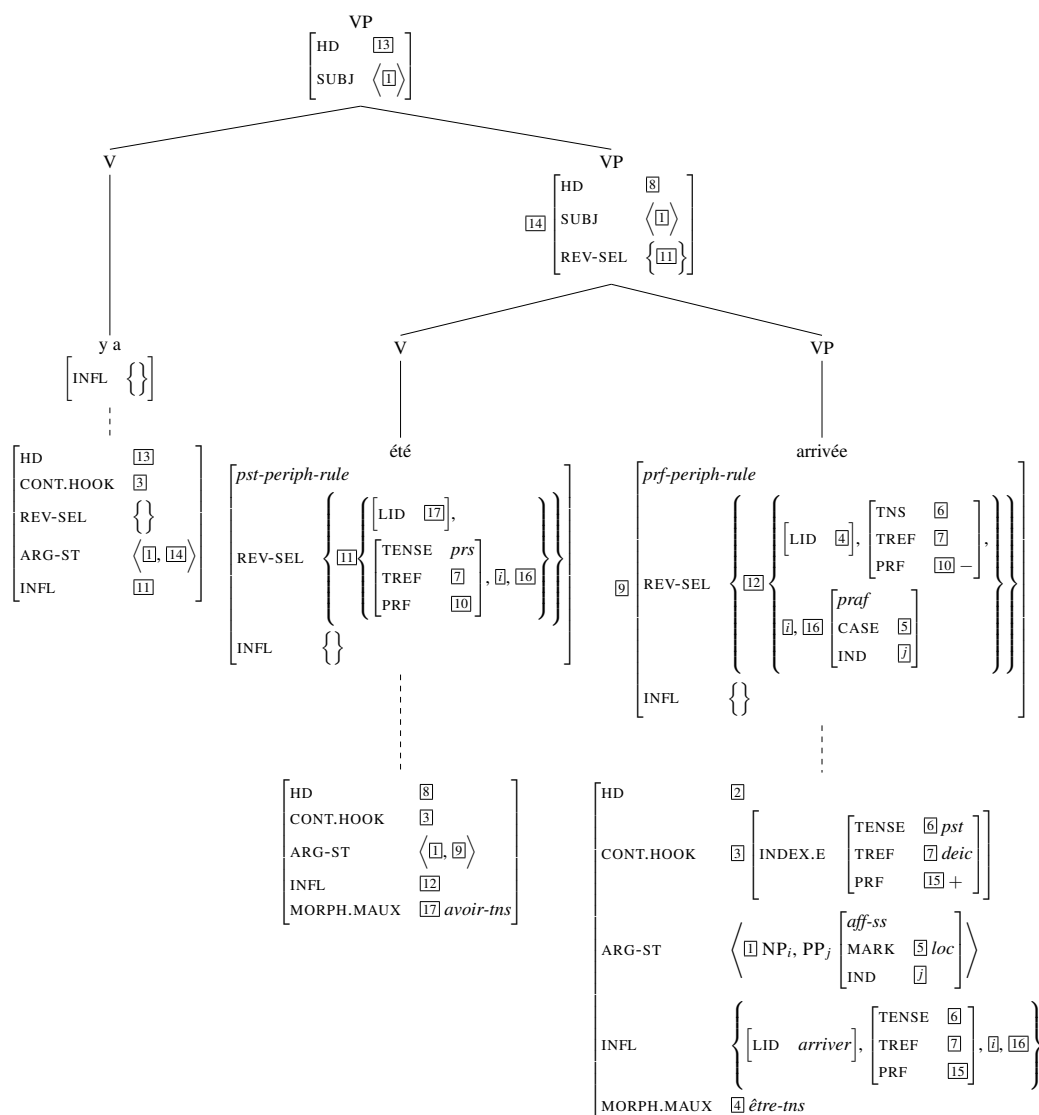


Figure 6.46: Sample derivation: standard overcomposition

the semantics associated with this use are only distantly related to either past tense or perfective aspect: as the translation above suggests, this use is a sort of experiential. The implication for the periphrastic grammar of French is therefore that this construction cannot be reduced to the combination of two pre-existing periphrases: rather, it needs to be considered a distinct cell in the verbal paradigm of the varieties in question, and thus treated by a specific rule.

This consideration brings an entirely new possibility to our analysis of French periphrases: a single (i.e. non-stacked) periphrase can involve two distinct auxiliaries. This is essentially the periphrastic equivalent of classical multiple exponence, i.e. MULTIPLE PERIPHRASTIC EXPONENCE (Bonami, 2015: 37), and is discussed e.g. by Popova & Spencer (2013) for Bulgarian. This means that both *ai* and *eu* are direct ancillary elements of the lexical participle; that is, unlike with standard overcomposition, the top-level auxiliary is not the auxiliary of the intermediate auxiliary participle, but a second auxiliary of the lexical participle.

The analysis must therefore start by introducing a new rule for experiential periphrasis. This rule is given in Figure 6.47. The experiential use is characterised for simplicity as a value of TNS that precludes the features TREF and PRF. In order to model multiple periphrastic exponence, we can make use of the feature REV-SEL's being set-valued and simultaneously create two distinct reverse selection dependencies, corresponding to the two auxiliaries being selected for. The one of the two corresponding to the top auxiliary needs to be in deictic present¹⁵ imperfective form, and realise the lexical verb's subject agreement properties. Since clitic climbing is possible with the regional overcomposed, a set of *prafs* is included in the set of properties delegated to the top auxiliary. As to the choice of auxiliary (*avoir* vs. *être*), Borel notes that the choice of top-level auxiliary (*avoir* vs. *être*) depends on the lexical verb:

- (6.26) des fois je suis eu tombée dans les pommes
 some times I am had fallen in the apples
 ‘A few times it happened that I fainted.’

(forum.doctissimo.fr, from Borel, 2018: 10)

Because *tomber* ‘fall’ is an *être*-verb, its overcomposed experiential is built using a form of *être* followed by *eu* (6.26). This is in contrast to standard overcomposition, in which the top level auxiliary is always *avoir*, by virtue of being the auxiliary selected by both *eu* and *été*. Note that this is a key prediction of the differential analysis of standard and regional overcomposition: under a stacking approach, it would not be possible to predict (6.26).

¹⁵Borel (2018: 15) also provides examples with a top-level auxiliary in the imperfect and future form, and suggests a decomposition into an experiential contribution by *eu* and a tense contribution by the top auxiliary. Note that the multiple periphrasis approach can still capture this suggested fine-grained semantic distinction, but is in any case justified on the basis of (among other things) auxiliary selection data. For our purposes the limitation to deictic present will suffice.

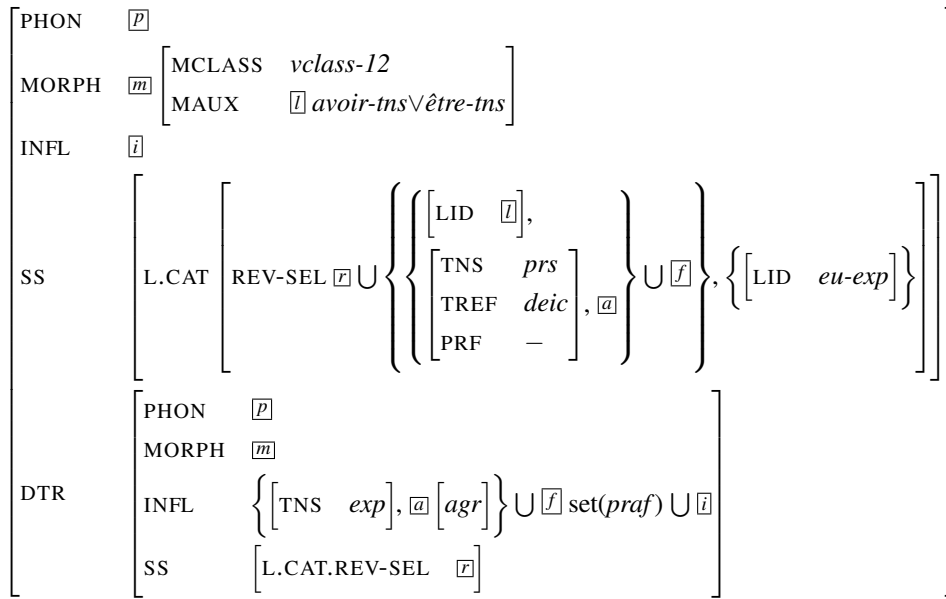
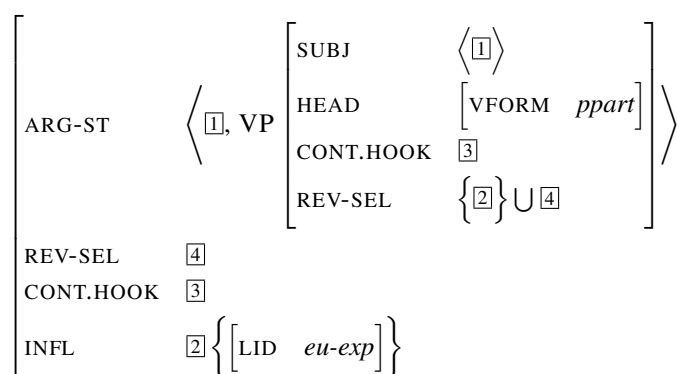


Figure 6.47: Experiential periphrasis

The other of the two periphrastic dependencies created by the multiple periphrasis rule is for auxiliary *avoir*. There are two possible ways in which to treat this form: one is to treat it as a form of *avoir*, the other is to consider it an independent form. The latter option seems most appropriate here. As Borel argues after Clédât (1926) and Carruthers (1994), this special *eu* is best understood as the exponent of the experiential property. On a formal level, no periphrastic relation holds between *eu* and the top level auxiliary; this means that this form of *eu* is not a periphrastic past or perfective. If it is to be treated as a form of *avoir*, it must be a morphomic item unassociated with any of the morphosyntactic information usually carried by participles. Since (non-present) participles in French are always either past/perfective or passive, this morphomic category seems unjustified. Rather, the reverse selection rule specifies the explicit LID value *eu-exp*, for which we can give an entry in Figure 6.48.

Experiential auxiliary *eu* lacks any morphological properties of its own, and works as a simple functional element which is both subject-raising and content-raising. As with other auxiliary verbs, its VP complement should reverse-select for it; the complement is further allowed to possess additional periphrastic dependencies in addition to the one terminated by *eu*. The second periphrastic dependency is simply inherited by *eu*, which will pass it on to the top-level auxiliary.

Note that this case does not provide us sufficient motivation to refine the set value of REV-SEL to an ordered list. Indeed, the current subcategorisation setup intrinsically orders the two auxiliaries: *eu* can only take a participial VP, and the top-level auxiliary is constrained by the experiential rule to be present imperfective, a finite form. On the

Figure 6.48: Lexical entry of experiential auxiliary *eu*

other hand, nothing prevents the top-level auxiliary from taking a VP headed by *eu* as its complement thanks to REV-SEL raising. No additional constraints are therefore required to guarantee the observed order of (e.g.) *est eu tombée*.

The tree in Figure 6.49 illustrates the analysis of regional overcomposition as multiple periphrasis for *y est eu arrivée* ‘used to/has already arrived there’. The experiential specification on *arrivée*’s INFL triggers application of the experiential periphrasis rule in Figure 6.47, which introduces two sets on REV-SEL, corresponding to two periphrastic exponents. The first is the top-level auxiliary, which is constrained in its TAM properties, but is lexically selected (as *être-tns*) and receives the pronominal affix. The second is special auxiliary *eu*, with no further specifications. The latter is met first in syntax, which removes the second set from REV-SEL, but the first is transmitted by *eu* as head of *eu arrivée*. The resulting VP reverse-selects for the top-level auxiliary, which is realised as *y est*.

The proposed approach therefore covers clitic climbing across the two distinct patterns of periphrasis stacking and multiple periphrasis, which in French respectively include the future perfective and standard overcomposition on the one hand, and regional composition on the other.

6.4.2 *S’être* and the auxiliary alternation with reflexives

A case of auxiliary alternation is found in French that involves the reflexive affix:

- (6.27) J’ ai lavé la vaisselle.
I have washed the dishes
‘I washed the dishes.’

- (6.28) Je suis arrivée à 10 heures.
I am arrived at 10 hours
‘I arrived at 10.’

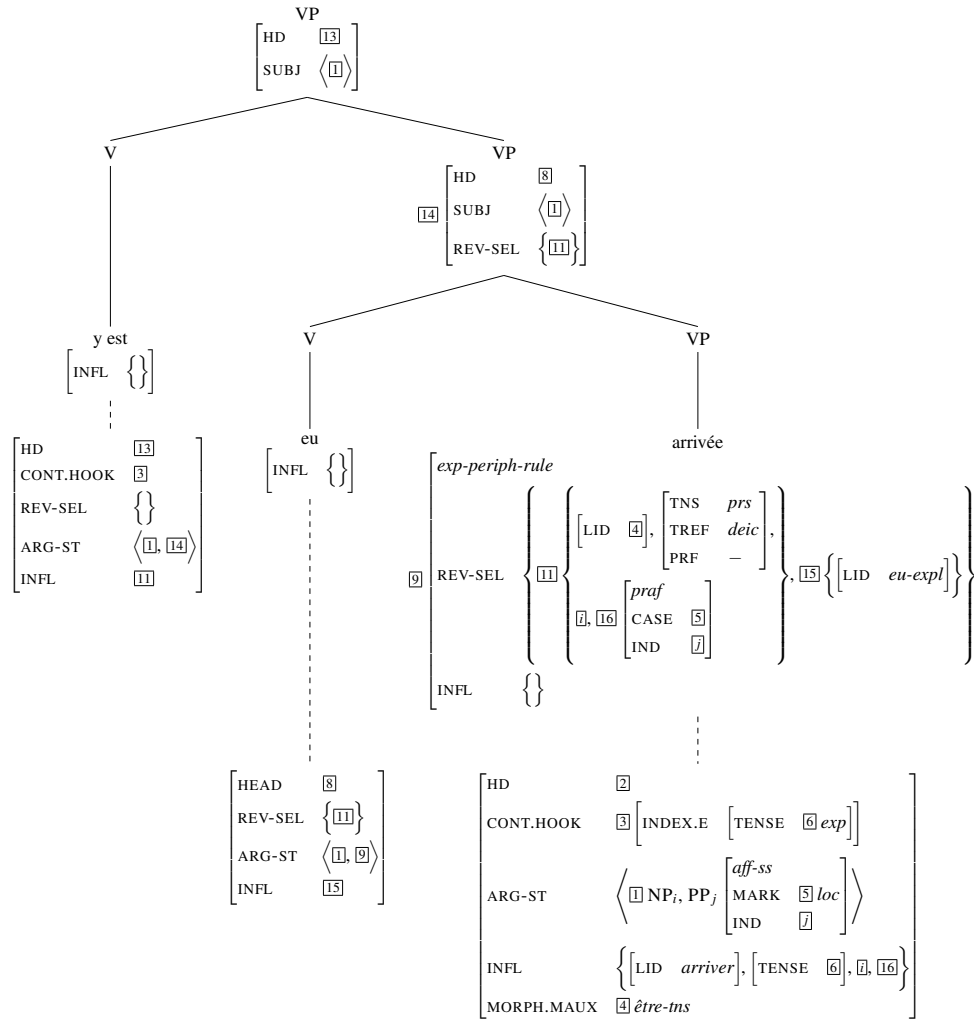


Figure 6.49: Sample derivation: regional overcomposition

- (6.29) Elle s' est lavée.
 she REFL.3 is washed
 'She washed herself.'

As examples (6.27)–(6.28) illustrate, two different verbs can serve as auxiliaries in composed tenses, viz. *avoir* 'have' and *être* 'be'. The choice of auxiliary depends on the lexical verb, with the majority of verbs selecting *avoir* while a minority take *être* (see Section 5.1.1.1). While there are syntactic correlates to the choice of auxiliary, as was explored in research on the Unaccusative Hypothesis (e.g. Perlmutter, 1978; Rosen, 1984, 1988; Burzio, 1986; Loporcaro, 2007, 2015), the alternation is also in part semantic (Sorace, 2000; Legendre, 2007) and can be seen as a purely lexical matter akin to inflectional classification (Bonami, 2015). To clarify, by 'lexical' I do not mean that auxiliary selection necessarily reduces entirely to lexical *semantics*, i.e. I do not adopt a semanticist approach in the sense of Loporcaro (2015); nor do I assume that argument structure plays no role in auxiliary selection. I simply mean that in a highly lexicalised theory of grammar such as HPSG, any determination of auxiliary choice by argument structure properties would be achieved within lexical entries and not by phrase structure rules. For simplicity I therefore make use (*pace* Bonami) of a lexical specification of auxiliary choice, leaving open the possibility of deriving the specification from argument structure and/or lexical semantics.

However, an interesting interaction takes place between periphrastic auxiliary selection and clitic climbing: the presence of a reflexive automatically triggers the use of *être*, regardless of the verb's ordinary choice of auxiliary. Thus *laver* 'wash', which, like all transitive verbs, normally selects *avoir* (6.27), switches to *être* when used reflexively (6.29).

A certain line of analysis presents itself to account for the dataset in (6.27)–(6.29): since the construction in (6.29) is a periphrase, the choice of auxiliary can be settled at the level of the lexical verb. This is the analysis proposed by Bonami (2015: 32–33): essentially, a rule of specific selection for *être* can be formulated to apply in precisely the cases where a reflexive is present. Under this view, French verbs follow a pattern of paradigmatic alternation in auxiliary choice reminiscent of the one found in Italian dialects (Štichauer, 2019), in which the choice of auxiliary is conditioned on the verb's subject agreement features (i.e. person and number paradigm).

However, this solution falls short of accounting for the peculiar pattern auxiliary alternation displays with overcomposed tenses. As discussed previously (Section 6.4.1), two kinds of overcomposition are found in French. The first, referred to as standard overcomposition, is a compositional, stacked periphrase, i.e. the combination of two semantically distinct periphrases which happen to make use of the same exponence pattern. The other, called regional overcomposition, is a multiple periphrase, which requires two auxiliaries simultaneously. This distinction is corroborated by the behaviour of verbs of the *arriver* class, which select for auxiliary *être* for composition. In the

overcomposed case, the order of *être* relative to *avoir* depends on the pattern of periphrasis involved:

- (6.30) Quand tout le monde a été parti, Paule m' a fait signe de
 when everyone has been left Paule OBJ.1SG has made sign to
 rester.
 stay
 'When everyone had left, Paule motioned for me to stay.'
- (6.31) on est eu sortis [ensemble] à l' adolescence
 we is had gone_out together at the adolescence
 'we used to date when we were teenagers'
 (from Borel, 2018: 9, my translations)

As examples (6.30)–(6.31) attest, the stacked periphrase makes use of auxiliary *être* itself in a composed form (i.e. *avoir été*), while the multiple periphrase directly selects for the top auxiliary's identity, and requires the presence of *eu* as a secondary auxiliary regardless of the choice of auxiliary.

With a reflexive, by contrast, both variants behave similarly:

- (6.32) Quand on s' est eu assises, ma mère m' a parlé des
 when we REFL.3 is had sat_down my mother OBJ.1SG has talked of.the
 inquiétudes que X lui donnait.
 worries that X IO.3SG gave
 'When we had sat down, my mother talked to me of the concerns that X was giving her.'
- (6.33) je me suis eu mis de l' orange [= de l' huile essentielle d'
 I OBJ.1SG am had put INDF.SG orange INDF.SG oil essential of
 orange] ici [= dans le décolleté] ça j' aime bien je vous
 orange here in the cleavage this I like well I OBJ.2PL
 expliquerai pourquoi
 explain.FUT why
 'I've sometimes used orange essential oil here in the cleavage area, I quite like it I'll explain to you why'
 (from Borel, 2018: 16, my translations)

In the reflexive case, *être* is found as the top auxiliary only. While this is expected for the regional case (6.33), it is surprising in the standard case (6.32). If the generalisation is that the lexical verb chooses a different auxiliary when it realises a reflexive, then we should expect a similar pattern for reflexive verbs *s'asseoir*, *se mettre* etc. as with

être-taking verbs *partir*, *sortir* etc.¹⁶

The correct generalisation in fact seems to be that instead of an auxiliary selection alternation phenomenon, the *avoir*~*s'être* alternation is a strictly local process. That is, auxiliary *avoir* takes on the set of forms expected of *être* whenever it realises a reflexive. This generalisation immediately accounts for the data in both the composed and overcomposed cases: the auxiliary realised as *être* is always the one directly hosting the reflexive.

I therefore suggest, following Abeillé & Godard (1996: 49–52), that *s'être* is a suppletive form of *avoir*. That is, in the reflexive form of auxiliary *avoir*, a set of suppletive stems normally belonging to the copula is used.

In addition to the overcomposed data presented above, this view is supported by three different considerations. Firstly, suppletion to a form of *être* is known from another corner of the French periphrastic system: as was mentioned in Section 5.1.1.3, (some overabundant) composed forms of the lexical use of *aller* ‘go’ display a similar inflectional highjacking of the copula (6.34).

- (6.34) J' ai été dormir.
I have been sleep
'I went to sleep.'

- (6.35) * Je suis dormir.
I am sleep
(‘I go to sleep.’)

In some sense, there is therefore a precedent for *être* lending its flexeme (Fradin & Kerleroux, 2003) to other verbs to form part of their paradigm. Although it remains to be seen exactly how to model this process, some sort of suppletive referral mechanism seems to be independently called for by French verbal morphology.

The second point is that *avoir* seems to be subject to defectiveness with reflexives in general. Beside its use as a tense auxiliary, *avoir* is a transitive verb with a range of meanings more or less equivalent to those of English *have*, the most central of which revolve around possession. Of course, possession can be somewhat incompatible with reflexivisation, since it is an asymmetric relation. But some meanings of lexical *avoir*, such as the one illustrated in (6.36), are symmetric, such as *avoir quelqu'un au téléphone* ‘talk with someone/get someone on the phone’, or *avoir quelqu'un en contact/ami* ‘have someone (in one’s addressbook)/be friends with someone (on social media)’, and should *a priori* be expected to felicitously allow at least the reciprocal¹⁷ use.

¹⁶Depending on the exact formulation of the analysis, it may be possible to predict *quand je me suis été assise* (i.e. with two forms of *être*) instead of *quand je m'ai été assise*, but neither of these patterns seems to be attested.

¹⁷Note that the reciprocal is one of the several uses lumped here under the label of ‘reflexive’: it is morphologically undistinguished from true reflexives, and triggers the same *avoir*~*s'être* alternation with

- (6.36) J' ai pu avoir Alexandre au téléphone.
 I have been_able have Alexandre to.the telephone
 'I was able to get Alexandre on the phone.'

Interestingly, such lexical uses of *avoir* are still difficult to combine with a reflexive:

- (6.37) Et c'est précisément à cela que servent les Cercles boliviariens : s'
 and it's precisely to this that serve the Circles Bolivarian REFL.3
avoir les uns les autres, être ensemble.
 have the ones the others be together
 'And it's precisely what Bolivarian Circles are good for: having each other,
 being together.'

(frWaC: vdedaj.club.fr)

- (6.38) a. j' espère qu' on arrivera à s' **avoir** sur MSN ou au
 I hope that we manage.FUT to REFL.3 have.INF on MSN or at.the
 téléphone
 phone
 'I hope we'll be able to talk to each other on MSN or on the phone'
 (frWaC: parents.fr)
- b. ? Ça serait bien qu' on s' ait plus souvent au
 it would.be well that we REFL.3 have.SBJV more often at.the
 téléphone.
 phone
 'It would be nice to talk on the phone more often.'
- c. * J' espère qu' on s' a au téléphone bientôt.
 I hope that we REFL.3 have at.the phone soon
 ('I hope we talk on the phone soon.')
- d. * J' espère qu' on arrivera à s' avoir eues au téléphone
 I hope that we manage.FUT to REFL.3 have had at.the telephone
 avant le départ.
 before the departure
 ('I hope we'll have talked on the phone before we leave.')

- (6.39) a. i. Jean n' a que lui-même.
 Jean NEG has only himself
 'Jean only has himself.'

- ii. * Jean s' a.
 Jean REFL.3 has

the auxiliary form.

- b. i. Jean lui aura une bonne place.
 Jean IO.3SG have.FUT a good position
 ‘Jean will get him a good position.’
 ii. * Jean s’ aura une bonne place.
 Jean REFL.3 have.FUT a good place
 (Abeillé & Godard, 1996: 51, my translation)

(6.40) ? Est-ce que tu t’ es toi-même dans ton téléphone ?
 Q you OBJ.2SG is yourself in your phone
 ‘Do you have yourself on your phone (as a contact)?’¹⁸

Although some forms of *avoir* with a reflexive are attested in corpus data (6.37)–(6.38a), they seem restricted to certain cells; the infinitive *s’avoir* seems licit, although infrequent, but finite forms like subjunctive *s’ait* and especially present indicative *s’a* seem dubious (6.38b)–(6.38c). The combination of lexical *avoir* with a reflexive is given as altogether ungrammatical by Abeillé & Godard (1996: 51) on the basis of similar finite examples (6.39). The contrast with auxiliary use (6.38d), which even in the infinitive is sharply ungrammatical, indicates a differential treatment of the auxiliary and lexical uses, but an analysis of auxiliary alternation based on periphrastic selection cannot dispense with a special treatment of lexical *avoir*. As (6.40) shows, the substitution of *être* is sometimes even found with the lexical use of *avoir* in the indicative, for which the regular form *s’a* is missing. Such examples can only be accommodated locally, since no periphrasis is involved.

All in all, lexical *avoir*’s defectiveness lends more plausibility to the idea of a suppletive referral analysis, since referral is sometimes motivated by defectiveness. Lexical *avoir* is partly defective, its paradigm missing at least some reflexive forms, and auxiliary *avoir* is systematically defective, being unable to combine with a reflexive; the alternation with *s’être* appears as a suppletive referral strategy, filling the gaps in the paradigm of at least auxiliary *avoir*.

Finally, past participle agreement in the presence of a reflexive lends further support to the idea that tense auxiliary *s’être* is really a form of *avoir*. As the dataset below illustrates, the prescribed agreement of a participle introduced by *s’être* (6.41) patterns with that of *avoir* (6.42), not *être* (6.43). That is, agreement in the case of *s’être* is made with a non-canonical direct object, which may (6.41a) or may not (6.41c) be the reflexive pronominal. Meanwhile, agreement with *être* is always with the subject.

- (6.41) a. Elle_i s’_i est mise_i derrière lui.
 she REFL.3 is put.PTCP.SG.F behind 3SG.M
 ‘She placed herself behind him.’

¹⁸Overheard example. The judgements in (6.38b)–(6.40) are mine, and are corroborated by the paucity of examples on frWaC (although the unusual number of misspellings on this web-crawled corpus, e.g. *s’ait* for *s’est* or *sait*, makes it hard to provide quantitative data here).

- b. Elles_i se_i sont offert des fleurs.
 SBJ.3PL.F REFL.3 are offer.PTCP.SG.M INDF.PL flowers(F)
 ‘They offered each other flowers.’
- c. (Les fleurs_j,) ils_i se_i les_j sont offertes_j.
 the flowers(F) SBJ.3PL.M REFL.3 DO.3PL are offer.PTCP.PL.F
 ‘They offered them to each other.’
- (6.42) a. (Ses sœurs_j,) elle_i les_j a mises_j derrière lui.
 her sisters(F) she DO.3PL has put.PTCP.PL.F behind 3SG.M
 ‘She put them behind him.’
- b. (Ses sœurs_j,) il_i leur_j a offert des fleurs.
 his sisters(F) he IO.3PL has offer.PTCP.SG.M INDF.PL flowers(F)
 ‘He offered them flowers.’
- (6.43) Les fleurs_i sont mortes_i pendant notre absence.
 the flowers(F) are die.PTCP.PL.F during our absence
 ‘The flowers died during our absence.’

It could be objected to this argument that participle agreement with a reflexive (and with an object in general) comprises an undeniable amount of artificiality due to the pervasive influence of normative ideas. However, in varieties that deviate from the prescribed rules of agreement with an object, *avoir* and *s’être* still pattern together (GGF: 264) in lacking agreement (6.44)–(6.45), while still abiding by subject agreement with *être* (6.46).

- (6.44) % (Ses sœurs,) elle les a mis derrière lui.
 her sisters(F) she DO.3PL has put.PTCP.SG.M behind 3SG.M
 ‘She put them behind him.’
- (6.45) % Elle s’ est mis derrière lui.
 she REFL.3 is put.PTCP.SG.M behind 3SG.M
 ‘She placed herself behind him.’
- (6.46) * Les fleurs sont mort pendant notre absence.
 the flowers(F) are die.PTCP.SG.M during our absence
 (‘The flowers died during our absence.’)

The correlation in participle agreement properties between *avoir* and *s’être* therefore holds across both standard and non-standard varieties.

Although these facts can surely be accounted for from the lexical participle by a special agreement rule in the reflexive case, the suppletion analysis automatically captures the similarity of the patterns in (6.42) and (6.41), since the latter is simply a subcase of the former.

Notice that the reasoning exposed here also advocates against the position that the *avoir~s'être* alternation is to be related to the Unaccusative Hypothesis. In that view, reflexives are thought to trigger a switch to *être* because in a standard reflexive construction, the surface subject is identified with an object argument, a property shared with unaccusative verbs. This line of approach therefore attempts to state the use of *être* in terms that simultaneously include unaccusative verbs, passive participles, and reflexive verbs. However, as we have just seen, in French standard overcomposition reflexive verbs, as in (6.47) reproduced from (6.32), display a pattern of auxiliiation different from unaccusative verbs (6.30) and passives (6.48).

- (6.47) Quand on s' est eu assises, ma mère m' a parlé des
 when we REFL.3 is had sat_down my mother OBJ.1 SG has talked of.the
 inquiétudes que X lui donnait.
 worries that X IO.3SG gave
 'When we had sat down, my mother talked to me of the concerns that X was giving her.'
- (6.48) a. Le problème a été résolu.
 the problem has been resolved
 'The problem has been resolved.'
- b. * Le problème est eu résolu.
 the problem is had resolved

Furthermore, the class of constructions I have called REFLEXIVE is in fact highly heterogeneous (Grimshaw, 1982; Wehrli, 1986). Although it comprises medio-passives (6.49) and direct reflexives (6.50), both cases in which the surface subject does correspond in some sense to a direct object in the argument structure, it also comprises indirect reflexives in which the subject corefers with an indirect object. In such cases, a ditransitive verb may additionally license a direct object (6.51), which hardly lends itself to a classification as unaccusative. Similarly, the class comprises verbs with intrinsic *se*, some of which are accusative (6.52). Regardless, all these constructions trigger a switch to *être*.

- (6.49) Les livres se sont bien vendus.
 the books REFL.3 are well sold
 'The books sold well.'
- (6.50) Le chat s' est lavé.
 the cat REFL.3 is washed
 'The cat cleaned itself.'
- (6.51) Elle s' est offert un cadeau.
 she REFL.3 is offered a present
 'She offered herself a present.'

- (6.52) Elle s' est procuré un livre ancien.
 she REFL.3 is acquired a book ancient
 'She acquired an ancient book.'

Although the Unaccusative Hypothesis may explain common syntactic properties of unaccusative and passive verbs, in light of overcomposition data and of the existence of accusative reflexives it does not seem to extend to reflexives in French. In a study of mixed auxiliation in Italian dialects, Loporcaro (2022) reaches a similar conclusion: for certain Apulian dialects, he argues, the choice of auxiliary only partly follows from Unaccusativity, as in these dialects choice of auxiliary is further determined by morphology, specifically grammatical person as well as phonological context. Loporcaro therefore proposes a 'morpholexical' approach which posits a split auxiliary lexeme comprising forms of HAVE alongside forms of BE in morphologically and/or phonologically conditioned allomorphy. What I propose for French is essentially that reflexives constitute a similarly morphologically conditioned auxiliation pattern which cannot be accounted for by Unaccusativity, and which is best explained instead as suppletive morphology on the auxiliary (akin to Loporcaro's SUPPLETIVE SPLIT LEXEME).

To conclude, the evidence seems to favour a strictly local approach to the puzzle of the *avoir*~*s'être* alternation, in which *s'être* is seen as a suppletive form of auxiliary *avoir*.¹⁹ Although the emphasis on periphrasis which characterises the present approach makes it tempting to reduce the alternation to a split in the periphrastic paradigm as does Bonami (2015), the suppletion approach defended here is supported by overcomposition data, the defectiveness of lexical *avoir*, and patterns of participle agreement.

6.4.3 Participle agreement

A final remark is due concerning participle agreement and, in particular, how the morphological perspective improves over the argument-inheritance approach with respect to this phenomenon. Under argument composition, *aff-ss* and *gap-ss* objects will not only appear on the ARG-ST list of the lexical participle, but also on the auxiliary participle. Thus, in overcomposition, we would expect participle agreement to show up on the intermediate participial auxiliary (recall Section 5.1.1.2). As witnessed by the examples

¹⁹Given the technical assumptions made so far regarding periphrasis, this view makes the prediction that a perfective embedded under a clitic climbing predicate, like *faire*, would also undergo suppletion as a link in a reflexive clitic climbing chain. The decisive datapoint, exemplified in the sentence below, is too obscure for me to intuit a judgement about.

- (i) ?! On s' est fait avoir/être réveillées avant le réveil.
 we REFL.3 is made have/be woken_up before the alarm
 'We had someone have woken us up before the alarm.'

in (6.53), this prediction is not borne out.²⁰

- (6.53) a. Les lettres, nous les avons eu(*es) écrites.
 the letters(F) we them have have.PTCP.PL.F write.PTCP.PL.F
 ‘As for the letters, we had written them.’
 b. les lettres que nous avons eu(*es) écrites
 the letters(F) that we have have.PTCP.PL.F write.PTCP.PL.F
 ‘the letters we had written’

By contrast in the periphrasis approach, no non-canonical object appears on the auxiliary participle’s argument structure, since argument structures are not composed beyond simple subject raising. More specifically, we can divide the morphosyntactic properties of the lexical verb in two groups: the first group contains all information realised periphrastically. This includes TAM properties, subject agreement, and pronominal affixes. The second group consists of properties that are realised synthetically – recall that periphrasis need not involve all of a lexical item’s properties, and that the lexical item always receives synthetic morphology regarding (minimally) nonfiniteness. E.g. as previously explored in Section 6.2.2, the lexical item in a future periphrase still realises its pronominal affixes synthetically, on top of infinitival morphology. In the case of past participles, the set of synthetically realised properties does not contain pronominal affixes, but includes participial morphology, and also agreement: past and passive participles have an adjective-like form paradigm which contains four cells combining the possibilities offered by agreement in number and gender.

Informally, a treatment of past participle agreement in the periphrasis approach would go as follows. A lexical verb carries a past and/or perfective property, and consequently undergoes a periphrasis rule (Figures 6.14 & 6.18). This launches a periphrastic dependency for an auxiliary, and forces selection of the stem for participles. Previous sections have already covered what then happens in syntax, i.e. combination with an auxiliary which inherits the participle’s reverse-selected morphosyntactic properties, but so far nothing has been said of what happens to the participle next. In varieties without participle object agreement (i.e. in some spoken varieties), the derivation effectively stops there.²¹ In cases with participle agreement, however, the periphrasis rule is not the last inflectional rule to apply to the participle: further steps need to be taken to produce

²⁰As was noted in the previous section, past participle agreement with an object is strongly subject to variation. It is the prescribed form in the normative tradition, and is therefore very common in writing. It is somewhat commonly found in spoken French (the alternative being participle invariability with *avoir*), although the morphology of *eu* makes the agreement audible only in case of liaison, which is also subject to speaker variation (on top of the already variable status of overcomposition itself). Nonetheless, it should be expected that plural *aff-ss* objects combined with a vowel-initial lexical participle, as in (6.53), should occasionally produce liaison, but to my knowledge this possibility is unattested.

²¹This assumes that the participle stem of e.g. *mangées* (/mãʒe/) ‘eaten’ is /mãʒe/ (see e.g. Bonami & Boyé, 2005), and not /mãʒ/; in other words, that *-/e/* is not an exponent.

agreement markers. This presupposes that at this step in the derivation, new morphosyntactic properties are introduced, corresponding to the change in paradigm.²² For our purposes, the exact manner in which the properties are introduced does not have to be made fully explicit, and this well-known problem (MORPHOLOGICAL TRANSPOSITION) is in any case common to any treatment of participial morphology. But crucially, at this point all the local information required to make the right derivational decisions is readily available: in accordance with the rules of participle agreement, participles can decide based on properties of their argument structure and of their inflectional class (auxiliary selection) whether to inflect for agreement, and with what argument.

Going back to the overcomposed example, the intermediate auxiliary similarly inflects for participle form according to the analysis previously sketched in Section 6.4.1. This time, however, there cannot be any participle agreement: the only element on the auxiliary's argument structure that could be targetted by agreement is the subject, but subject agreement is restricted to *être*-class verbs, and *avoir* is itself an *avoir*-class verb. This correctly predicts that intermediate participles in overcomposed tenses are invariable.

²²A more elaborate solution could follow Spencer (2013a: 261–262)'s analysis of Russian I-participles as MORPHOLOGICAL SHIFT.

Chapter 7

Causatives, perception verbs, and clause union

Over the previous chapters, I have motivated and formulated the proposal that clitic climbing in French is indicative of periphrasis, and provided an account for the phenomenon as it is found with tense auxiliary constructions, passives, and predicatives. One last major category of clitic climbing constructions is found in French in the form of causative, permissive and perception constructions. This chapter¹ introduces the complex data associated with these constructions, along with insights and generalisations from the literature, in Sections 7.1–7.2. In Section 7.3 I propose a critical review of the previous approaches, before providing several arguments in favour of a new line of approach in Section 7.4; the chapter is concluded by an interim discussion in Section 7.5, paving the way for a formal analysis in the next chapter.

7.1 Clause union

Romance causative constructions have been argued to involve a peculiar process by which they behave, in various aspects of their morphosyntax, as if they were a single predicate, while formally consisting of two independent words.² This phenomenon has been variously called **CLAUSE REDUCTION** (Aissen & Perlmutter, 1976), **COMPLEX PREDICATE FORMATION** (e.g. Alsina, 1992), **ARGUMENT COMPOSITION** (Abeillé et al., 1998b), **MONOCLAUSAL *faire*** (e.g. Labelle, 2017), **RESTRUCTURING** (in particular in

¹This chapter is partly based on Aguila-Multner & Crysmann (2020b).

²Despite the similarity that this definition bears to the one commonly given for inflectional periphrasis, the two notions are only rarely brought together, perhaps because of the phenomenon's prominence in early discussion in purely syntactic frameworks.

Italian syntax, cf. Rizzi, 1982), or CLAUSE UNION, the term I henceforth retain.³

In French, there are properties of *faire* and related constructions, such as *laisser* and perception verbs, that lend quite strong support to the perspective that they are clause union predicates. First, pronominal arguments of the downstairs verb can undergo clitic climbing.

- (7.1) La panthère la leur fait traverser.
 the panther DO.3SG.F IO.3PL makes cross
 ‘The panther makes them cross it.’

In (7.1) above, although the dative pronominal *leur*, corresponding to the subject of *traverser*, could conceivably be considered a controller or raised argument, the accusative *la* is undoubtedly a climbing affix, as it corresponds to the infinitive’s direct object. By contrast, standard control or raising verbs in French, do not permit clitic climbing (7.2).

- (7.2) a. La panthère veut/peut la traverser.
 the panther wants/can DO.3SG.F cross
 ‘The panther wants to/can cross it.’
 b. * La panthère la veut/peut traverser.
 the panther DO.3SG.F wants/can cross

The intuition about such clitic climbing is then essentially that it is as if *faire traverser* acts as a single predicate, whose various arguments all pronominalise to the predicate’s head (i.e. *faire*).

Second, the subject of the downstairs verb displays atypical postverbal ordering and case marking properties:

- (7.3) a. La panthère fait traverser la route à ses petits.
 the panther makes cross the road to its cubs
 ‘The panther makes its cubs cross the road.’
 b. * La panthère fait à ses petits traverser la route.
 the panther makes to its cubs cross the road

This is again in contrast to ordinary controller or raised arguments, which, as dependents of the matrix verb, are unsurprisingly found both postverbally and (preferentially) preverbally:

- (7.4) a. La panthère force ses petits à traverser la route.
 the panther forces its cubs to cross the road
 ‘The panther forces its cubs to cross the road.’

³There naturally exist minor differences between the notions covered by these labels, and it is sometimes unclear whether a term is meant as a descriptive label or as a technical term for a formal mechanism.

- b. ? La panthère force à traverser la route ses petits.
 the panther forces to cross the road its cubs
 ‘The panther forces its cubs to cross the road.’

This reinforces the same intuition regarding French causatives: the downstairs subject is no longer subject-like, having become a complement of the complex predicate as a whole, and its syntactic realisation consequently follows the verbs constituting the complex predicate.

Not only is the position of the downstairs subject unusual, but its marking is also special: as (7.3a) illustrates, it can be an indirect object marked by *à*, but this is only the case when the infinitive is transitive; intransitive verbs embedded under *faire* have bare NP subjects, cf. (7.5).

- (7.5) La panthère a fait partir le serpent.
 the panther has made leave the snake
 ‘The panther made the snake leave.’

As many authors have remarked, it is as if the fusion of the two predicates triggers a reorganisation of the argument structure: the causer argument, realised as subject of *faire*, takes the place of the subject, forcing the original subject (i.e. the infinitive’s external argument) to the next available grammatical function. If the verb is intransitive, then the direct object function is free and assumed by the downstairs subject; if not, then the downstairs subject must rather become an indirect object.

Third, there are two valence-changing phenomena involving *se* that operate across the entire argument structure: these are REFLEXIVISATION and MEDIO-PASSIVISATION. In the reflexive construction (7.6),⁴ the pronominal affix *se* (in the third person) appears on the verb and indicates that either the direct object (7.6a) or the indirect object (7.6b) is to be interpreted coreferentially to the verb’s subject.

- (7.6) a. Les enfants se présentent à leur prof.
 the children REFL.3 present to their teacher
 ‘The children introduce themselves to their teacher.’
 b. Les enfants se présentent leurs parents.
 the children REFL.3 present their parents
 ‘The children introduce their parents to each other.’

In the medio-passive construction (7.7), the same marker signals a more complex valence alternation: the verb’s subject is suppressed and interpreted generically, while

⁴Note that the semantic distinction between reflexives and reciprocals is not relevant to the present discussion, as they function similarly vis-à-vis clause union. I use the term REFLEXIVE inclusively of both of these variants, and I gloss *se* as REFL.3 without any implication to its interpretation.

the erstwhile direct object is promoted to subject.⁵

- (7.7) Les voitures se réparent facilement de nos jours.
 the cars REFL.3 repair easily these days
 ‘Cars are repaired easily these days.’

These two valence reduction phenomena can affect the whole causative construction when *se* is expressed on *faire*:

- (7.8) Le voleur se fera arrêter.
 the thief REFL.3 make.FUT arrest
 ‘The thief will get himself arrested.’
- (7.9) Les voitures se font réparer pour pas cher de nos jours.
 the cars REFL.3 make repair cheaply these days
 ‘Cars get repaired cheaply these days.’

In (7.8), the causer binds the patient argument of the downstairs verb, a case I shall refer to as LONG REFLEXIVISATION. In the LONG MEDIO-PASSIVE, as in (7.9), the upstairs subject is the theme argument of the downstairs verb, and crucially does not receive an actor or undergoer role from the causative, which remains unexpressed: the logical object of the downstairs verb is promoted to subject of *faire*, while the logical subject of *faire* is put *en chômage*.

Crucially, this property is conceptually distinct from the clitic climbing property previously discussed: although the reflexive/medio-passive marker is certainly a climbing affix, and although the two properties cluster together in French, the *se faire* constructions come with an associated grammatical function change. If this was only a subcase of clitic climbing, one would expect *se* in the long reflexive to be bound by the downstairs subject, and thus (7.8) to mean something like ‘the thief will make someone stop themselves’. Similarly, in the long medio-passive, it should be expected that the medio-passivisation applies locally to the downstairs verb and that *se* then has the possibility to climb to the higher verb; (7.9) should then be expected to mean ‘cars make something be repaired cheaply these days’. These are obviously not the correct interpretations of such examples.⁶

⁵There are further semantic constraints, such as inanimacy of the promoted argument, and a modal reading, which have no bearing on the interaction with causatives.

⁶Another possibility of *se* appearing on *faire* is as a reflexive or medio-passive targetting the subject of the infinitive, since they both function with (at least direct) objects, and the subject of the infinitive is object-marked. The relevant cases are illustrated in (i) and (ii) below respectively.

- (i) Il se fait dormir à coups de tisane de houblon et de podcasts d’histoire.
 he REFL.3 makes sleep by means of tea of hops and of podcasts of history
 ‘He makes himself sleep using hops tea and history podcasts.’

Ordinary infinitival constructions again differ in this regard, and tentative long reflexives (7.10) and medio-passives (7.11) operating across *vouloir* ‘want’ and its infinitival complement are ungrammatical.

- (7.10) * Il se veut présenter à sa prof.
 he REFL.3 wants present to his teacher
 (‘He wants to introduce himself to his teacher.’)
- (7.11) * Les hiéroglyphes se veulent difficilement apprendre.
 the hieroglyphs REFL.3 want hardly learn
 (‘One hardly wants to learn hieroglyphs.’)

Thus, with complex predicates, valence operations behave exactly the way they do when applied to simple predicates, manipulating the valency of the whole in a way that would be impossible to predict if the argument structures of the two verbs were kept separate.

Another feature of French causative constructions often proposed to belong with the clause union properties is transparency to so-called ‘*tough* movement’ (e.g. Abeillé et al., 1995: 131). Like their English counterparts, French *tough* constructions (and MISSING OBJECT CONSTRUCTIONS in general) also involve promotion of a direct object to become an external argument, as exemplified in (7.12).

- (7.12) Ce livre est facile à lire.
 this book is easy to read
 ‘This book is easy to read.’

-
- (ii) Une fois rentrés par une fenêtre laissée ouverte, les frelons se font difficilement ressortir.
 once entered by a window left open the hornets REFL.3 make difficultly go_back_out
 ‘Once they’ve entered through a window left open, it is hard to make hornets go back out.’

These two constructions are less theoretically interesting, given that they are available to ordinary control verbs, as in (iii) and (iv) below respectively:

- (iii) Il s’est persuadé qu’il avait raison, et on ne peut plus en discuter
 he REFL.3 is persuaded that he has right and one NEG can no_longer GEN discuss avec lui.
 with 3SG.M
 ‘He’s convinced himself he is right, and now there is no discussing it with him.’
- (iv) Un âne ça se persuade difficilement de manger des ronces s’il y a aussi
 a donkey it REFL.3 persuades difficultly of eat INDF.PL brambles if there is also des pommes.
 INDF.PL apples
 ‘A donkey is hard to convince to eat brambles if there are also apples.’

Unsurprisingly, this promotion can operate across a *faire* construction, as in (7.13), and this has been claimed to relate to clause union.

- (7.13) Ce livre est facile à faire lire aux élèves.
 this book is easy to make read to.the students
 ‘This book is easy to make the students read.’

However, there is good evidence to believe that many, if not most, regular infinitival constructions in French also exhibit the same transparency:

- (7.14) Ce livre est facile à finir de lire en une journée.
 this book is easy to finish to read in one day
 ‘This book is easy to finish to read in one day.’

I return to this datapoint and to an analysis of French missing object constructions in Chapter 9.

Finally, it is often observed that a negated infinitive cannot be embedded under *faire*:

- (7.15) * Jean l’ y fait ne pas aller.
 Jean DO.3SG LOC makes NEG not go
 ‘Jean makes him not go there.’

(Labelle, 2017: 306)

I return to the treatment of negation in Section 8.6.

To summarise the evidence, French causatives behave as a single predicate when it comes to realisation of morphological arguments, realisation of the downstairs subject, and valence-changing operations. All in all, it is as if the complex predicate possesses a single, common argument structure obtained by fusion of the arguments of the downstairs verb and of the causer argument introduced by *faire* – schematically, as in (7.16) below (adapted from Di Sciullo & Rosen, 1991: 28).

- $$(7.16) \quad \left. \begin{array}{ll} \text{faire} & ((x)) \\ \text{lire} & (e(y, z)) \end{array} \right\} \Rightarrow \text{faire lire } (e(x, y, z))$$

While the initial data just reviewed clearly favour clause union, i.e. any kind of approach where the arguments of the causative verb and its complement form a single argument structure, there are in principle two ways that this unioned argument structure can come about: either by means of composing the arguments of the downstairs verbal complement onto the argument structure of the upstairs causative, or else by augmenting the argument structure of the downstairs verb with the argument of the upstairs causative, treating the causative verb essentially as an auxiliary. The first approach, i.e. argument structure composition on the upstairs verb, is the standard approach in frameworks such

as Head-driven Phrase Structure Grammar (see Abeillé et al., 1997) or Lexical Functional Grammar (e.g. Alsina, 1992). The second approach is in fact the one obtained by the periphrasis approach, as it effectively results in licensing a morphological causative, but has so far not been explored for French or Romance causatives.⁷

Before approaching the theoretical discussion, one more complication in the data found with *faire* needs to be introduced, to which we now turn.

7.2 Double structure

As was observed by Hyman & Zimmer (1976), two separate uses of *faire* need to be distinguished. One of them is the use of *faire* which displays the various clause union properties discussed above, which we can call *CLAUSE UNION faire*. The other one is a control verb, not very different from e.g. *forcer* ‘force’ (7.17):

- (7.17) % Je les fais réviser leurs maths.
 I DO.3PL make study their maths
 ‘I make them study maths.’
- (7.18) a. % Je les fais en réviser une partie.
 I DO.3PL make GEN study a part
 ‘I make them study a part of it.’
- b. * Je les en fais réviser une partie.
 I DO.3PL GEN make study a part

In (7.17), several properties signal a difference from the construction introduced in the previous section. Firstly, these forms, which we can call *BICLAUSAL faire*, have a different sociolinguistic status: they are often considered non-standard, and are absent from more conservative registers (Abeillé et al., 1997, 1998b). Secondly, they have a different marking pattern concerning the subject of the infinitive: in this construction, the downstairs subject is always realised as an accusative pronominal, like *les* in (7.17), never as a phrase or a dative pronominal, even with a transitive verb like *réviser* ‘study’. Thirdly, they do not allow clitic climbing, as (7.18) illustrates, and consequently neither do they have potential for allowing long reflexivisation or medio-passivisation.

Finally, this use of *faire* differs from clause union *faire* in its semantics. As many authors have noted, biclausal *faire* involves a more direct kind of causation than clause union *faire*, and the downstairs subject is usually assumed to retain a smaller amount

⁷ An interesting proposal for *faire* as a CAUSATIVE MORPHEME is made by Zubizarreta (1985) in a Government and Binding framework. This idea is rather close in spirit to the periphrasis approach, and based on a similar reasoning, embracing the view of the morphological causative. However, causative *faire* is a free form that can be separated from the infinitive (by adverbials, or, as we shall see, pronominals); I therefore prefer to think of *faire* as a causative *periphrastic auxiliary*.

of control over the caused situation. This difference in semantics leads to verbs with experiencer subjects such as *aimer* (to like) being dispreferred in the control construction, as experiencers are not expected to have control over the caused event and are therefore incompatible with the causee role. This is illustrated in example (7.19), where the only compatible causative meaning is the clause union one (7.19a).

- (7.19) a. Faites-leur aimer Proust !
 make-IO.3PL love Proust
 ‘Make them like Proust.’
 b. #Faites-les aimer Proust !
 make-DO.3PL love Proust

(Abeillé et al., 1997: 66, my translation)

There is however a lack of consensus over what formal representations best obtain this semantic effect. According to Labelle (2017: 300), the standard generativist account of biclausal *faire* is in terms of EXCEPTIONAL CASE MARKING (e.g. Rowlett, 2007). In HPSG, Abeillé et al. (1997, 1998b) argue convincingly for a control analysis of biclausal *faire* based on the downstairs subject receiving a thematic role (causee) from *faire*, making it a three-place predicate. The authors conversely defend the idea that clause union *faire* is semantically a two-place predicate, which does not assign a causee role, hence the relaxed semantics: there is no constraint on the relationship between the causer and the external argument of the caused event.⁸

The only unusual property that sets biclausal *faire* apart from other control verbs is thus the unexpected restriction to pronominal realisation of the causee. Indeed, controllers are in principle expected to be realised freely as any arguments, as in (7.20) for English *make*, or in (7.21) for French *forcer* ‘force’.

- (7.20) I made the peddler leave.
 (7.21) J’ ai forcé le colporteur à partir.
 I have forced the peddler to leave
 ‘I forced the peddler to leave.’

While this may cast some doubt on a control analysis, data from a related class of predicates lend strong support to it. *Faire* is in fact not the only clause union verb in

⁸Baschung & Desmets (2000) provide criticism of this representation, arguing instead for a raising analysis of biclausal *faire* and of clausal union *faire* when it is followed by an intransitive, but a control analysis of clause union *faire* followed by a transitive verb. There is certainly good reason to distinguish between transitive and intransitive verbs, as they introduce different markings on the causee which correlate with semantics (see Section 7.4.1, and Comrie, 1989: 60–61 for more general discussion). However, it is unclear how a raising analysis of biclausal *faire* can encode the semantic constraints on that construction. Although the possibility of treating clause union *faire* as a three-place predicate with different semantic constraints on the causee role compared to biclausal is interesting, for simplicity in what follows I adhere to Abeillé et al.’s proposal.

French: the special properties discussed in the previous section are shared by permissive *laisser* ‘let’ and a small class of perception verbs like *voir* ‘see’ and *entendre* ‘hear’, as illustrated below.

- (7.22) a. Je leur en laisserai manger.
I IO.3PL GEN let.FUT eat
‘I will let them eat some.’
b. Cet immeuble, je l’ ai vu construire depuis ma fenêtre.
this building I DO.3SG.M have seen build from my window
‘This building I saw being built from my window.’
- (7.23) a. J’ en laisserai manger aux enfants.
I GEN let.FUT eat to.the children
‘I will let the children eat some.’
b. % J’ entends souvent dire des bêtises à Max.
I hear often say INDF.PL nonsense to Max
‘I often hear Max talk nonsense.’
- (7.24) a. Ne te laisse pas marcher sur les pieds.
NEG OBJ.2SG let.IMP not step on the feet
‘Don’t let yourself be pushed around.’
b. Il s’ est vu dérober ses affaires.
he REFL.3 is seen steal his stuff
‘He was robbed of his belongings.’

As (7.22) shows, *laisser* and the perception verbs allow clitic climbing; they also place the downstairs subject postverbally (7.23), and its marking is sensitive to transitivity; and they license long reflexivisation (7.24).

These verbs are equally polysemous, each possessing a control variant in addition to the clause union one shown above, cf. (7.25)–(7.26).⁹

- (7.25) Je les laisserai en manger.
I DO.3PL let.FUT GEN eat
‘I will let them eat some.’
- (7.26) Je les voyais le construire.
I DO.3PL saw DO.3SG.M build
‘I saw them build it.’

⁹The sociolinguistic status of the various uses is unclear. It appears that the control variants of *laisser* and the perception verbs are better-established than that of *faire*, while their clause union use may be becoming partly restricted to the formal register – e.g. (7.24b) seems more typical of literary or journalistic style. See also Rowlett (2007: 764).

Interestingly, the control variants of *laisser* and the perception verbs are not restricted to pronominal causees:

- (7.27) Je laisserai les enfants en manger.
 I let.FUT the children GEN eat
 ‘I will let the children eat some.’
- (7.28) J’ ai vu les architectes le construire.
 I have seen the architects DO.3SG.M build
 ‘I saw the architects build it.’

Furthermore, usages from (among others) Canada license a preverbal causee:

- (7.29) % J’ ai fait les enfants jouer dehors.
 I have made the children play outside
 ‘I made the children play outside.’

(GGF: 322, my translation)

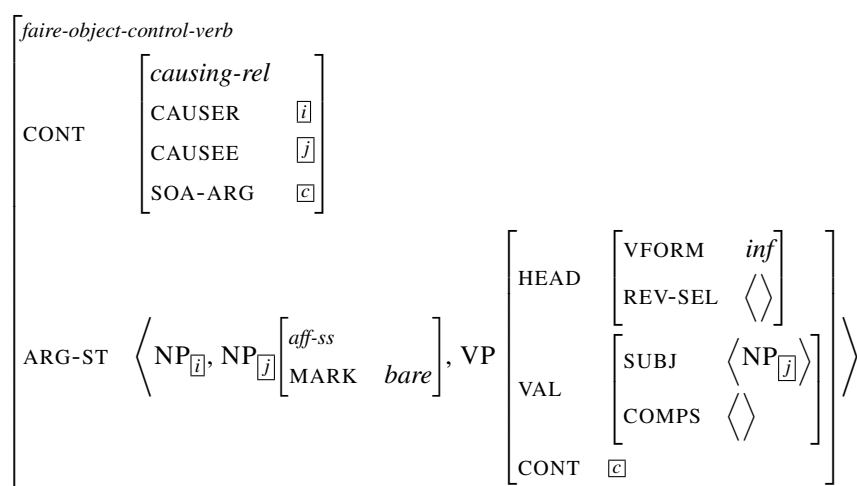
Given the highly similar pattern, I consider after Abeillé et al. that the correct generalisation is indeed that all of the French clause union verbs also alternate with a control construction, with *faire* minimally differing by a stipulation on its causer argument’s realisation mode. It can be noted that such a constraint is not unique in French grammar, as illustrated by the behaviour of *croire*:

- (7.30) * J’ ai cru Max avoir raison.
 I have believed Max have right
 (‘I believed Max to be right.’)
- (7.31) Je l’ ai cru avoir raison.
 I DO.3SG.M have believed have right
 ‘I believed him to be right.’

In (7.30), phrasal realisation of the raised complement *Max* is illicit, even though the construction is grammatical with affixal realisation (7.31).

We can readily provide a formal analysis of biclausal *faire* in the form of a lexical entry in Figure 7.1. This representation is the standard treatment of object equi verbs in HPSG, except for the type imposed on the direct object NP, viz. *aff-ss*, the mode of realisation that describes pronominal affixes (recall Figure 6.1 from Section 6.1.1).

Despite the analytical simplicity associated with biclausal *faire*, its existence has considerably complicated the formulation of generalisations regarding the possible realisation modes of arguments in French causatives. Firstly, any example in which the infinitive is an intransitive whose subject is realised affixally should be expected to be ambiguous between the two uses of *faire* (except in case of clitic climbing), as in (7.32).

Figure 7.1: Lexical entry of *faire*, control variant

- (7.32) Je les fais dormir.
 I DO.3PL make sleep
 ‘I make them sleep.’

In such cases, only subtle semantic nuances in interpretation can discriminate between the two structures (if even that, as it seems the set of causative situations biclausal *faire* can describe could well be included in the broader set of causative readings associated with clause union *faire*).

Secondly, a number of examples are attested which challenge the categorical distribution of properties given previously:

- (7.33) Ça lui a fait accélérer/patenter/hésiter/déchanter.
 that IO.3SG has made speed_up/wait/hesitate/become_disillusioned
 ‘That made her speed up/wait/hesitate/become disillusioned.’
 (Abeillé et al., 1997: 73, my translation)

In (7.33), the downstairs subject is realised as a dative pronominal (*lui*) despite the infinitive’s intransitivity. This is unforeseen regardless of the type of *faire* we are dealing with: clause union *faire* should make the subject of an intransitive a bare NP, while biclausal *faire* supposedly only allows accusative marking. Abeillé et al. suggest treating such cases as a form of control, which entails a further distinction between two control uses, a common one with an accusative causee, and a more restricted one with a dative causee. This consequently further expands the domain of the systematic ambiguity between the forms: if both accusative and dative pronominals can appear on biclausal *faire*, the only unambiguous examples of clause union *faire* are cases that either have clitic climbing or a phrasally realised downstairs subject. In the rest of this chapter, which

will focus on the clause union variant, I therefore try to rely (whenever possible) on examples which satisfy this condition.

Consider now example (7.34):

- (7.34) Espérons que le professeur fera y aller Paul.
 hope.IMP.1 PL that the teacher make.FUT LOC go Paul
 ‘Let’s hope the teacher will make Paul go there.’
 (id.)

This time we have a phrasal realisation of the downstairs subject (*Paul*), which should indicate the clause union variant, combined with downstairs realisation of a pronominal argument (*y*), which is expected under the control variant which lacks clitic climbing. Abeillé et al. again ascribe this to a further form of variation within the control uses of *faire*. As Baschung & Desmets (2000) point out, this conclusion seems strongly at odds with the previously established generalisations: if control *faire* can realise its causee phrasally, then we should expect the preverbal position that mirrors the one found with *laisser*, the perception verbs, and control verbs in general, i.e. (7.35).

- (7.35) * Espérons que le professeur fera Paul y aller.
 hope.IMP.1 PL that the teacher make.FUT Paul LOC go

This possibility is sharply ungrammatical in French variants spoken in France. The semantics associated with such sentences do not seem to fit biclausal *faire* either, which is described as implying direct causation over an animate causee. This description does not hold for (7.36), paralleling (7.34) with an inanimate causee:

- (7.36) Cette adresse est lointaine, mais la détermination de la messagère
 this address is far but the determination of the messenger
 fera y parvenir la lettre.
 make.FUT LOC reach the letter
 ‘This address is far away, but the messenger’s determination will make the
 letter reach it.’

Besides, Abeillé et al. do accept certain cases of downstairs realisation of pronominal affixes as genuine forms of clause union *faire*, namely those that have to do with TRAPPING (see Section 7.3.2):

- (7.37) La trop grande chaleur a fait se briser le cristal.
 the too big heat has made REFL.3 break the crystal
 ‘The excessive heat has made the crystal break.’
 (Abeillé et al., 1997: 72, my translation)

The alternative conclusion, namely that (7.34) is a case of clause union *faire*, seems more coherent, as it simply requires that we state that clitic climbing is only found with clause union *faire*, and not with biclausal *faire*, without committing to its obligatoriness. I return to trapping in Sections 7.3.2 & 7.4.2, and to the optionality of clitic climbing in French causatives in Section 8.5.

To summarise, I essentially follow Hyman & Zimmer (1976) and Abeillé et al. (1997, 1998b) in recognising two types of causatives, one that corresponds to an (almost) ordinary control verb, and another one that is involved in complex predicate formation. The distinguishing properties include sociolinguistic acceptability, semantic inferences, and morphosyntactic properties regarding clitic climbing, position and marking of the downstairs subject. The clause union variant, as a clitic climbing verb, will be the focus of the bulk of the discussion.

7.3 Outside-in problems

Having laid out most of the data that characterise French causatives, we can now begin to evaluate what line of approach best handles them.

Given the properties introduced in Section 7.1, there is no doubt about the validity of the insight provided by the notion of clause union: at some level, French causatives behave like a single predicate. More precisely, what seems to be minimally necessary to derive the clause union effect is that a single argument structure should be obtained, collecting all of the complex predicate's arguments in the same representation.

In the surface-based, lexicalist framework assumed here, and in keeping with the affixal status of French pronominals, we can distinguish between two ways in which such a unified argument structure can in principle be obtained. One way is to build the argument structure at the level of the higher verb (*faire*), an approach I call OUTSIDE-IN CLAUSE UNION. The other logical possibility is to build the argument structure at the lower level of the infinitive verb, an approach I call INSIDE-OUT CLAUSE UNION.

In the next section, I review a set of proposals by Abeillé et al. (1995, 1997, 1998b), Miller & Sag (1997) and Abeillé & Godard (2001), which I classify as an outside-in approach. I then turn in Sections 7.3.2–7.3.4 to a number of datapoints which are problematic for these proposals, and for outside-in clause union in general, before pointing out facts in Section 7.4 which I argue constitute positive evidence for an inside-out approach.

7.3.1 Clause union outside-in: argument composition

In HPSG, clause union as observed with French causatives is standardly implemented by means of argument composition (Abeillé et al., 1998b; Abeillé & Godard, 2002; Miller & Sag, 1997), just as it is with tense auxiliary constructions. In essence, argument

composition is a generalised version of raising where the upstairs verb, e.g. causative *faire*, inherits the subcategorisation requirements from its verbal complement (see Section 3.3.1).

If the argument requirements of the downstairs verb are shared by causative *faire*, clitic climbing can be treated as an entirely lexical phenomenon, where the climbing pronominals are just a morphological realisation of a local valency. Similarly, because composition provides for an argument structure containing the arguments of both the upstairs and the downstairs verb, conditions on binding that hold between the causer argument and arguments of the downstairs verb can be expressed conveniently on the basis of having a single locus, where requirements for all these arguments can be found. As a consequence, the analysis of reflexives and medio-passives in the causative construction actually turns out to be quite straightforward.

In this approach, the complex predicate's argument structure is found upstairs on causative *faire*, which makes it an outside-in approach: properties are controlled for from the outermost verb. This outside-in analysis of causatives involves treating clause union *faire* as an argument composition verb, as in the lexical entry in Figure 7.2 adapted from Miller & Sag (1997: 608).

$$\left[\begin{array}{l} \textit{faire-composition} \\ \\ \text{ARG-ST} \quad \left\langle \text{NP}_{[i]}, \text{V} \left[\begin{array}{ll} \text{VFORM} & \textit{inf} \\ \text{SUBJ} & \langle \text{NP}_{[j]} \rangle \\ \text{COMPS} & [2] \\ \text{CONT} & [c] \end{array} \right] , \text{NP}_{[j]} \right\rangle \oplus [2] \\ \\ \text{CONT} \quad \left[\begin{array}{ll} \textit{causing-rel} & \\ \text{CAUSER} & [i] \\ \text{SOA-ARG} & [c] \end{array} \right] \end{array} \right]$$

Figure 7.2: Lexical entry of argument composition *faire*

In the next sections I point out empirical and technical problems that go with the argument composition approach.

7.3.2 Trapping and *en*-pronominalisation

A first argument against the argument composition approach to clitic climbing in French causatives comes from so-called TRAPPING, which is found with a certain class of pronominals: intrinsic (i.e. lexically specified) pronominals as well as reflexives and medio-passives (*se*).

- (7.38) * Tout leur en fait vouloir à Paul.
 everything IO.3PL GEN makes be_mad at Paul
 ‘Everything makes them/Paul angry at Paul/them.’
- (7.39) Tout leur fait en vouloir à Paul.
 everything IO.3PL makes GEN be_mad at Paul
 ‘Everything makes them angry at Paul.’
- (7.40) Tout leur fait vous en vouloir.
 everything IO.3PL makes OBJ.2PL GEN be_mad
 ‘Everything makes them angry at you.’

(Miller & Sag, 1997: 609–610)

In (7.38)–(7.40), *en* is a lexically specified pronoun which belongs to the idiomatic construction *en vouloir* ‘be mad (at)’. Despite clitic climbing being the norm with clause union *faire*, climbing of *en* from idiomatic *vouloir* is illicit (7.38), and the pronominal is realised on the infinitive instead (7.39). Intrinsic *en* not only resists clitic climbing, but also blocks climbing of (or ‘traps’) other complement¹⁰ pronominals, such as the downstairs indirect object *vous* in (7.40).

Pronominal *se* also resists climbing and triggers trapping when agreeing with the downstairs subject. This not only holds for intrinsic *se* (7.41), but also for true reflexives (7.42) or medio-passives (7.43).

- (7.41) Marie lui fait s’ en souvenir.
 Marie IO.3SG makes REFL.3 GEN remember
 ‘Marie makes him remember it.’
- (7.42) % Marie a fait se laver les enfants.
 Marie has made REFL.3 wash the children
 ‘Marie made the children wash themselves.’

(Abeillé et al., 1998b: 23)

- (7.43) Le snobisme fait se vendre bien les classiques.
 the snobism makes REFL.3 sell well the classics
 ‘Snobism makes the classics sell well.’

(id.)

The way argument composition is implemented in terms of structure sharing of ARG-ST lists, and therefore, structure sharing of the lists’ elements, entails that any constraint applied upstairs will also hold downstairs (and *vice versa*). If an upstairs *affixal-synsem* implies pronominal affixation, we would expect, *ceteris paribus*, that the same should

¹⁰As can be seen in (7.39)–(7.40), the downstairs subject always climbs despite being complement-like in the causative construction, even in trapping situations. I address this behaviour in Section 8.5.5.

hold downstairs. With auxiliary-participle constructions, this is a non-issue in French, since participles may not host pronominal affixes at all. French infinitives, however, can generally host pronominal affixes, so argument composition *per se* would predict affixal realisation to feature simultaneously on the upstairs and the downstairs verb. However, this expectation is not borne out, thereby weakening the appeal of argument composition.

Miller & Sag (1997: 609) work around the technical side of this problem by distinguishing the HEAD values of verbs into *bas(ic)-v(er)b* and *red(uced)-v(er)b*, where the former is the value for plain verbs without pronominal affixes, while the latter is the default value for verbs hosting pronominal affixes. This default is overridden with the value *bas-vb* in the case of verbs with intrinsic pronominals, leading to the paradoxical situation that even the presence of regular, valence-reducing pronominal argument does not imply the value *red-vb*. While the head types *bas-vb* and *red-vb* appear to be little more than diacritic features, their specific use in connection with trapping reveals their *ad hoc* nature.¹¹

A further argument against the parochial treatment of intrinsic affixes is that it makes the wrong predictions regarding *en*-pronominalisation. In contrast to argument pronominals, one of the uses of *en*-pronominalisation is non-local, akin to *dont*-relativisation (Sag & Godard, 1994). In this non-local use, *en* expresses a noun complement marked by *de* which can be arbitrarily deeply embedded within the direct object complement of the verbal host.

- (7.44) Cette série, j' en ai vu la dernière saison.
 this series I GEN have seen the last season
 'This series I watched the last season of.'

- (7.45) Cette série, j' en ai vu le premier épisode de la dernière saison.
 this series I GEN have seen the first episode of the last season
 'This series I watched the first episode of the last season of.'

Miller & Sag (1997) capture this rather elegantly by a lexical rule that extends a verb's argument structure with the specification for an affixal NP[*de*] that binds the SLASH value of the direct object argument. However, this use of *en* is surprisingly trapped in the presence of intrinsic pronominals:

- (7.46) J' ai fait s' en rappeler la fin aux élèves.
 I have made REFL.3 GEN remember the end to.the pupils
 'I made the students remember the end of it.'

- (7.47) ?? J' en ai fait se rappeler la fin aux élèves.
 I GEN have made REFL.3 remember the end to.the pupils

¹¹See Crysmann (2003: 71–73) as well as Tily & Sag (2006) for a more extensive critical discussion of the technical aspects of Miller & Sag (1997)'s formulation of argument composition.

Under an argument composition approach, canonical arguments always undergo raising to *faire*. This means that the NP complement that *en* originates from (*la fin* in the example above) will be raised, even in the presence of a trapping pronominal (like *s'* above). Once that complement is raised, nothing can prevent application of the *en*-pronominalisation rule upstairs on *faire*, since the raised complement is available on its argument structure. The conditions for *en*-pronominalisation are therefore met at both levels, which correctly derives (7.46), but also incorrectly predicts (7.47). In other words, Miller & Sag (1997)'s technical solution to trapping by means of a constraint imposed by *faire* on the infinitive's type falls short of including embedded pronominals in the trapping domains, leading to overgeneration.

7.3.3 Modifiers

Verbal modifiers in French can be interspersed among the head verb's complements. In the *faire* construction, such modifiers can naturally be found among the downstairs verb's dependents (7.48). Unsurprisingly, such cases can be interpreted with the modifier referring to the caused event as opposed to the causing event, and to me this seems to be the preferred interpretation: a similar sentence in which the modifier has semantic-pragmatic properties more easily understood to go with a causing event than with the event denoted by the downstairs verb, as in (7.49), seems strange to me.¹²

- (7.48) Le pharaon a fait travailler les esclaves inlassablement à la
 the pharaoh has made work the slaves tirelessly to the
 construction de la pyramide.
 building of the pyramid
 'The pharaoh made the slaves work tirelessly to build the pyramid.'

- (7.49) ? Le pharaon a fait travailler les esclaves impitoyablement à la
 the pharaoh has made work the slaves ruthlessly to the
 construction de la pyramide.
 building of the pyramid
 'The pharaoh ruthlessly made the slaves work to build the pyramid.'

¹²Koenig (1994) provides examples involving perception verbs in which the modifier can reportedly refer to either the seen event or the seeing event:

- (i) J' ai vu_i boire_j à contrecœur_{i/j} le vin à Marie.
 I have seen drink reluctantly the wine to Marie
 'I have seen Mary drink the wine against my/her will.'

(Koenig, 1994: 297)

I remain agnostic as to the extent to which upstairs interpretation is possible in the *faire* and perception constructions.

In a flat structure, adjuncts should be expected to modify only the syntactic head, i.e. in our case *faire*. However, in order to derive the correct interpretation for (7.48), argument composition will necessitate semantic attachment to a syntactic co-dependent (viz. the downstairs verb), which makes for a highly unorthodox syntax–semantics interface. With a more traditional layered VP structure, by contrast, the modifier attachment facts are derived canonically: *inlassablement* will simply attach semantically to the event denoted by the verbal projection it adjoins to syntactically, which is the infinitival VP. Although the generation of upstairs semantic attachment such as (7.49) – the expected attachment under the argument composition approach – may prove to be desirable, this approach is much harder to reconcile with the more natural kind of attachment, namely downstairs attachment (7.48).

7.3.4 Coordination

Verbal complements of *faire* can be conjoined (7.51), and the resulting syntactic surface does not differ from standard constituent coordination of two VPs (7.50).

- (7.50) Elle veut écrire une section et signer un formulaire.
 she wants write a section and sign a form
 ‘She wants to write a section and sign a form.’
- (7.51) Elle l’a fait écrire aux enfants et signer par les parents.
 she DO.3SG has made write to.the children and sign by the parents
 ‘She made the children write it and the parents sign it.’

However, with argument composition and the flat structure it implies, the relevant VP constituent simply does not exist, making it necessary to treat this kind of coordination as an instance of argument cluster coordination, as in the tense auxiliary construction (Section 4.4). Following Manning (1992), who argues against the implementation of clause union as a flat structure, I believe this amounts to generalising to the worst case, as the traditional hierarchical structure would otherwise account for (7.51) as a case of straightforward VP coordination.

7.4 Evidence for inside-out

Having produced in the previous section a number of shortcomings of the outside-in approach, I shall now discuss syntactic properties that constitute positive evidence for an inside-out approach.

7.4.1 Subject *by* phrases (*de/par*)

The first piece of evidence in favour of an inside-out approach pertains to the choice of marking of the downstairs subject, a point originally made by Koenig (1998).

The subject of the downstairs verb in the causative construction can be realised by a *by* phrase, just as in a passive. In French passives, the choice of preposition depends on the verb's semantics: while *par* is used with dynamic verbs, *de* is found with stative verbs.

- (7.52) Jean a été suivi *de / par Paul.
 Jean has been followed of / by Paul
 'Jean has been followed by Paul.'

- (7.53) Le potiron a été suivi de / *par des champignons.
 the squash has been followed of / by some mushrooms
 'The squash was followed by mushrooms.'

Thus *suivre* 'follow' can be used either dynamically as is the case in (7.52), in which a person actively follows someone else, or statively as in (7.53), in which the verb describes the order in which courses come in a meal. Note how the choice of preposition alternates accordingly.

Interestingly, the same constraint applies in the causative construction:

- (7.54) a. Marc a fait suivre Jean *de / par Paul.
 Marc has made follow Jean of / by Paul
 'Marc had Jean followed by Paul.'
- b. Marc a fait suivre le potiron de / *par des champignons.
 Marc has made follow the squash of / by some mushrooms
 'Marc had the squash be followed by mushrooms.'

(adapted from Koenig, 1998: 5)

- (7.55) Marie est arrivée à se faire haïr de tout le monde.
 Marie is managed to REFL.3 make hate of everyone
 'Marie managed to get herself hated by everybody.'

(Kayne, 1975b: 238)

While the argument composition approach can provide for the possibility of a special, passive-agent like marking of the downstairs subject, this marking will have to be decided at the level of argument composition auxiliary *faire*. More precisely, this possible realisation would call for a variant of argument composition *faire* that raises its complement's subject to a PP. It is then unexpected that this prepositional marking would be sensitive to properties of the lexical semantics of the downstairs infinitive: the outside-in approach would have to state a constraint on auxiliaries in terms of the semantics of their

lexical complement, while the inside-out approach constrains the downstairs predicate's semantics directly.

This point is made in detail in Koenig (1998), who argues based on this and similar phenomena for the inclusion of inside-out constraints in HPSG. Koenig remarks that infinitives can only express their subject as *par/de* when they are complements of *faire* or other clause union verbs.

“To effect this restriction, one possibility is to assume that the valency-wise passive, but morphologically active class of verbs that complement *faire* in the *faire*-infinitive construction must have an empty SUBJ list (this is the solution proposed by Koenig (1994) within Construction Grammar). Even though it is descriptively adequate, this solution relies on theory-internal and parochial assumptions [that only *faire* can take a [VFORM *inf*, SUBJ < >] complement]. Another possibility is that we bite the bullet and directly model the descriptive fact by attaching an inside-out constraint to the entry of the complement verb of a *faire*-infinitive clause union pattern.”

(Koenig, 1998: 5)

The approach I shall suggest (*contra* argument composition) embraces the logical conclusion of Koenig's reasoning by relying on an inside-out constraint (in the form of reverse selection), but additionally provides further theoretical motivation for this constraint: in my view, the *faire*-infinitive construction's inside-out properties are in fact related to its status of causative periphrasis.

7.4.2 Intrinsic pronominals

The second piece of evidence discussed pertains to the phenomenon of TRAPPING previously introduced in Section 7.3.2. The relevant dataset is reproduced below in (7.56)–(7.58).

(7.56) * Tout leur en fait vouloir à Paul.
 everything IO.3PL GEN makes be_mad at Paul
 ‘Everything makes them/Paul angry at Paul/them.

(7.57) Tout leur fait en vouloir à Paul.
 everything IO.3PL makes GEN be_mad at Paul
 ‘Everything makes them angry at Paul.

(7.58) Tout leur fait vous en vouloir.
 everything IO.3PL makes OBJ.2PL GEN be_mad
 ‘Everything makes them angry at you.’

(Miller & Sag, 1997: 609–610)

In (7.59a), the intrinsic pronominal *se*, which is lexically specified by *dissiper* to derive its ergative variant *se dissiper*, can be elided when *dissiper* is embedded under *faire*, while

retaining its ergative meaning. That this is specific to *faire* can be seen by contrasting with embedding under a different verb, like *commencer* ‘begin’ as in (7.59b); there no elision can take place. Crucially, this phenomenon is sensitive to the intrinsic status of the pronominal: the same form (*se*) in the same context (i.e. under *faire*) cannot be elided when it expresses a reflexive or reciprocal, cf. (7.59c).¹³

This phenomenon can be seen as further evidence in favour of an inside-out approach to French *faire* constructions. Indeed, two approaches to its treatment can be conceived.¹⁴ In the first kind of approach, one can assume that *se* climbs to *faire* before elision. This naturally captures the fact that the phenomenon is limited to *faire*. However, the process of clitic climbing then has to be stated inside-out, for the same reasons explained previously with regard to trapping: indeed, *faire*’s subcategorisation cannot be expected to be sensitive to properties about the intrinsic status of its verbal complement’s arguments without violating Morphology-free Syntax. The rule allowing exceptional climbing to *faire* (and subsequent elision) of intrinsic *se* must therefore be stated at the level of the infinitive, i.e. inside-out.

In the second kind of approach, elision takes place downstairs. This seems the more straightforward approach, given that intrinsics generally do not climb to *faire*. However, in this approach, the statement of the elision rule must be conditioned to contexts embedded under *faire*. If elision is local, this can only be done in an inside-out view of the construction, in which the infinitive reverse-selects for *faire*. Put differently, outside-in approaches either fail to take into account the sensitivity to the lexical verb’s properties concerning the intrinsic status of the pronominal, or the sensitivity to the presence of an auxiliary in the syntactic context. Under an inside-out perspective, on the other hand, the conditions for elision can simply be stated to apply to a causativised verb with a certain type of pronominal argument.

7.4.3 Downstairs subject

It is widely agreed that the realisation of the downstairs subject displays behaviour typical of objects: this does not only hold for the *by* phrases discussed earlier, but is also corroborated by the marking of subjects of transitives (as indirect objects) and, more generally, by ordering. Specifically, downstairs subjects appear postverbally and can be

¹³The sentence in (7.59c) is grammatical without *se*, but with a different structure in which *les enfants* is the logical object of *laver*, its subject being unexpressed, resulting in a different interpretation (‘The parents made someone wash the children’).

¹⁴A third kind of approach, proposed in Zubizarreta (1982: 202–214), ascribes the elision phenomenon to anticausativising properties of *faire*. Her view of *faire* as a causative morpheme eschews the problem with regard to sensitivity to intrinsic status, since a causative prefixation process could in principle have access to information regarding lexically specified arguments, but fails to take into account the syntactic independence of *faire* and the lexical verb, undergenerating e.g. *le vent a fait subitement dissiper les nuages*, in which an adverb (*subitement* ‘suddenly’) intervenes.

permuted with other objects, as in (7.60).

- (7.60) Pierre a fait regarder à Marie le livre qu' il avait acheté la veille.
 Pierre has made look to Marie the book that he had bought the eve
 'Pierre made Marie look at the book that he had bought the day before.'
 (Miller, 1992a: 239)

While argument composition derives these facts by raising to object, I suggest instead that these properties are readily accounted for by causativisation of the downstairs verb.

In fact, this conclusion is the better motivated one on a theoretical level in any lexicalist framework. Lexicalism usually assumes principles such as the PRINCIPLE OF LEXICAL ADICITY (Ackerman & Webelhuth, 1998), also called PRINCIPLE OF LEXICAL MODIFICATION (Ackerman et al., 2011), which can be stated as follows:

(7.61) **Principle of lexical modification**

The lexical properties (meaning, argument structure, grammatical function inventories, and case government patterns) associated with a lexeme are fully determined by lexical stipulation together with rules of lexeme derivation and cannot be altered by items of the syntactic context in which a realization of that lexeme appears.

(Ackerman et al., 2011: 326)

The French causative construction gives us evidence of a change in argument structure and function/case in the form of subject demotion to a complement of variable grammatical marking. In accordance with lexicalist principles, this constitutes direct evidence for a morphological approach. Argument composition approaches, on the other hand, fail to take this evidence seriously: as Ackerman et al. (2011: 329) remark, "some recent approaches to periphrastically expressed complex predicates within the LFG and HPSG frameworks extend the privilege of creating new argument structures from a language's morphological component to its syntax, in direct violation of the principle of lexical modification". The causative periphrasis approach captures exactly this insight by deriving argument structure change in the morphology, leaving to syntax the simple role of combining the two elements in the causative periphrase.

Taken together, these three properties of the downstairs infinitive suggest its importance has been underestimated by the outside-in approach; even though the syntactic head of a French causative is without a doubt *faire*, a number of the morphosyntactic properties of the infinitive are highly relevant for the construction. We can therefore anticipate that placing all the decisions about argument realisation at the level of *faire* will necessarily complicate the analysis of the three phenomena involved.

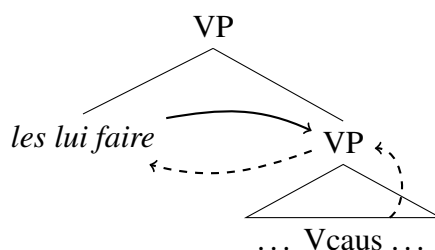


Figure 7.3: Clause union inside-out

7.5 Towards an inside-out approach to clause union

As we have seen in Section 7.1, French causatives involve not just clitic climbing, but also show some peculiar behaviour regarding valence-changing operations with *se*. We can take this to be due to clause union in the sense of Aissen & Perlmutter (1976): these cases of *se* can be explained if the valence operation targets a single, complex argument structure containing arguments of both *faire* and the verb that follows it. However, we have shown in Section 7.3 that the argument composition approach to clause union, and in particular the flat structure it entails, is unsatisfactory. Following the insights exposed in Section 7.4, what I propose instead is an approach that builds the complex predicate at the level of the lexical verb, by simply giving it an extra argument corresponding to the external subject (the causer). In other words, we can build the complex argument structure not by raising all of the downstairs arguments to *faire*, but by anticipating *faire*'s external argument on the infinitive.

This line of approach is made possible by the independently motivated inside-out selection relation that holds between the causativised infinitive and *faire*, which was argued for in Koenig (1998) for the marking of the subject. Indeed, this selection lets us limit the distribution of causativised infinitives to the context of *faire*. Figure 7.3 schematically represents clitic climbing via inside-out selection in the same vein as the analysis of tense auxiliaries (cf. Section 6.2). Given both a causativised argument structure and an inside-out selection for *faire*, these causativised infinitives can effectively be considered to be the lexical element in a periphrastic causative, the ancillary element being *faire*.

To sum up, the current proposal brings together the benefits of the earlier periphrasis approach, which maintains a hierarchical structure of the construction and allows for a better treatment of several argument realisation properties, with a true implementation of clause union that accounts for its peculiar interaction with valence-changing phenomena.

Chapter 8

Causative periphrasis

The present chapter is dedicated to a formal analysis based on the conclusions reached in Chapters 5 and 7: *faire* constructions should be treated as a case of causative periphrasis, and clause union is simply the distribution of the properties of a morphological causative over two words in a causative periphrase. The first section exposes the basic analysis, including realisation of the downstairs subject and clitic climbing. Sections 8.2–8.3 address the interaction of causative periphrasis with reflexives and medio-passives, respectively. Section 8.4 discusses the possibilities offered by an extension of reverse selection. Section 8.5 provides discussion and an analysis of the distribution of pronominal affixes within French causatives. Finally, Section 8.7 analyses the possible combinations of causative and tense periphrasis.

8.1 Basic analysis

In order to effect clause union downstairs, we need to license causativised infinitives with an extended argument structure. This can be done by means of a valence-changing lexical rule similar to the French passive rule, or to a morphological causative rule in other languages. This rule, given in Figure 8.1, applies to a non-finite verb¹ and prepends a new element to ARG-ST (NP_i in the figure), corresponding to the expected causer argument. The original subject (NP_j), being thus shifted to a complement status, is assigned a specific marking depending on properties of the verb: *bare* marking (the null marking of direct objects) in the case of an intransitive, otherwise *à*, or one of the oblique agent markers *par* or *de* based on the verb's lexical semantics (recall Section 7.4.1). This simple shift in the infinitive's argument structure effectively already yields a fused argument

¹This includes past participles in addition to infinitives in order to correctly apply to a perfective infinitive, as in *l'impatience lui fera avoir trouvé les cadeaux avant la fête* 'impatience will make her have found the presents before the party'. See Section 8.7 for a discussion and analysis of such causative perfectives.

structure as desired for complex predicate formation.

$$\left[\begin{array}{ll} \text{HEAD.VFORM} & \text{nonfinite} \\ \text{ARG-ST} & \left\langle \text{NP}_{\bar{i}}, \text{NP}_{\bar{j}} \left[\hat{a}/\text{bare}/\text{par}/\text{de} \right] \right\rangle \oplus \boxed{c} \\ \text{INFL} & \left\{ \left[\begin{array}{l} \text{caus-rel} \\ \text{ARG1} \quad \bar{i} \end{array} \right] \right\} \\ \text{DTR} & \left[\begin{array}{ll} \text{ARG-ST} & \left\langle \text{NP}_{\bar{j}} \right\rangle \oplus \boxed{c} \\ \text{INFL} & \{ \} \end{array} \right] \end{array} \right]$$

Figure 8.1: Lexical rule for causativised verbs

The formulation of causativisation given in Figure 8.1 does not explicitly represent the assignment of specific marking values of the subject. As was noted among others by Bratt (1990), it should not be considered a purely lexical stipulation that \hat{a} -marking is reserved to causative verbs that already have a direct object, while those that do not can make use of this function for their demoted subject. Tily & Sag (2006) propose to capture this alternation using case underspecification: in the presence of the external subject (the causer), the downstairs subject is shifted to a new position on the argument structure with no definitive case. Independent constraints on lexeme types (*tran(sitive)-verb-lexeme* vs. *intran(sitive)-verb-lexeme*) then derive the correct marking based on the other elements of ARG-ST. Apparent mismatches between transitivity and downstairs subject marking are treated as *pro*-realisation of omitted complements.² Although their proposal is formulated in terms of argument composition at the level of *faire*, their analysis can easily be ported to the periphrasis approach: the case-underspecified downstairs subject is simply demoted downstairs on the infinitive rather than upstairs.

As can be seen in the figure, the causativisation rule inserts an INFL(ECTIONAL) requirement. This is because in keeping with realisational morphology (e.g. Stump, 2001), the licensing of a property, in this case causative voice, is to be distinguished from its expression, i.e. *faire* periphrasis. We can therefore rely on a later realisation rule in the morphological component to interpret the requirement in INFL and translate it to a reverse selection requirement for the appropriate auxiliary (*faire*), in accordance with the principles of inflectional periphrasis laid out in Bonami (2015) – see Section 5.3.

Notice that the rule as formulated in Figure 8.1 does not simply add a simplex value (e.g. [INFL {*caus*}]) to the contents of INFL, which would otherwise have been sufficient to license a causative periphrase. Instead, an Elementary Predication (EP) containing the index of the introduced argument as ARG1 is used, for reasons which will be made clear once I address medio-passive *se faire*.

²See also Baschung & Desmets (2000) on the exact definition of transitivity with regard to the

$$\left[\begin{array}{ll} \text{HEAD.VFORM} & \text{nonfinite} \\ \text{REV-SEL} & \{ [1] \cup [2] \} \cup [3] \\ \text{INFL} & \{ \} \\ \text{DTR} & \left[\begin{array}{ll} \text{REV-SEL} & [3] \\ \text{INFL} & [1] \left\{ \begin{array}{l} \text{caus-rel} \\ \text{ARG1} \quad i \end{array} \right\} \cup [2] \text{praf-set} \end{array} \right] \end{array} \right]$$

Figure 8.2: Morphological rule for causative periphrasis

The morphological rule of realisation for causative periphrasis is given in Figure 8.2. The rule applies to a verb carrying an inflectional requirement for causative voice, and launches a REV(ERSE)-SEL(ECTION) dependency containing this requirement. Furthermore, the rule has the ability to also defer to reverse selection any *pr(onominal)af(fixes)* on the inflectional agenda. This allows any unrealised pronominal affixes to effectively climb to *faire*, encoding the intuition that clitic climbing is a possibility licensed by the morphological dependency to an auxiliary during inflectional periphrasis.

$$\left[\begin{array}{ll} \text{CONT} & \left[\begin{array}{ll} \text{HOOK} & \left[\begin{array}{ll} \text{INDEX} & [0] \\ \text{LTOP} & [h] \end{array} \right] \\ \text{RELS} & \left\{ [2] \left[\begin{array}{l} \text{caus-rel} \\ \text{ARG0} \quad [0] \\ \text{LBL} \quad [h] \\ \text{ARG2} \quad [l] \end{array} \right] \right\} \end{array} \right] \\ \text{ARG-ST} & \left\langle [1] \text{NP, VP} \left[\begin{array}{ll} \text{VFORM} & \text{inf} \\ \text{SUBJ} & \langle [1] \rangle \\ \text{REV-SEL} & \left\{ [2] \left[\begin{array}{l} \text{caus-rel} \\ \text{ARG1} \quad [i] \end{array} \right] \right\} \cup [p] \text{set(praf)} \\ \text{CONT} & [\text{HOOK.LTOP} \quad [l]] \end{array} \right] \right\rangle \\ \text{INFL} & \text{set} \cup [p] \end{array} \right]$$

Figure 8.3: Lexical entry of causative *faire*

We can now give *faire* an entry as in Figure 8.3. Similarly to tense auxiliaries (Chapter 6), *faire* is analysed as an auxiliary verb capable of receiving inflectional specifications from its complement via the REV-SEL feature. This includes a (possibly

distribution of *à*-marking in French causatives.

empty) set of pronominal affixes ‘climbing’ from the downstairs verb. *Faire* additionally matches the Elementary Predication introduced earlier to its semantics (I return to this in Section 8.4).³ As an auxiliary verb, *faire* is also subject-raising, and inherits the causer argument introduced downstairs by the causativisation rule. The role of causer is still correctly assigned to this raised argument, only not by *faire* itself, but because of the downstairs linking of the expected causer to the ARG1 of the Elementary Predication in the causativisation step. As we have just seen, this EP ends up matching *faire*’s semantics, and the ARG1 role will then correspond to a causer.

An example derivation for a causative construction (*les fait voir aux élèves* ‘makes the students see them’) is given in Figure 8.4. The derivation starts with the application of the causativisation rule to *voir*, which augments its argument structure with an external argument (NP_i), the erstwhile subject (NP_j) being shifted down the argument structure to indirect object. The causativised verb needs to realise causative morphology and therefore carries a requirement on INFL, alongside a pronominal argument corresponding to its direct object (NP_k). They are both interpreted by the causative periphrasis realisation rule and expounded as a periphrastic requirement (REV-SEL). *Faire* inherits this requirement upon combination with the VP *voir aux élèves*, and accordingly realises the pronominal argument, which derives clitic climbing of *les*.

8.2 Long reflexives

The inside-out implementation of clause union readily allows us to deal with long reflexivisation (7.8). Indeed, the lexical causativisation process (Figure 8.1) effectively produces a unioned argument structure on the downstairs verb, on which the expected subject (the causer) appears. This expected subject can then act as a potential binder to license an anaphor among the verb’s complements (i.e. direct or indirect objects). As binding configurations in HPSG are considered at the level of argument structure (in terms of o-command – see Pollard & Sag, 1994), we can leave it to binding theory to cover such cases as (7.8) by e.g. typing the content of the bound complement as *ana(phoric)*, which in French will yield a realisation as a reflexive affix (*se* etc.). This affix will then be picked up by the causative periphrasis rule (Figure 8.2), which will delegate its realisation to the causative auxiliary *faire*.

An illustration of the analysis of long reflexivisation is given in Figure 8.5. The lexical entry for *offrir* undergoes causativisation, augmenting its argument structure by one; this output is subjected to binding, represented by the typing of the third element on ARG-ST to *ana*. In sum, the argument extension approach allows binding to operate

³To generalise to *laisser* and the perception verbs, it suffices to underspecify the type of the EP introduced by the lexical rule to e.g. *compl(ex)-rel(ation)* (or simply to *rel*, since the relation’s type does not play a distinctive selectional role here). Whichever verb is then found upstairs among the class entering complex predicate formation will lexically resolve the type of the relation to *caus-rel*, *see-rel* etc.

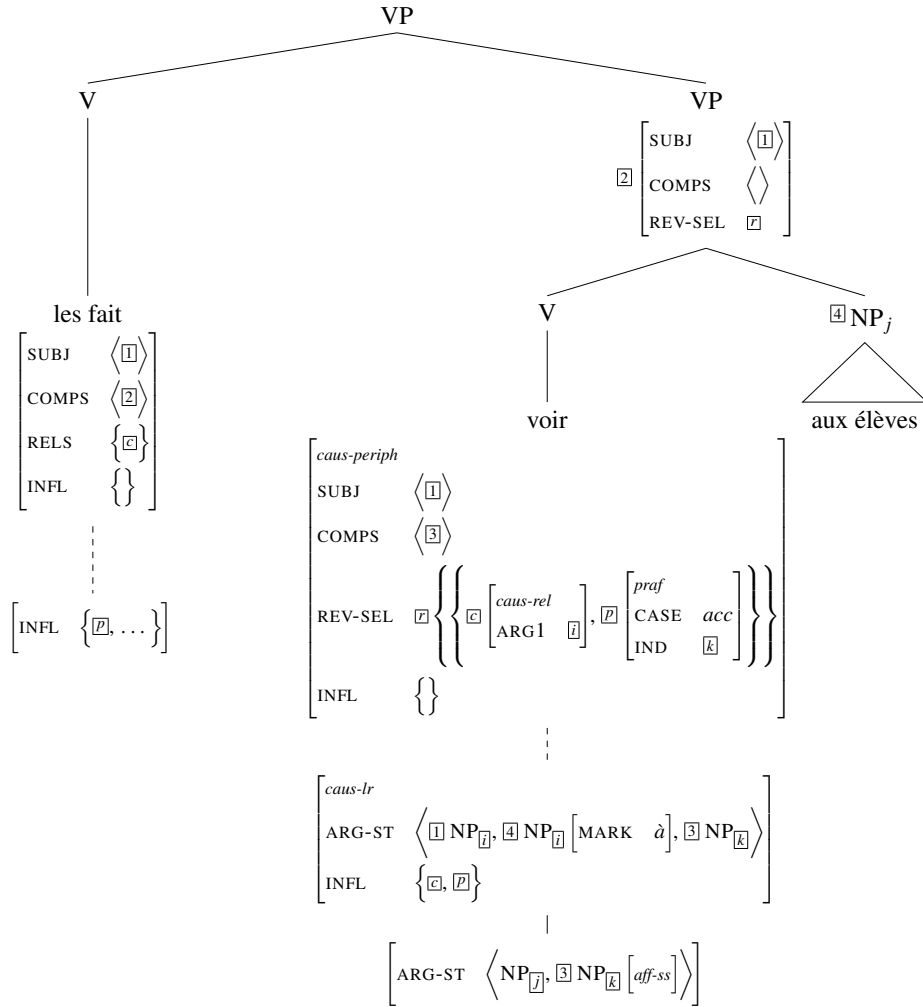


Figure 8.4: Sample derivation: causative periphrasis

downstairs, while periphrastic clitic climbing correctly predicts the upstairs realisation of reflexive *se*.

This approach to causativisation and reflexivisation also immediately covers the other possible logical combination of the two phenomena, i.e. causative reflexives as in (7.42). Such cases are simply covered by the reversal of the order in which the two processes apply: instead of applying binding mechanisms to the output of the causativisation rule, cases of downstairs *se* are derived by causativisation of a verb already containing a reflexive morpheme.⁴

⁴A similar approach is adopted by Villalba (1994) for optional clitic climbing in Catalan: downstairs realisation is derived as CLITIC ADJUNCTION (in our terms, pronominal affixation) followed by VERB INCORPORATION (i.e. complex predicate formation), while upstairs realisation is derived as the reverse.

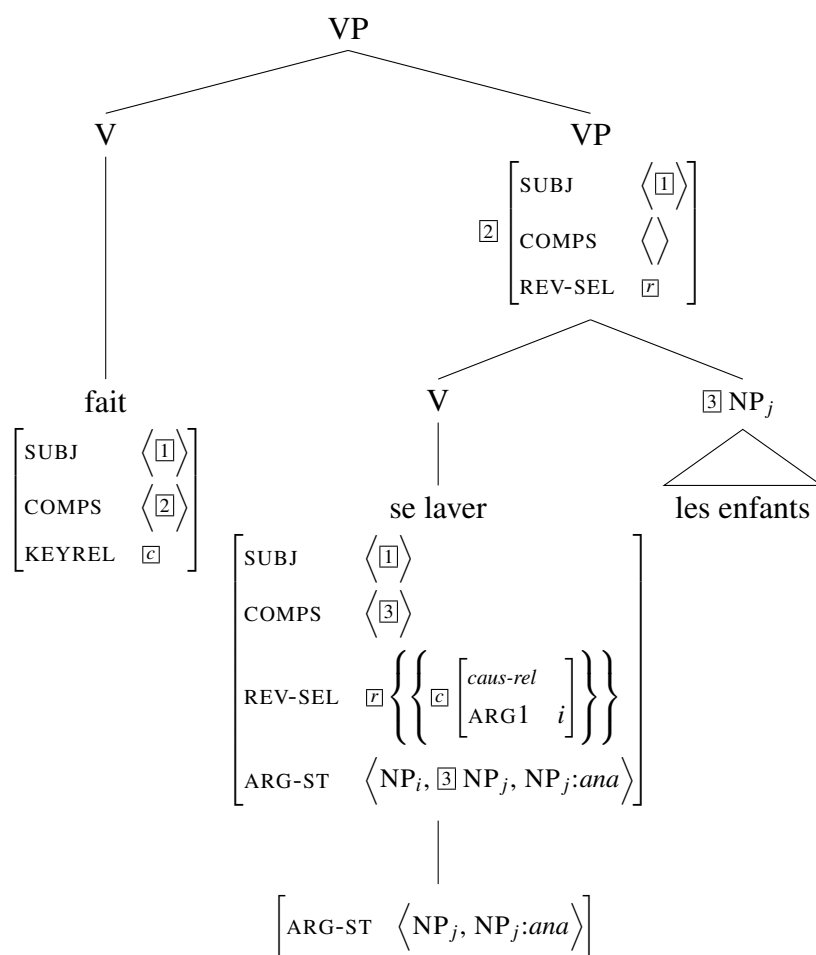


Figure 8.6: Sample derivation: downstairs reflexive

8.3 Long medio-passives

Following Grimshaw (1982) and Wehrli (1986), medio-passive *se* can be seen as a case of argument reduction: a direct object is promoted to subject function, and the earlier subject is suppressed. We can consequently rely on a lexical rule affecting the argument structure of verbs, suppressing the subject and promoting a DO to take its place (Figure 8.7).⁵ To produce the correct exponent (a reflexive affix), an argument with *ana* content is introduced on ARG-ST.

$$\left[\begin{array}{l} \text{ARG-ST} \quad \langle \boxed{1} \text{ NP}_{\boxed{j}}, \text{NP}[\text{aff-ss}]_{\boxed{j}}:\text{ana} \rangle \oplus \boxed{a} \\ \text{DTR} \quad \left[\text{ARG-ST} \quad \langle \text{NP}_i, \boxed{1} \text{ NP}_{\boxed{j}} \rangle \oplus \boxed{a} \right] \end{array} \right]$$

Figure 8.7: Lexical rule for medio-passives

Entirely parallel to long reflexives, the analysis of long medio-passives takes advantage of the downstairs availability of a unioned argument structure to apply the relevant rule on the infinitive instead of *faire*. Indeed, the derivation of sentences like (7.9) works by applying the medio-passive rule to the output of the causativisation rule. Such a derivation is given in Figure 8.8. The expected causer argument prepended by the causative rule is at once suppressed by the medio-passive rule, which promotes the verb's DO to subject position instead. Since *faire* is treated as a subject-raising verb, the promoted DO is correctly raised to become the subject of *faire*. The anaphoric argument is expressed as a reflexive affix, which as before has no other possible realisation than climbing to *faire* via REV-SEL.

As to downstairs medio-passive *se* (7.43), the situation is again similar to downstairs reflexives in constituting an inversion of the order of the morphosyntactic processes involved in the upstairs *se* case. That is to say, these cases are not medio-passive causatives, but causative medio-passives. Their use is generated by applying the medio-passive rule *before* causativisation, as in Figure 8.9. As with the reflexive use of *faire se*, affixal realisation has applied before causativisation, resulting in downstairs affixation.

8.4 Semantic composition

We can now turn back to the motivation for reverse selection of an EP containing the index of the expected causer as ARG1. In an approach that views the causative predicate as a periphrastic form, the question arises whether the causative meaning is introduced by

⁵Further semantic constraints on the promoted subject of French medio-passives apply, such as inanimacy (*#les victimes de brûlures se soignent plus facilement qu'avant* 'one heals burn victims more easily nowadays'), and the lexical rule can be appropriately refined.

argument should be properly linked to its role. This is achieved by the reverse selection for an Elementary Predication (EP), effectively linking the argument to its role inside-out.

Taken together, these facts motivate a slight extension of the previous conservative conception of purely morphological reverse selection to allow selection of semantic components as well. Indeed, reverse selection does not only have a history as a feature for inflectional periphrasis (Bonami, 2015), but has been used for semantic purposes before that. See for instance Soehn & Sailer (2003)'s original *synsem*-valued proposal for reverse selection in idioms, as well as Koenig (1998)'s view of reverse selection as a general selection mechanism, able in particular to target the semantic content of a verb in the dative predication construction or a particular role in the body-part binding construction.

8.5 Climbing: obligatory or optional?

A tacit assumption of the approach just sketched is that downstairs realisation of pronominals is always possible – that is, that clitic climbing is optional in the causative construction. Under this view, trapping is then simply the special case when upstairs realisation is banned, leaving only downstairs realisation available. This differs from previous approaches, which generally assumed climbing to be uniformly obligatory across the range of climbing predicates (i.e. *avoir*, *être*, *faire* and the perception verbs). In this section I present preliminary evidence to suggest that climbing from infinitives, as opposed to climbing from participles or adjectives, is never obligatory.

8.5.1 Coordination

Aside from trapping, a first case in which the most natural realisation of the affix cluster is downstairs is found with coordinate structures. Recall from Section 7.3.4 that complement VPs of *faire* can be conjoined; as is typical for climbing in French, a pronominal hosted by *faire* will take wide scope over the coordinate structure, and will be interpreted as corresponding to an argument of both conjoined verbs. This is the case of direct object pronoun *l'* in (8.1), repeated below from (7.51).

- (8.1) Elle l' a fait écrire aux enfants et signer par les parents.
 she DO.3SG has made write to.the children and sign by the parents
 'She made the children write it and the parents sign it.'

If however what is meant is for a pronominal to be interpreted with low scope as an argument of only one of the two verbs, then this pronominal is simply realised downstairs. This downstairs realisation is particularly facilitated when a pronominal occurring in the second conjunct finds its antecedent in the previous conjunct, as with direct object pronoun *le* in (8.2), which refers to *un poème*.

- (8.2) Elle a fait écrire un poème_i aux enfants et le_i lire aux
 she has made write a poem to.the children and DO.3SG.M read to.the
 parents.
 parents
 ‘She made the children write a poem and the parents read it.’

Constraints on the interpretation of pronominals in coordination can therefore motivate their downstairs realisation. If the local configuration, e.g. (*faire*) *le lire aux parents*, can be grammatical in coordination, it must be grammatical in the general case.

8.5.2 Morphological constraints

A second case of preferred downstairs realisation is found when upstairs realisation is barred not by semantic considerations, but by morphological constraints. As was discussed in more detail in Section 3.1.2, French pronominal affixes exhibit behaviour typical of templatic morphology: each form in the system occupies a specific position class, which cannot normally be occupied by more than one affix. An example of this is (8.3), in which one of the two pronominal arguments has to be expressed as a strong pronoun instead.

- (8.3) a. * Elle me t’ avait présenté.
 she OBJ.1SG OBJ.2SG had introduced
 b. Elle m’ avait présenté à toi.
 she OBJ.1SG had introduced to 2SG
 ‘She had introduced me to you.’

As evidenced by trapping data – recall examples (7.39)–(7.40) – the downstairs subject of a causative construction is not a part of the affix cluster, and is always realised upstairs. In the right conditions, the downstairs subject pronominal can belong to the same position class as another pronominal from the downstairs cluster. This is the case in example (8.4a) below with datives *lui* and *leur*, and the only possible realisation is then naturally for the cluster to stay downstairs, as climbing would yield a morphologically ill-formed combination upstairs (8.4b).

- (8.4) a. Elle lui a fait leur donner les cadeaux.
 she IO.3SG has made IO.3PL give the presents
 ‘She made her give them the presents.’
 b. * Elle lui leur a fait donner les cadeaux.
 she IO.3SG IO.3PL has made give the presents

Morphologically motivated downstairs realisation is also found with a similar constraint on affix realisation, namely gaps in the possible combinations of affixes (see

Section 3.1.4). Affixes of the position class of *lui* and *leur* cannot co-occur with those of the position class of *me*, *te* etc, as in (8.5).

- (8.5) a. *Elle me leur avait présenté.
 she OBJ.1SG IO.3PL had introduced
 b. Elle m' avait présenté à elles.
 she OBJ.1SG had introduced to 3PL.F
 'She had introduced me to them.'

Once again in the causative construction, when this conflict arises between a downstairs subject and some other argument, the only possible realisation is for the affix to stay downstairs (8.6).

- (8.6) a. Elle lui a fait me rencontrer.
she IO.3SG has made OBJ.1SG meet
'She made her meet me.'
- b. *Elle me lui a fait rencontrer.
she OBJ.1SG IO.3SG has made meet

The phenomenon of illicit affix combinations resulting in downstairs realisation has been observed before by e.g. Abeillé & Godard (2003: 174), but is usually attributed to the biclausal (i.e. control or Exceptional Case-Marking) use of *faire* (e.g. Labelle, 2017: 303). This can only be the case if that use can express its causee as a dative, a marking normally reserved to clause union *faire*. The alternative I propose is simply that we are not dealing with syntactic competition between two constructions, but morphological competition between two patterns of exponence, to wit synthesis vs. periphrasis.

8.5.3 Pronominal y

Pronominal *y* is sometimes reported in downstairs position in the causative construction, as in (8.7).

- (8.7) Pierre a fait y comparer ce livre à Jean.
 Pierre has made LOC compare that book to Jean
 ‘Pierre had Jean compare that book to it.’

(Rouveret & Vergnaud, 1980: 138)

- (8.8) J' ai fait y aller Jean.
I have made LOC go Jean
'I made Jean go there.'

(Baschung & Desmets, 2000: 216)

- (8.9) Espérons que le professeur fera y aller Paul.
 hope.IMP.1PL that the teacher make.FUT LOC go Paul
 ‘Let’s hope that the teacher will make Paul go there.’

(Abeillé et al., 1997: 73, my translation)

Abeillé et al. (1997: 73) again ascribe the unusual realisation of the pronominal to a control use of *faire*. Although this time the marking of the causee is consistent with this hypothesis, the realisation mode is not: as Baschung & Desmets (2000) point out, this analysis goes against the otherwise robust generalisation that control *faire* does not allow phrasal causees (and if it did, as with other control verbs, preverbal realisation should be possible and perhaps preferred; cf. the sharply ungrammatical **espérons que le professeur fera Paul y aller*). In sum, while the exact mechanisms that give *y* the privilege over other pronominals regarding downstairs realisation remain to be fully explored, the proposed generalisation – namely clitic climbing optionality from infinitives – readily allows for the grammaticality of (8.7) as a case of clause union *faire*.

8.5.4 Canonical case

Finally, in the absence of any particular circumstance preventing the upstairs realisation of the cluster, I find that downstairs realisation is certainly dispreferred, but not ungrammatical:

- (8.10) Je l’ ai fait lire aux enfants.
 I DO.3SG have made read to.the children
 ‘I made the children read it.’

- (8.11) ? J’ ai fait le lire aux enfants.
 I have made DO.3SG read to.the children

Example (8.11), while not as unremarkable as (8.10), contrasts sharply with a similar sentence with a tense construction:

- (8.12) * J’ ai le lu.
 I have DO.3SG.M
 (‘I have read it.’)

Baschung & Desmets (2000: 214) provide a number of examples involving *lui ai fait* followed by a variety of pronominals realised downstairs:

- (8.13) a. Je lui ai fait lire un livre / Je lui ai fait le
 I IO.3SG have made read a book I IO.3SG have made DO.3SG.M
 lire.
 read
 ‘I made him read a book / I made him read it.’

- b. Je lui ai fait téléphoner à Marie / Je lui ai fait
 I IO.3SG have made phone to Marie I IO.3SG have made
 lui téléphoner.
 IO.3SG phone
 ‘I made him phone Marie / I made him phone her.’
- c. Je lui ai fait aller à Paris / Je lui ai fait y aller.
 I IO.3SG have made go to Paris I IO.3SG have made LOC go
 ‘I made him go to Paris / I made him go there.’
- d. Je lui ai fait donner un livre à Marie / Je lui ai fait
 I IO.3SG have made give a book to Marie I IO.3SG have made
 le lui donner.
 DO.3SG.M IO.3SG give
 ‘I made him give a book to Marie / I made him give it to her.’
- e. Je lui ai fait vendre sa maison à Marie / Je lui ai
 I IO.3SG have made sell his house to Marie I IO.3SG have
 fait la lui vendre.
 made DO.3SG.F IO.3SG sell
 ‘I made him sell his house to Marie / I made him sell it to her.’
- f. Je lui ai fait parler de son problème à Marie / Je lui
 I IO.3SG have made speak of his problem to Marie I IO.3SG
 ai fait lui en parler.
 have made IO.3SG GEN speak
 ‘I made him speak about his problem to Marie / I made him speak about
 it to her.’

(Baschung & Desmets, 2000: 214)

As Baschung & Desmets argue, “[t]he correlation between Control-*faire* and downstairs cliticization makes the wrong prediction. The data of (23)[(8.13)] force one to assume either that Control-*faire* allows dative clitic causees [...] or/and that downstairs cliticization is possible with Composition-*faire*”. Although there may also be a case for the former conclusion, the dative pronominal in (8.13) seems to be able, in some cases at least, to alternate with an *à*-NP phrase, as in (8.7) or (8.11), which suggests the latter conclusion is independently necessary, as postverbal phrasal realisation can by no means indicate a control/biclausal use of *faire*.

This position also treats the competition between downstairs and upstairs placement as morphological rather than syntactic, since it reduces to competition between periphrastic and synthetic realisation of morphological information. As Baschung & Desmets conclude, “[t]aking into account the morphological status of cliticization, there is no reason to correlate clitic placement and composition structure. It is for morphological

reasons that past participles cannot be clitic hosts (e.g. **a le mangé* / **a la mangée*) within the ‘flat’ auxiliary structure. This is not the case with infinitival verbs, which are natural hosts for clitics (e.g. *le manger* / *le lui donner* / *y aller*)”. Under such a morphological viewpoint, it comes as an expectation that pronominal affixes should be able to be realised on infinitives. Optionality is in fact the general case in Romance infinitival clitic climbing constructions, including equivalents to the French *faire* construction (see e.g. Labelle, 2017: 316–319).

In the light of these different cases of downstairs realisation of the affix cluster, I suggest that clitic climbing from infinitives is of a preferential rather than categorical nature in French, as opposed to climbing from participles, adjectives or nouns, which lack the ability to host affixes altogether at a grammatical (morphological) level. The analysis formulated above therefore does not require any further adjustments to prevent downstairs realisation.

8.5.5 Trapping

We can now turn back to the trapping phenomenon discussed in Section 7.3.2 and 7.4.2, and to the behaviour of affixal downstairs subjects. Throughout the various cases of downstairs realisation of affixes in the French causative construction, the downstairs subject never remains in downstairs position, and consistently behaves as separate from the main affix cluster. In light of its complement-like properties (recall Section 7.4.3), this should come as a surprise, as the distinction from the rest of the arguments cannot be based on its subjecthood. However, this behaviour is in fact consistent with the morphological approach to causatives, as the distinction can be attributed instead to the downstairs subject’s peculiar ontogeny. In the previously proposed analysis, the downstairs subject only acquires its complement marking as the result of the causativisation rule – before that step, it is an ordinary subject. The downstairs subject’s systematic climbing is then explained by the fact that it always undergoes the causative periphrasis rule, which defers pronominal arguments periphrastically to auxiliary *faire*. Only when no periphrasis relation is present can a morphological rule realise the pronominal affixes synthetically. While synthetic realisation is (optionally) available to the complement affix cluster before application of the causativisation rule (a possibility already mentioned in the discussion of downstairs *se*), this possibility is ruled out once causativisation has applied, and periphrastic realisation remains as the only option. Since it is during this step (causativisation) that the downstairs subject first becomes a complement susceptible to pronominalisation,⁶ synthetic realisation is never available to downstairs subjects.

⁶I consider weak subject pronominals to obey different rules of pronominalisation than weak object pronominals based on their slightly different morphosyntactic properties (Miller, 1992a), and to not undergo climbing in the periphrastic sense. I.e., I take the subject pronoun in *j’ai dormi* ‘I have slept’ to be simply raised rather than a case of periphrastic climbing.

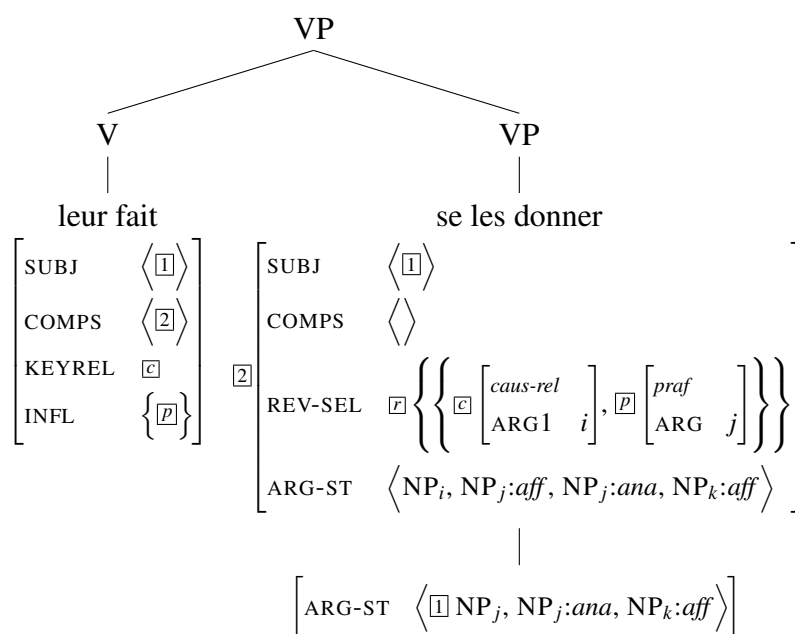


Figure 8.10: Sample derivation: the split cluster with subject climbing

An example derivation is given in Figure 8.10. In this sentence, the main affix cluster is realised downstairs as triggered by the presence of a reflexive (more properly a reciprocal) bound by the downstairs subject – a case of causative reflexive similar to the one in Figure 8.6. The downstairs subject, however, climbs to *faire*. This is achieved as before by realising the pronominals (the reflexive $NP_j:ana$ and the direct object NP_k), but the downstairs subject (NP_j) is affixal, giving rise to climbing after the causativisation step.

To complete the analysis of the distribution of climbing arguments, we can now address the case of trapping by intrinsic affixes. As was pointed out in the previous section, no further refinement is required to allow such affixes to be realised downstairs; however, nothing in the formal analysis so far prevents them (or their cluster co-arguments) from climbing, which would be ungrammatical (see Section 7.4.2).

Note that these affixes' resistance to climbing seems to be a quirk of the causative construction, as they obediently climb in tense auxiliary constructions:

- (8.14) J' en ai voulu à tout le monde.
 I GEN have been_mad at everyone
 'I was mad at everyone.'

- (8.15) *J' ai en voulu à tout le monde.
 I have GEN been_mad at everyone

I therefore ascribe this behaviour to an idiosyncratic constraint on the type of pronominals that may be involved in causative periphrasis. We can simply assume a distinction between *arg(umental)-pr(onominal)af(fixes)* and *expl(etive)-pr(onominal)af(fixes)*, with the class of intrinsic affixes that trigger trapping belonging to the latter, and all other affixes to the former.⁷ The constraint is then stated in its simplest form on the morphological rule of periphrasis from Figure 8.2, updated below in Figure 8.11. The set of morphologically delegated pronominal affixes is now required to consist of arguments of type *arg-praf* only, barring climbing in the presence of any *expl-praf*.

$$\left[\begin{array}{ll} \text{HEAD.VFORM} & \text{nonfinite} \\ \text{REV-SEL} & \{ [1] \cup [2] \} \cup [3] \\ \text{INFL} & \{ \} \\ \text{DTR} & \left[\begin{array}{ll} \text{REV-SEL} & [3] \\ \text{INFL} & [1] \left\{ \left[\begin{array}{l} \text{caus-rel} \\ \text{ARG1} \quad i \end{array} \right] \right\} \cup [2] \text{set}(\text{arg-praf}) \end{array} \right] \end{array} \right]$$

Figure 8.11: Morphological rule for causative periphrasis – revised

Notice that climbing of the downstairs subject in the presence of intrinsics is still correctly allowed by this formulation, since the affix cluster may have been realised already before causativisation, leaving a singleton *set(arg-praf)* consisting of just the downstairs subject, which easily passes the constraint on argumenthood.

8.6 Negation

We can now return to the treatment of negation. As was mentioned in the previous chapter (Section 7.1), clause union *faire* is often claimed to not allow embedded negation, as illustrated by (8.16) repeated from (7.15):

- (8.16) * Jean l' y fait ne pas aller.
 Jean DO.3SG LOC makes NEG not go
 ‘Jean makes him not go there.’

(Labelle, 2017: 306)

The argument composition approach fittingly accounts for this with a simple generalisation: constituent negation (*ne*) *pas* only adjoins to constituents, while in the flat structure the infinitive embedded under *faire* is a lexical complement.

⁷In fact, it could well be enough to state the distinction at the level of the *index*, since the argument’s *index* is contained inside *prafs*. A distinction between expletive and referential index types finds precedence in Pollard & Sag (1994: 145–149).

However, this intuition does not seem to be shared by all speakers, and contradictory examples can be found in corpora (8.17) and in the literature (8.18):

- (8.17) Cette cécité [...] qui fait ne plus voir les évidences
 this blindness that makes NEG no_longer see the obviousnesses
 ‘This blindness that makes people no longer see the obvious’
 (frWaC: clementineautin.fr)
- (8.18) Ce genre d’ attitude ne peut que leur faire ne pas prendre
 this type of attitude NEG can only IO.3PL make NEG not take
 au sérieux une situation qui est cependant des plus graves
 seriously a situation that is however of.the most grave
 ‘This kind of attitude can only make them not take seriously a situation
 which is nonetheless of the utmost importance.’
 (Reed, 1991: 332)

Despite the absence of clitic climbing in the examples above, it should be noted that null (8.17) and dative (8.18) realisation of the downstairs subject are in principle possibilities found with clause union *faire*, but not with biclausal *faire* (see Sections 7.2 & 8.5.4).

Regardless of the exact status of such examples, the periphrasis approach lets us allow or disallow negation of the infinitive as required. Because of the hierarchical structure assumed here, the infinitive projects a VP constituent; constituent negation can therefore adjoin to this VP, which gives us an easy analytical possibility for allowing downstairs negation (8.17)–(8.18).

As for disallowing downstairs negation should it prove ungrammatical in some varieties, one option would be to make *(ne) pas* ‘not’ sensitive to the reverse selection properties of the head it modifies. In this approach, *(ne) pas* would constrain the head it attaches to (e.g. via MOD) to carry an empty REV-SEL feature. Two facts argue against this approach. Firstly, an adverbial modifier of the downstairs infinitive would, according to the percolation principles defined in Section 6.1.3.2, inherit the infinitive’s REV-SEL; if *pas* does not allow the head it attaches to to carry a REV-SEL, then examples such as (8.19) would be precluded as well.

- (8.19) L’ insomnie a fait dormir pas très souvent Lyra.
 the insomnia has made sleep not very often Lyra
 ‘Insomnia made Lyra sleep not very often.’

In (8.19), *dormir* reverse-selects for *fait*, and this reverse selection percolates through verbal modifier *pas très souvent*. This modifier is an AdvP headed by *souvent*; per Figure 6.12(b), both the mother and the head inherit the causative reverse selection, as well as the inner modifier *très*. If *(ne) pas* cannot attach to elements with a non-empty REV-SEL, we would not expect it to be able to combine with *très* here, contrary to fact.

Beside this technical consideration, an empirical one presents itself: it does not seem to be the case that negation cannot intervene in a periphrase in French. Although past participles do not seem to be able to combine with *(ne) pas* (for likely independent reasons), the infinitival complement of future auxiliary *aller* can combine with it:⁸

- (8.20) Avec ce vacarme, je vais encore ne pas dormir.
 with this racket I will again NEG not sleep
 ‘With such a racket, I will once more not sleep.’

Although the constraint could be specified so that *(ne) pas* only disallows its modified head from combining with an infinitive reverse-selecting for *faire* (i.e. controlling not just the presence or absence of a non-empty REV-SEL set, but for its contents), a simpler solution can be achieved by adding a constraint not to *(ne) pas*, but to the causative infinitive. I will now briefly sketch a solution along these lines.

The HPSG treatment of negation in French is due to Abeillé & Godard (1997) and Kim & Sag (2002). The authors utilise a feature [POL ±] to encode a verb’s being polarised (i.e. negative, [POL +]) or not (i.e. positive, [POL –]). This is motivated by the morphosyntactic pertinence of polarity in French verbal morphology. Firstly, the negative marker *ne* is a part of the prefixal template alongside the different pronominal affixes discussed throughout, which means it should be derived in morphology (Miller, 1992a: 146, 162–163; Bonami & Boyé, 2005: 293). Secondly, polarity triggers a differential realisation of the pronominal affixes in the imperative:

- (8.21) Donne-le-moi !
 give.IMP-DO.3SG.M-OBJ.1SG
 ‘Give it to me!’
- (8.22) Ne me le donne pas !
 NEG OBJ.1SG DO.3SG.M give.IMP not
 ‘Do not give it to me!’

As examples (8.21)–(8.22) illustrate, pronominal affixes are suffixes in positive imperatives, whereas in negative imperatives they are (at least in Standard French⁹) realised prefixally, as in the rest of the paradigm. The order of appearance of the different position classes is also distinct (subject to speaker variation), and the form of some of the pronominals changes as well (cf. *moi* vs. *me*).

⁸Thanks to Olivier Bonami for pointing this out to me.

⁹Prefixed negative imperatives are common in certain varieties of French, which concomitantly lack the negative marker *ne*:

- (i) % Donne-le-moi pas !
 give.IMP-DO.3SG.M-OBJ.1SG not
 ‘Don’t give it to me!’

Finally, polarity conditions the choice of synthetic vs. periphrastic future in Québec French (Poplack & Dion, 2009, see Section 5.1.2).

These facts therefore suggest a treatment of polarity as a morphosyntactic property of verbs, as in Kim & Sag (2002). Negative adjunct (*ne pas*) can then simply be constrained to select for a [POL +] element. In the periphrasis approach, this makes it very easy to control for the impossibility of negation in the causative construction: we can treat the contrast between (8.20) and (8.16) as a morphological stipulation. I.e. since there is no semantic reason for the ungrammaticality of embedded negation – as evidenced by (8.23), a grammatical example paralleling (8.16) but involving biclausal *faire* –, and since periphrasis may in the general case allow intervening negation (8.20), the ungrammaticality in causative periphrasis reduces to a morphological idiosyncrasy (akin to a paradigm gap).

- (8.23) Jean le fait ne pas y aller.
 Jean DO.3SG.M makes NEG not LOC go
 ‘Jean makes him not go there.’

The most straightforward way to implement this conclusion is as a constraint on the input of the causativisation rule. This is illustrated in Figure 8.12, updated from Figure 8.1, in which the input’s POL feature is restricted to positive forms ([POL –]).¹⁰

$$\left[\begin{array}{ll} \text{HEAD.VFORM} & \textit{nonfinite} \\ \text{ARG-ST} & \langle \text{NP}_{\boxed{i}}, \text{NP}_{\boxed{j}} [\textit{à/bare/par/de}] \rangle \oplus \boxed{c} \\ \text{INFL} & \left\{ \begin{array}{l} \textit{caus-rel} \\ \text{ARG1} \quad \boxed{i} \end{array} \right\} \\ \text{DTR} & \left[\begin{array}{ll} \textbf{POL} & - \\ \text{ARG-ST} & \langle \text{NP}_{\boxed{j}} \rangle \oplus \boxed{c} \\ \text{INFL} & \{ \} \end{array} \right] \end{array} \right]$$

Figure 8.12: Lexical rule for causativised verbs, revised

In summary, the periphrasis approach can straightforwardly account for any variant pattern of negation found in causative constructions based on the independently motivated assumption that polarity is a grammaticalised property of French verbs, whereas the argument composition approach invariably predicts ungrammaticality of intervening negation, a prediction of uncertain empirical validity.

¹⁰ An alternative solution would involve deferring expression of polarity to the auxiliary. This would require a good deal more technical explicitness of little relevance for the current discussion, as auxiliary *faire* can be finite and therefore combine with clausal negation rather than constituent negation, which involves complementation rather than adjunction (see Kim & Sag, 2002 for in-depth discussion).

8.7 Stacking

To complete our investigation of French complex predicates, let us examine how they interact with tense auxiliary constructions. A first sort of interaction comes from sequences of *avoir* and *faire*:

- (8.24) La panthère l' a fait traverser à ses petits.
 the panther DO.3SG has made cross to its cubs
 'The panther made her cubs cross it.'

In such cases, it is the causing event that is interpreted with past tense or perfective aspect. Pronominal arguments are normally realised on the top-level auxiliary (*avoir*).¹¹ This first case is trivially covered by continuing the derivation of a simple causative periphrase, e.g. *fait traverser à ses petits*, with the application to auxiliary *faire* of a past (or perfective) periphrasis rule as in Chapter 6. This rule readily allows further climbing of the pronominal affixes to *avoir*. *Faire* selects for auxiliary *avoir*, and cases of long reflexives will trigger a switch to *être* according to the principles laid out in Section 6.4.2 (8.25).

- (8.25) Il s' est fait attraper.
 he REFL.3 is made catch
 'He got caught.'

The *avoir fait* construction therefore reduces to a simple stacked periphrase, and the solution just described is a threading approach in the terms described in Section 6.4.1.

More interesting is the converse combination of auxiliaries, i.e. sequences of causative *faire* and perfective *avoir* or *être*:

- (8.26) a. Leur flair et leur ambition ont fait avoir fréquenté les
 their intuition and their ambition have made have socialised_with the
 gens qu' il fallait *(à) notre nouveau ministre et à sa
 people that it was_necessary to our new minister and to his
 femme.
 wife
 'Their intuition and ambition have made our new minister and his wife
 have frequented the right people.'

¹¹ Although realisation on the infinitive is possible (*a fait la traverser à ses petits*), it is as expected illicit on participle *fait*.

- b. La frugalité fait avoir vécu jusqu'à 110 ans (*à) notre fameuse
 the frugality makes have lived until 110 years to our famous
 concitoyenne, et la fera vivre encore longtemps.
 compatriot and DO.3SG.F make.FUT live again long
 'Frugality makes our famous fellow citizen have lived to be 110, and
 will make her live longer yet.'

(Abeillé & Godard, 1996: 38, my translation)

In the examples above, the caused event is itself perfective. As can be verified by considering *tomber* 'fall', an *être*-taking verb, the lexical verb has control over auxiliary selection (8.27).

- (8.27) Sa maladresse fait être très souvent tombé de son vélo à Pascal.
 his clumsiness makes be very often fallen off his bike to Pascal
 'His clumsiness makes Pascal have fallen off his bike very often.'

The placement of pronominal affixes in this construction seems to follow the usual rules: it is obligatory from the participle to the perfective auxiliary, while from the perfective auxiliary onto *faire* it is obligatory for downstairs subject pronominals but illicit for intrinsics (8.28), and preferred for others (8.29).

- (8.28) Son sens des affaires (*se) *(lui) fait *(s') (*lui) être
 her sense of.the business REFL.3 IO.3SG made REFL.3 IO.3SG be
 procuré de nombreuses œuvres rares.
 acquired INDF.PL numerous pieces rare
 'Her sense of business makes her have acquired numerous rare pieces.'

- (8.29) a. Son flair et son ambition les lui ont fait avoir
 her intuition and her ambition DO.3PL IO.3SG have made have
 fréquentés.
 socialised_with
 'Their intuition and ambition have made her have frequented them.'
- b. ? Son flair et son ambition lui ont fait les avoir
 her intuition and her ambition IO.3SG have made DO.3PL have
 fréquentés.
 socialised_with

Note that not all authors accept this combination:

- (8.30) * Pierre fera avoir ri Marie avant que Jean ne revienne.
 Pierre make.FUT have laughed Marie before that Jean NEG comes_back
 'Pierre will make Marie have laughed before Jean comes back.'

(Miller, 1992a: 240)

As Miller notes, this is likely due to semantic-pragmatic effects concerning the causation of a completed event rather than a true grammatical constraint.¹²

I remain agnostic regarding the empirical status of examples such as (8.26). However, under the view defended here, both grammaticality and ungrammaticality of embedded perfective auxiliaries can be accounted for. Most straightforward is the possibility of ungrammaticality: in the periphrasis view, this translates as a constraint on paradigms, to the effect that perfective verbs do not have a causative voice.

Less trivial is the analysis that does license (8.26). Unlike the *avoir fait* construction, the *faire avoir/être* construction cannot be treated as a stacked periphrase. This is because the marking of the downstairs subject crucially does not follow from the transitivity of the infinitive (i.e. the auxiliary verb), but on that of the lexical verb – notice the use of *à* with transitive *fréquenté* in (8.26a) vs. bare marking with intransitive *vécu* in (8.26b).¹³ In the threading approach proposed for stacked periphrases, it is *avoir* itself that would undergo causativisation, and subject marking would fail to check the transitivity of the lexical verb. The alternative, however, does not seem satisfactory: the meaning of *faire avoir/être* seems a compositional combination of the separate contributions of causative and perfective periphrasis, which advocates against treating the construction as a multiple periphrase.

I therefore propose instead an analysis of *faire avoir/être* as a stacked periphrase, but employ a fully inside-out derivation rather than a threading derivation. In this view, the lexical verb undergoes both the perfective and the causativisation rules, in that order. This creates two periphrastic dependencies, one for *avoir/être*, and one for *faire*. This solution allows for the choice of both the auxiliary and the marking of the subject to be achieved downstairs, based on properties of the lexical verb, without requiring any new inflectional rule.

Let us examine the details of this derivation. Firstly, given the formulation of perfective and causative periphrasis given so far, we can rely on intrinsic ordering of the two auxiliaries: the perfective periphrasis rule (Figure 6.23) outputs a past participle, which only *avoir* (Figure 6.15) and *être* (Figure 6.36), but not *faire* (Figure 8.3), can take as complement. The two periphrastic dependencies will therefore always reach their respective auxiliaries in the right order.

Note that this makes the technical assumption that *avoir* and *être* are capable of passing on remaining REV-SEL dependencies after inheriting the one they are targeted by. This is guaranteed by the previously given descriptions of the two auxiliaries in Figures 6.15 & 6.36, which as ancillary lexemes can act as REV-SEL raisers. This feature of the implementation of reverse selection was in fact already utilised in dealing with regional overcomposition as multiple periphrasis – see Section 6.4.1.

¹²See also Labelle (2017: 306 and references therein), which seems to exclude embedding of auxiliaries under *faire* based on parallel data in Italian and Spanish.

¹³See also Pineda & Sheehan (2022) for similar data with restructuring verbs embedded under causative verbs in Catalan and Italian.

Secondly, the distribution of pronominal affixes in the construction is covered as follows. Recall that climbing obligatoriness in perfective periphrases is treated as morphological defectiveness on the participle's side: there is no rule of synthetic realisation of morphological arguments for such verb forms. This means the perfective periphrasis rule itself does not make climbing obligatory.¹⁴ More precisely, the set of morphosyntactic properties is not exhausted by the rule in Figure 6.23: further properties may be left unexpressed, and the set of pronominal affixes may be empty. Outside of the *faire avoir/être* construction, underexhaustion of the morphosyntactic set will lead to an ill-formed word when the participle fails to express leftover specifications for pronominal affixation. But embedded under *faire*, this allows for the possibility of another periphrasis rule expounding pronominal arguments on another auxiliary. In our case it is naturally the causative rule that will provide this escape route for the unexpressed pronominals, but per the description in Figure 8.11 it will only tolerate argumental pronominals. This setup thus captures the distribution of object pronominals, which can climb to either auxiliary, and of intrinsics, which must climb to the perfective auxiliary, in any case ruling out realisation on the participle.

As for the placement of downstairs subject pronominals, it is imposed on the causative auxiliary on the assumption that the perfective rule precedes the causativisation rule. This is so for essentially the same reasons that govern obligatory climbing of subject pronominals in Section 8.5.5: the downstairs subject only becomes available as a pronominal argument after the causativisation rule has applied, shifting it from subject to a direct or indirect object able to be realised morphologically. It therefore cannot climb to *avoir* or *être*, as the rule of perfective periphrasis has applied before its generation, and can only be realised by the rule of causative periphrasis.

The tree in Figure 8.13 illustrates the derivation of causativised perfectives for *lui fait l'avoir emporté* 'make her have prevailed'. For reasons of space the causativisation lexical rule is collapsed together with the causative periphrasis rule as a single unary rule in the tree, and semantics are omitted. Starting with the transitive lexeme *l'emporter*, which takes auxiliary *avoir*, the perfective rule applies, providing participle form and creating a first REV-SEL dependency for *avoir-tns* which includes the lexically specified pronominal argument *l'*. The output in turn undergoes causativisation, which introduces a new subject and shifts the previous subject to become an indirect object. The causative periphrasis rule creates a new periphrastic dependency, this time for a causative predicate, and provides a realisation for the downstairs subject as a dative *praf* on that new REV-SEL set. The resulting form, a participle, can only combine with *avoir*, which satisfies the REV-SEL requirement set that contains its LID, thereby realising the accusative *l'*, and passes on the other set. The resulting VP is necessarily infinitive in order to combine with *faire*, which closes the dependency and realises the dative *lui*.

¹⁴In fact, this rule is perhaps best implemented as a succession of rules, separating the periphrastic expression of pronominal affixes from the tense- and aspect-related dimension.

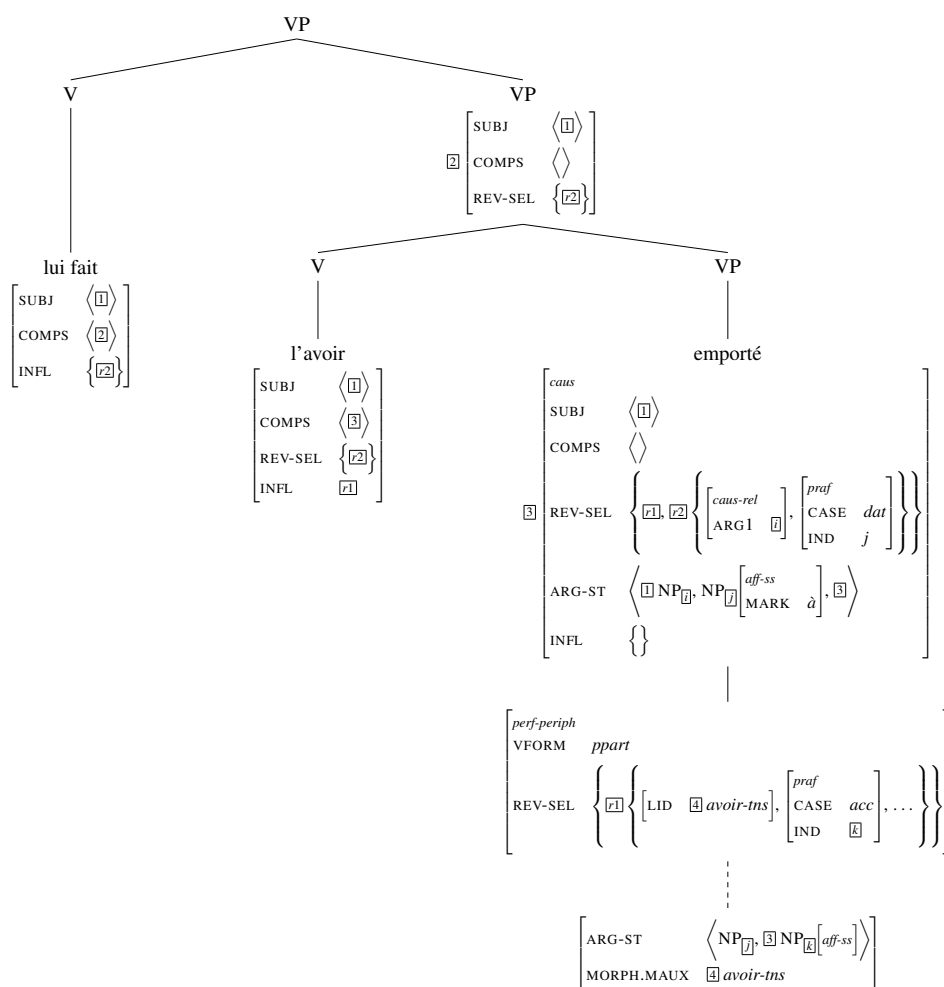


Figure 8.13: Sample derivation: causativised perfective

Chapter 9

Missing object constructions *inside-out*

French missing object constructions¹ (henceforth MOCs) are infinitival phrases introduced by marker *à* that involve a dependency between a direct object (DO) that is locally missing and an external argument that the construction modifies or predicates on. An example is given in (9.1), in which *à lire* is an instance of a MOC, its antecedent noun (*livre*) corresponding to the missing object of the verb *lire*. As can be seen from the translation, such constructions can (at least in some uses) find an English equivalent in a similar phrase headed by *to*.

- (9.1) un livre à lire
 a book to read
 ‘a book to read’

Most interestingly, their locality has been claimed to correlate with clitic climbing: as remarked by Aissen & Perlmutter (1976: 14–16) for Spanish and by Abeillé & Godard (2002) for French, both tense auxiliary constructions (9.2) and complex predicates involving *faire* (9.3) can intervene between the missing object and its antecedent. As was discussed in previous chapters (see Sections 3.3.2.2 & 4.2), this correlation has been adduced as evidence for argument composition in clitic climbing contexts.

- (9.2) un livre à avoir lu au moins une fois dans sa vie
 a book to have read at least one time in one’s life
 ‘a book you should have read at least once in your life’
- (9.3) un livre à faire lire à tous les parents
 a book to make read to all the parents
 ‘a book to make every parent read’

The MOC has been treated variously as long distance extraction (Kayne, 1975b), as a bounded reduced relative (Abeillé et al., 1998a) and as a kind of passive (Grover, 1995;

¹This chapter is largely taken from my article in Glossa (Aguila-Multner & Crysmann, 2022).

Giurgea & Soare, 2007). In this chapter, I challenge the empirical basis of the correlation between the MOC's locality and clitic climbing using a corpus study on frWaC (Baroni et al., 2009). Borrowing insights from the two most recent approaches (i.e. as a bounded relative and as a passive), I propose an analysis as an infinitival passive with an extended but bounded locality.

In a first section I will describe the external properties of the MOC, before turning to its internal properties in Section 9.2. In Section 9.3, I present new data relating to the internal properties in the form of a corpus study on the locality of the construction. Sections 9.4–9.5 present and discuss previous analyses, and the proposal is exposed in detail in Section 9.6.

9.1 Distribution

Four distinct syntactic contexts license the MOC in French: attributive, subject predication, object predication, and *tough* contexts.

9.1.1 Attribute

Probably the most widespread use of the MOC is the attributive one, illustrated by example (9.1), where the MOC modifies an antecedent noun that corresponds to the missing object. This property displays some superficial similarity to infinitival relatives (Abeillé et al., 1998a), as in (9.5). However, the two constructions differ from each other in that the subject in the MOC can be realised internal to the infinitival clause by an optional *by* phrase (see (9.4) and Section 9.2.1), an option not found with infinitival relatives.

- (9.4) un livre à lire par chaque parent à mon avis
 a book to read by every parent at my opinion
 'a book to read by every parent in my opinion'
- (9.5) un endroit où aller pour se détendre
 a place where go to relax
 'a place to go to relax'

9.1.2 Subject predication

Similar to other attributes in French, the construction can also be used predicatively:

- (9.6) Ce livre est à lire.
 this book is to read
 'This book is to be read.'

This use extends to other copular verbs, e.g. *sembler*, and does not find an equivalent in English, as the change to a passive in the translation demonstrates.

9.1.3 Object predication

Predicative use of the MOC is not limited to subject predication, but it extends to object predication as well. For example, it can be used with verbs like *avoir* ‘have’ as an object predicate:

- (9.7) J’ ai un livre à lire.
I have a book to read
‘I have a book to read’ or ‘I have to read a book.’
- (9.8) Zola, je l’ ai eu à lire au lycée.
Zola I DO.3SG have had to read at.the high_school
‘Zola I had to read in high school.’

At first glance, the sentence in (9.7) could simply be interpreted as an attributive use of the MOC attaching to the direct object’s head noun, with the meaning ‘I have a book, and that book is a book to read’. This is in fact one of the possible analyses of (9.7), which is structurally ambiguous; in (9.8), the alternative structure is revealed by independent pronominalisation of the DO, with the MOC left *in situ*. Since such pronominalisation normally targets saturated phrases and not partial NPs, this should count as robust evidence for an object predication structure. The semantics of this object predication are slightly but noticeably different: the missing object, expressed as a direct object of *avoir*, is not interpreted as an argument of it – that is, no possession relation need exist between the subject and the book here, and the sentence could felicitously be uttered of a book that has yet to be bought or borrowed.

Most importantly, this object predication structure comes with an additional obligatory control relation where the subject of *avoir* is interpreted as the subject of the infinitive. With other verbs displaying this object predication pattern (*donner, laisser, ...*), however, the controller is not the matrix subject but an indirect object, as is the case in example (9.9).

- (9.9) La prof le donnera à lire aux étudiant-es.
the teacher DO.3SG.M give.FUT to read to.the students
‘The teacher will give it for the students to read.’

In (9.9), the meaning is again weakened from the regular use of *donner* ‘give’, with no implication that the teacher will physically give anything to the students (it would in fact be expected that the students will be responsible for procuring the book); it is as if the reading of the book itself, or the obligation to do so, is what is being given. And again,

the interpretation of the subject of *lire* is controlled by an argument of the main verb, this time the indirect object, i.e. here the students.

This control phenomenon poses a challenge for existing accounts of the missing object construction, as any analysis will need to expose pointers to both core arguments of a MOC to be accessed by the upstairs verb. The downstairs logical object will be realised as an upstairs NP complement, while the downstairs logical subject can be controlled by some argument of the upstairs verb: *avoir* exerts subject control, whereas *donner* exerts control by means of its indirect object.

9.1.4 Tough constructions

Finally, the MOC appears as the complement of so-called *tough* adjectives, its missing object being understood to correspond to the adjective's external argument: this will be the head noun in the case of attributive use (9.10), or the subject in the case of predicative use (9.11).

- (9.10) un livre facile à lire
a book easy to read
'an easy book to read'

- (9.11) Ce livre est facile à lire.
this book is easy to read
'This book is easy to read.'

Similarly to English, *tough* predicates are not strictly limited to adjectives, but may include adverbs, (idiomatic) nominals like *de la tarte* 'piece of cake' (9.12b) or verbal expressions like *prendre (du temps)* 'take (time)', *coûter (une somme)* 'cost (some amount)' (9.12a)–(9.12d).

- (9.12) a. le premier je l' ai vu en animé il n' y a pas longtemps
the first I DO.3SG have seen as anime ago not long
mais il n' y a rien à dire c' est mieux à lire tu te fait
but there_is nothing to say it is best to read you OBJ.2SG make
ton imagination
your imagination
'the first one I saw as an anime not long ago but for sure it's better to
read you can imagine for yourself'
(frWaC: le-bar-des-jeunes.forumactif.fr)
- b. un avortement c' est pas de la tarte à assumer
a abortion it is not INDF.SG.F pie to take_responsibility_for
'having an abortion is not a piece of cake to live with'
(frWaC: france5.fr)

- c. c' est le genre de renseignement qui prend du temps à
 it is the kind of information that takes INDF.SG.M time to
 obtenir
 obtain
 'it's the kind of information that takes time to obtain'
 (frWaC: lesverts.fr)
- d. Ce GPU coûte très cher à fabriquer à Nvidia
 this GPU costs very expensive to make to Nvidia
 'This GPU costs Nvidia a lot to produce'
 (frWaC: hardware.fr)
- (9.13) a. Ce GPU coûte très cher à Nvidia à fabriquer
 this GPU costs very expensive to Nvidia to make
- b. Ce GPU coûte des milliers d'euros à fabriquer à Nvidia
 this GPU costs INDF.PL thousands of euros to make to Nvidia
 'This GPU costs Nvidia thousands of euros to produce'
- c. *Ce GPU est des milliers d'euros à fabriquer
 this GPU is INDF.PL thousands of euros to make
 ('This GPU is worth thousands of euros to produce')

This last example displays an additional case of control of the subject of the MOC: the *tough* use of verbs like *coûter* not only raises the missing object to subject (as do all *tough* predicates), but additionally licenses an indirect object controller (*à Nvidia*) interpreted as the subject of the infinitive. Importantly, this indirect object is a dependent of the matrix verb and not internal to the MOC, as evidenced by its possibility to permute with the MOC (9.13a); neither could it be a dependent of *cher* (otherwise known as a *tough* adjective on its own), as it can be replaced by a noun phrase expressing a cost such as *des milliers d'euros* 'thousands of euros' in (9.13b), which cannot function as a *tough* predicate (9.13c). *Tough* predicates therefore further support the case for an analysis that keeps the subject available for control in addition to extracting the missing object.

Notice that French lacks several other cases of missing object constructions found in English, namely purpose infinitives, *too* and *enough* complements, and *need* predicates (Grover, 1995), which simply do not find any direct parallel in French.

Finally, we leave aside substantival uses of the MOC that do not express the missing object as in *à manger* 'food, eatable material' (literally 'to eat'), *à boire* 'drink, drinkable material' (literally 'to drink'), an unproductive pattern (e.g. *à lire* cannot form an NP to mean 'reading material'), which we consider to be lexicalised phrases.

9.2 Internal properties

Having laid out the external distribution of French MOCs, we now turn to their internal properties.

9.2.1 Passive properties

The examples given so far leave the subject of the infinitive of the MOC unexpressed (although in the object predication and *tough* uses, it may be controlled). Yet this subject can be realised internally as an oblique marked by *par* ‘by’, a realisation typically found with participial passives:

- (9.14) un livre à lire par toute la classe
 a book to read by all the class
 ‘a book to be read by the whole class’

Together with the promotion of the same verb’s DO to be used as a general external argument, this property has led to analyses of the MOC as a modal (see next section) infinitival passive (Giurgea & Soare, 2007).

9.2.2 Modality

As in English, the MOC carries some modality: *un livre à lire* denotes a book that one either must or can read.² However, the status of modality in the *tough* construction is less clear. Although an analysis of *tough* adjectives as covert (bouletic) modals has been proposed for English (Fleisher, 2008), the specifically deontic/epistemic modality that exists in all other uses is clearly different from the circumstantial modality *tough* predicates may carry. Conversely, deontic/epistemic modality is actually found in at least two other French infinitival constructions, the infinitival relative (9.15) and interrogative (9.16) clauses.

- (9.15) un endroit où aller
 a place where go
 ‘a place to go’ = ‘a place where one can/must go’

- (9.16) a. Où aller ?
 where go
 ‘Where to go?’ = ‘Where can/must one go?’
 b. Je ne sais pas où aller.
 I NEG know not where go
 ‘I do not know where to go.’ = ‘I do not know where one can/must go.’

²Certain idiomatic expressions contain MOCs with a negative experiential reading, such as *fille à marier* ‘unmarried woman’, i.e. a woman *not yet* married.

9.2.3 Locality

French MOCs have been claimed since at least Kayne (1974, 1975a) to be VP bounded: the dependency between the antecedent and the missing object is said not to hold across an embedding predicate like *essayer* below.

- (9.17) a. *Le travail était facile à essayer de finir.
 the work was easy to try to finish
 ‘The assignment was easy to try to finish.’
 b. The assignment was easy to try to finish.

(Abeillé et al., 1998a: 4)

This contrasts with English, where this construction has been treated by Pollard & Sag (1994) as a (weak) unbounded dependency:

- (9.18) Kim would be easy for you to persuade Lee to talk to.

(Grover, 1995: 20)

- (9.19) Mary is hard for me to believe Leslie kissed.

(Dalrymple et al., 2000: 16)

French tense auxiliaries, however, have been observed to be transparent to this dependency:

- (9.20) des gens utiles à avoir fréquenté
 INDF.PL people useful to have socialised_with
 ‘people useful to have known’

(Abeillé et al., 1998a: 24)

As discussed in Chapter 4, Abeillé et al. (1998a) have related this transparency to complex predicate formation with tense auxiliaries, a phenomenon involving apparent argument structure sharing between two predicates, namely here the lexical participle and the tense auxiliary. Under this perspective, the transparency of clitic climbing verbs does not contradict the traditional generalisation that missing objects are always strictly local: such apparently non-local missing objects would actually be local raised objects of the upstairs auxiliary. This reasoning makes an important prediction: all and only clitic climbing verbs should be observed to license embedded missing objects. The first half of this statement is easily verified by looking at the rest of the limited class of French clitic climbing verbs, namely causative *faire*, *laisser* and the perception verbs *voir*, *entendre*, *regarder*, *écouter*.³ As illustrated below for *faire* (9.21a) and *voir* (9.21b), natural examples from corpus can be found.

³Other cases of clitic climbing in French found with *être* and other copular verbs have a complementation pattern that restricts them to predicative XPs, which never take DO complements in French, precluding their use in MOCs.

- (9.21) a. les différentes compétences à faire acquérir aux élèves de
 the different skills to make acquire to.the students of
 cycle 1
 cycle 1
 ‘the different skills to make the preschool pupils acquire’
 (frWaC: cndp.fr)
- b. donner leur avis sur ce problème et sur tous ceux qui leur
 give their opinion on this problem and on all those that IO.3PL
 sembleraient intéressants à voir discuter
 would.seem interesting to see discuss
 ‘to give their opinion on this problem and on all those that would seem
 interesting to see being discussed’
 (frWaC: aapc.free.fr)

However, the second half of the prediction does not seem to prove empirically accurate. Abeillé et al. (1998a) already mention the possibility of transparent modal, movement and aspectual verbs for some speakers:

- (9.22) a. % un livre à devoir lire dès aujourd’hui
 a book to must read as_soon_as today
 ‘a book to have to read today’
- b. % une ville difficile à aller visiter en ce moment
 a town difficult to go visit nowadays
 ‘a town difficult to go to visit now’
 (Abeillé et al., 1998a: 4)

So does Kayne (1989):⁴

- (9.23) ? (Pour moi), ce livre serait impossible à commencer à lire
 for 1SG this book would.be impossible to begin to read

⁴Kayne also provides the following interesting example:

- (i) ? Ce genre d’article est difficile à savoir où classer.
 this kind of article is difficult to know where classify
 ‘This kind of article is hard to know where to file.’

(from Kayne, 1989: 251)

In this case the MOC dependency spans an embedded infinitival interrogative. As I was not able to find any more examples of this kind in corpora, I do not propose an analysis of the MOC as an unbounded dependency, but note that the phenomenon may well be even less constrained than previously thought.

aujourd'hui.

today

'For me this book would be impossible to begin to read today.'

(from Kayne, 1989: 251)

To the best of my knowledge, no speakers of modern French allow clitic climbing with such verbs. The two properties – transparency to a missing object dependency and clitic climbing – therefore appear to be actually distinct, though certainly overlapping.

Notice the uncertainty that the judgements provided by Abeillé et al. ('%') and Kayne ('?') indicate. To determine with more precision the extent of the class of non-climbing predicates that may embed a missing object infinitive, I conducted a corpus study on frWaC (Baroni et al., 2009), which is presented in the next section.

9.3 Corpus study

9.3.1 Method

The corpus study was carried out on FrWaC (Baroni et al., 2009), a lemmatised and PoS-tagged 1.3 billion word web-harvested corpus of French. The corpus was chosen precisely because of this large size, since I was looking not just for a particular, somewhat infrequent construction, but for particular sub-cases of this construction (those that involve an embedded missing object).

The corpus queries were conducted using Corpus Query Language (CQL – Jakubíček et al., 2010) expressions in Sketch Engine.⁵ The basic search pattern for MOCs is illustrated in (9.24): essentially I searched for sequences of *à* followed by two infinitives. The use of optional search terms catered for potentially intervening adverbs, pronominal affixes, and the markers *de* and *à* that precede some embedded infinitives (e.g. *finir de, commencer à*).

(9.24) Basic CQL expression for the MOC

```
[word = "à"] [tag = "ADV"]? [tag = "ADV"]?
[tag = "PRO.*"]? [tag = "PRO.*"]? [tag = "VER:infi"]
[lemma = "de" | lemma = "à"]? [tag = "ADV"]?
[tag = "ADV"]? [tag = "PRO.*"]? [tag = "PRO.*"]?
[tag = "VER:infi"]
```

ADV = Adverb, PRO.* = Personal pronoun, VER:infi = Infinitive verb

As the corpus does not contain structural information, it was not possible for the expressions to be sensitive to a missing object, and so the results of such queries contained many infinitival phrases marked by *à* that were not MOCs, such as can occur as

⁵Kilgariff et al. (2004, 2014). <https://www.sketchengine.eu/>.

complements of various predicates in French. The method used to overcome this issue was therefore to further restrict the search pattern by providing left context appropriate for the MOC, which is only licensed in four different contexts (recall Section 9.1). Leaving out object predication,⁶ three different CQL search terms were defined to provide left context corresponding to subject predicative, attributive, and *tough* use. Subject predicative context was defined by a disjunction of lemmata termed as predicative in the machine-readable Lefff valency lexicon (Sagot, 2010) immediately before the MOC. Attributive context was simply defined by the presence of a noun immediately before the MOC. As for *tough* constructions, the query was built by prefixing a disjunction of *tough* adjectives (other categories of *tough* predicates were deemed too infrequent). Starting from the list of thirty-two adjectives provided by the Grande Grammaire du français (Abeillé & Godard, 2021: Table VI-8), the list of adjectives was extended by making an inventory of *tough* adjectives by searching the corpus for sequences of an adjective followed by *à* then an infinitive. The full list (n=249) of *tough* adjectives identified in that way is given below.

- (9.25) absurde, admirable, adorable, affreux, agréable, aisé, alléchant, amer, amusant, appétissant, âpre, ardu, assommant, atroce, balaise, banal, beau, bizarre, bon, bouleversant, bénéfique, bête, capital, cauchemardesque, chaud, cher, chiant, chouette, chronophage, comique, commode, complexe, compliqué, con, confortable, contraignant, cool, coriace, coton, coûteux, crucial, cruel, cuisant, curieux, dangereux, difficile, différent, dingue, distrayant, douloureux, doux, drôle, dur, dégoûtant, dégueulasse, délicat, délicieux, délirant, dément, déplaisant, dérangement, déroutant, désagréable, désirable, désolant, économique, effrayant, effroyable, élémentaire, embarrassant, empoisonnant, encombrant, énervant, ennuyant, ennuyeux, énorme, épouvantable, éprouvant, épuisant, éreintant, essentiel, étonnant, étrange, évident, excellent, extraordinaire, fabuleux, facile, fascinant, fastidieux, fastoche, fatigant, flou, fondamental, formidable, fou, fragile, fun, gonflant, grand, grandiose, gratuit, grave, grisant, gros, génial, gênant, hallucinant, hasardeux, haut, hideux, hilarant, honteux, horrible, hyperfacile, idiot, idéal, illicite, immédiat, important, impossible, impressionnant, impropre, impératif, inaudible, inconfortable, incroyable, indispensable, infect, infernal, infâme, inintéressant, injuste, insoutenable, insupportable, intelligent, interminable, intolérable, intuitif, intéressant, inutile, irritant, joli, jouissif, joyeux, judicieux, laborieux, laid, lassant, lent, long, louable, lourd, lourdingue, léger, magique, magnifique, majestueux, malaisé, malcommode, malheureux, malin, marrant, mauvais, meilleur, merveilleux, mignon, moche, moindre, monstrueux, mortel, méchant, naze, net, nul, nécessaire, obligatoire, obscène, palpitant, paradoxal, passionnant, pathétique, perplexe, personnel, pertinent, petit,

⁶Several cases of object predication were in fact returned while searching for attributive uses, all of them complements of *avoir*. As object predication is much more infrequent than the other contexts, and since cases in which it differs in surface form as a left context from attributive uses are *a fortiori* even rarer, I do not expect that a significant number of examples were missed by not creating a search expression specific to object predication contexts.

physique, pitoyable, plaisant, polluant, possible, poussif, pratique, primordial, prioritaire, précieux, préférable, prématuré, pénard, pénible, périlleux, raide, raisonnable, rapide, rare, ravissant, redoutable, reposant, ridicules, rigolo, risqué, rude, réaliste, réjouissant, sain, salubre, savoureux, sidérant, simple, simplissime, somptueux, souple, spectaculaire, splendide, stressant, subjugant, sublime, suffisant, super, superbe, surprenant, sympa, sympathique, sympatoche, tendre, terrible, terrifiant, toxique, triste, trivial, troublant, ultra-facile, ultra-simple, ultrarapide, urgent, utile, vexant, vital, vulgaire

Further restrictions were added to the queries to help identify the target construction more efficiently by filtering out the most common sources of noise (false positives). Firstly, personal pronouns preceding the infinitive that always express DOs (*la, le, les*) were filtered out, as they indicate a DO that is not missing but pronominalised. Secondly, the word directly after the second infinitive was constrained to not be a determiner, as determiners in this position very frequently introduced an expressed (i.e. non-missing) DO. Thirdly, I identified, via successive refinement, some lexical items that were prone to yield an incommensurate number of false positives, and consequently excluded them from the search pattern. For example, the nouns *manière* and *façon* ‘manner, way’ were ruled out in the attributive search pattern, as they very frequently head a saturated (i.e. with no MO) *à*-infinitival complement (e.g. *de manière à trouver du travail*, ‘in order to find work’); similarly, *dire* was excluded from the predicative search pattern as it was overly frequent because of its use in *c’est à dire* ‘that is to say’.

These measures were not sufficient to suppress all false positives from the results, but they were effective enough to permit manual inspection to identify legitimate instances of MOCs. Although these restrictions may have precluded some valid examples from being turned up by the search patterns (false negatives), such as e.g. an unlikely use of *manière* as an antecedent noun modified attributively by a MOC, I believe this effect was minimal and did not greatly affect the number of results gathered. Further notable limitations of this study can be traced to the limitations of the chosen corpus: as a web-harvested corpus, frWaC often contains spelling mistakes, which in turn limited the efficiency of searching by tag. Although false positives returned because of spelling or tagging issues could easily be discarded when browsing the results, it is possible that such issues prevented valid examples of embedded missing objects from being properly retrieved.

9.3.2 Results

The first infinitive verb of each successfully identified missing object construction that was returned by the query was added to an inventory of transparent embedding predicates. These verbs are listed below, followed by one of the sentences they occurred in. The numbers in brackets denote the amount of unique occurrences in the corpus.

(9.26) Movement verbs

a. *aller* (189)

Un bon film à **aller** voir pour le plaisir des yeux.
 a good film to go see for the pleasure of the eyes
 ‘A good film to go and watch for your visual pleasure.’

(allocine.fr)

b. *venir* (61)

des panneaux de petites annonces à **venir** consulter
 INDF.PL signposts of little advertisements to come refer_to
 sans modération
 without moderation
 ‘posting boards with ads to come and browse without moderation’

(jeunes.angers.fr)

(9.27) Modal verbs

a. *devoir* (4)

Histoire de ne pas avoir trop d’autocollants à **devoir** coller sur
 in_order to NEG not have too of stickers to have_to stick on
 la carrosserie
 the car’s_body
 ‘So as to avoid having too many stickers to place on your car’

(sauber.probb.fr)

b. *pouvoir* (4)

les deux Italiens ont tant de portes à **pouvoir** entrouvrir qu’
 the two Italians have so_many of doors to be_able half-open that
 on peut s’attendre à de magnifiques surprises
 we can expect to INDF.PL magnificent surprises
 ‘the two Italians have so many doors to be able to open that we can expect some beautiful surprises’

(yozone.fr)

c. *manquer de* (3)

Les laboratoires, équipes ou départements et les chercheurs à ne
 the laboratories teams or departments and the researchers to NEG
 pas **manquer** de visiter.
 not fail to visit
 ‘The labs, teams or departments and the researchers to be sure to visit.’

(estime.ird.fr)

(9.28) Aspectual verbs

a. *finir de* (37)

J' ai aussi trois tonnes de billets à **finir** d' écrire
 I have also three tons of blog_posts to finish to write
 'I also have a million blog posts to finish writing'

(greluche.fr)

b. *commencer à* (1)

les cartes et la frise à **commencer** à apprendre page 31
 the maps and the timeline to start to learn page 31
 'the maps and the timeline to begin to memorise on page 31'

(erra.club.fr)

c. *continuer à/de* (3)

J' ai récupéré un projet de la fac à **continuer** de développer en
 I have retrieved a project of the uni to continue to develop in
 html php javascript.
 html php javascript
 'I have retrieved a project from uni to continue to work on in html php
 and javascript.'

(hardware.fr)

(9.29) Cognition verbs

a. *savoir* (34)

On créera aussi pour chaque élève un carnet orthographique
 we create.FUT also for each student a booklet orthographical
 où seront regroupés par ordre alphabétique les mots à **savoir**
 where be.FUT collected by order alphabetical the words to know
 écrire
 write
 'We will also create for each student a spelling notebook in which the
 words they need to know how to write will be collected alphabetically'

(netia59.ac-lille.fr)

b. *apprendre à* (2)

C' est le plus aisé à **apprendre** à utiliser et pour la
 it is the most easy to learn to use and for the
 mise en page c' est nettement plus pratique
 formatting it is clearly more practical
 'It's the easiest one to learn to use and it's a lot more practical for
 formatting'

(musiqueclassique.forumpro.fr)

c. *oublier de* (6)

Voyage vous propose une petite liste de choses à ne pas

Voyage OBJ.2PL proposes a little list of things to NEG not

oublier de faire

forget to do

‘Voyage provides you with a short list of things to not forget to do’

(voyage.fr)

d. *penser à* (1)

Je réalisais accessoirement que je n’ avais toujours pas d’

I realised coincidentally that I NEG had still no

information sur ce qu’ on y mangeait, ni à quel prix, petits

information on what we there ate nor at what price little

détails à **penser** à demander si toutefois j’ étais rappelée

details to think to ask if however I was called_back

‘I coincidentally realised that I still had no information on what could be had for food there, or at what price, little details I should not forget to ask about, if they even called me back’

(sylviedenevers.noosblog.fr)

(9.30) Volition verbs:⁷a. *décider de* (1)

ma question c’ est : comment trouver ce qu’ il y a de possible à

my question it is how find what there_is of possible to

décider de faire

decide to do

‘my question is: how to find out what possible things to decide to do there are’

(paulriluma.club.fr)

⁷Two examples involving *essayer* ‘try’ escaped the attributive queries for technical reasons, but were found while looking specifically for this verb:

(i) Tu dis : “la religion vise un idéal à **essayer** d’ atteindre”.

you say the religion aims a ideal to try to reach

‘You say: “religion aims for an ideal to try to reach”.’

(atheisme.free.fr, 2005)

(ii) l’ économie est un truc à étudier (ou à **essayer** de comprendre)

the economy is a thing to study or to try to understand

‘the economy is something to study (or to try to understand)’

(optimum-blog.net)

b. *vouloir* (1)

La qualité, donc l'appréciation des lecteurs, semble l'objectif
 the quality so the appreciation of the readers seems the objective
 logique à **vouloir** atteindre.

logical to want reach

'Quality, i.e. readers' esteem, seems like the logical goal to want to reach.'

(listesratures.fr)

c. *tenter de* (6)

Parmi les médicaments à **tenter** de diminuer puis d'arrêter

among the medications to attempt to diminish then to stop

de principe, on retient les médicaments à effet

a priori we memorise the medications with effect

anticholinergique

anticholinergic

'Among the drugs to try to diminish and a priori to quit using, drugs with an anticholinergic effect stand out'

(stud.eao.chups.jussieu.fr)

d. *oser* (1)

J'ai une fureur pour assister à ces audiences, qui, par fois,

I have a furor to attend to these audiences which sometimes

sont à n' **oser** qualifier, comme cette, prescription rétrograde, ce

are to NEG dare describe like this prescription backward this

voyage en 1744 qu'on voudrait faire faire aux hommes de

trip in 1744 that they would want have made to the men of

1832

1832

'I am outraged into attending these audiences, which, sometimes, one must not dare to describe, like this backward prescription, this trip to 1744 that they would have the men of 1832 do'

(eco-fabrique.ens-lsh.fr)

e. *éviter de* (1)

Le padding est à **éviter** de modifier

the padding is to avoid to modify

'Padding is not to be modified'

(iubito.free.fr)

These results show that the class of verbs that are transparent to the missing object dependency is broad and quite heterogeneous. It contains many verbs without clitic

climbing (9.26)–(9.30), and at least two more semantic types than previously thought, namely cognition (9.29) and volition (9.30) verbs in addition to the movement, modal and aspectual verbs mentioned by Abeillé et al.. Furthermore, the verbs of this class exhibit various syntactic behaviours, including raising verbs like *pouvoir* contrasting with control verbs like *vouloir*, as well as different complement patterns regarding the embedded infinitive (e.g. bare VP with *vouloir*, marked by *à* with *penser*, or marked by *de* with *décider*). I therefore reject argument composition as the mechanism responsible for embedded missing objects, and will propose instead in Section 9.6 an alternative analysis of such cases.

9.4 Previous analyses

In this section I briefly describe previous analyses that represent the main families of approaches to MOCs: by syntactic movement, as a kind of reduced relatives, or based on raising.

9.4.1 Movement analysis

The first analysis of French MOCs (specifically in their *tough* use) is due to Kayne (1975b) and it is essentially based on syntactic movement. Although he does note the passive-like effect associated with the construction, Kayne still rejects an analysis along these lines on several grounds. Firstly, he claims that MOCs, unlike participial passives, do not license a *par/de*-phrase. While I concur on the impossibility of a *de*-phrase, this is likely due to the associated stative semantics of the verb, which seem incompatible with the agentive interpretation of the subjects of MOCs. *Par*-phrases, on the other hand, seem to me to be entirely grammatical in this context, and corpus examples abound on frWaC: searching for a *tough* adjective + *à* + Vinf + *par*, I found 546 unique examples of agentive *par*-phrases, some of which are given below.

- (9.31) a. Ces mélanges se présentent sous une forme liquide, facile à
 these mixes present under a form liquid easy to
 assimiler par l' intestin, et bien tolérés par l' estomac.
 assimilate by the intestine and well tolerated by the stomach
 'These mixes come in liquid form, easy to assimilate by the intestine,
 and well tolerated by the stomach.'
 (autrement.asso.fr)
- b. Michael Douglas a du tout de même être très difficile à
 Michael Douglas has had_to still be very difficult to

manier par David Fincher

handle by David Fincher

‘Michael Douglas still must have been very difficult for David Fincher to direct’.

(autrement.asso.fr)

- c. Ce contrat est global et plus simple à gérer par les autorités
this contract is global and more simple to manage by the authorities
publiques
public

‘This contract is global and simpler for public authorities to manage’

(modernisation.gouv.fr)

Secondly, Kayne provides the following contrast involving *se*-verbs:

- (9.32) a. Ce livre est difficile à se procurer
this book is difficult to REFL.3 acquire
‘This book is difficult to procure.’

- b. *Ce livre se_i sera procuré (par Jean_i)
this book REFL.3 is acquired by Jean
(‘This book is acquired by Jean.’)

(Kayne, 1975b: 337–338, my intended translation)

Transitive verbs with intrinsic or reflexive *se* like *se procurer* ‘acquire’ can enter a MOC, but not become passive participles. I come back to this point in Section 9.6.4.

Finally, Kayne notes the possibility of long distance MOCs involving causative *faire*:

- (9.33) Cette décision sera difficile à faire accepter au comité
this decision be.FUT difficult to make accept to.the committee
‘This decision will be difficult to get the committee to accept.’

(Kayne, 1975b: 337–338)

- (9.34) * Cette décision a été fait(e) accepter au comité
this decision has been made accept to.the committee
(‘This decision was made to be accepted by the committee.’)

Essentially, Kayne rightfully notes that MOCs can be non-local dependencies, while participial passives are not generally non-local (9.34). However, two cases can be adduced that hint at a more complex picture of the locality of passive-like operations in French. Firstly, medio-passive *se* can operate non-locally:

- (9.35) Grâce à la mode du cat-sitting, les chats se font plus facilement
 thanks to the trend of cat-sitting, the cats REFL.3 make more easily
 garder.
 keep
 ‘Thanks to the trend of cat-sitting, it is easier to have your cats kept.’

This construction, discussed and analysed in the previous two chapters, attests that some forms of passives can apply to causative complex predicates in French.

Secondly, non-local participial passives are in fact found in French, although the class of verbs they can occur with is limited:

- (9.36) a. Ce monument sera fini de construire en 2023.
 this monument be.FUT finished to build in 2023
 ‘This monument will be finished building in 2023.’
 b. Achievé d’imprimer le 11 décembre 1987
 finished to print the 11 december 1987
 ‘Printed on December 11 1987’ (standard phrasing in French edition notices)
 c. alors qu’ elle [l’ écriture inclusive] est pourtant recommandée d’
 whereas it the writing inclusive is however recommended to
 utiliser au Québec par exemple
 use in Québec by example
 ‘despite Québec for instance recommending its use [of inclusive writing]’

(Linguisticae, <https://youtu.be/cG195gRjA88?t=763>)

The idea of a movement analysis suggested by Kayne furthermore raises the question of the boundedness of the dependency: although such an approach could certainly deal with examples like (9.33), it remains unexplained how a movement rule would correctly account for the peculiar locality of the construction that was uncovered in the previous section, and would likely overgenerate to an unbounded dependency.

9.4.2 Reduced relative analyses

In their analysis of French MOCs, Abeillé et al. (1998a) capitalise on the restricted locality of the construction, claiming that only argument composition verbs like the tense auxiliaries *avoir/être*, as well as *faire/laisser* and perception verbs are transparent to the MOC. This claim follows a similar point made by Aissen & Perlmutter (1976: 16–17) for Spanish. What these verbs have in common is that they permit clitic climbing, which Abeillé et al. regard as local morphological expression of raised arguments. Their analysis of French *tough* constructions crucially builds on this: the lexical entries of

tough adjectives have their external argument (selected via SUBJ or MOD) co-indexed with an unsaturated direct object valency of their \dot{a} -infinitival complement, as detailed in Figures 9.1–9.2.

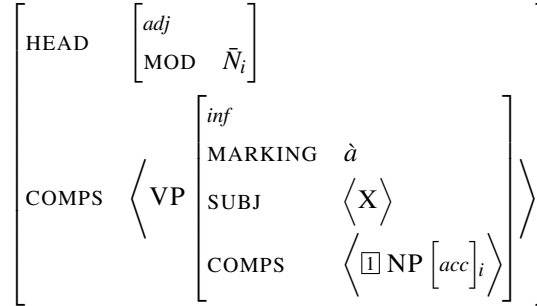


Figure 9.1: *Facile* – attributive variant (from Abeillé et al., 1998a: 7)

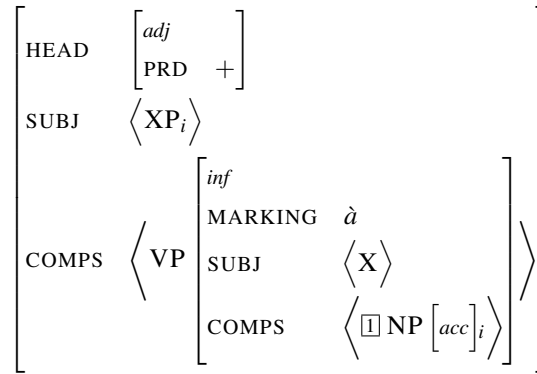


Figure 9.2: *Facile* – predicative variant (from Abeillé et al., 1998a: 7)

Attributive uses of the MOC receive a similar analysis. Abeillé et al. (1998a) treat them as infinitival relative clauses, suggesting that there are three ways in which an antecedent noun can be related to an argument within the relative: either by way of an unbounded dependency (SLASH) or by direct co-indexation with an unsaturated SUBJ (*qui*-relatives) or COMPS valency (MOC).

There are several problems with this line of analysis: first, an infinitival relative analysis is intrinsically limited to attributive uses and *tough* constructions. Most crucially, this approach does not extend to subject predications, since the verbs used in these contexts, like copula *être* or *sembler*, are subject-to-subject raising verbs, not object-to-subject raising verbs.

Second, as was shown in Section 9.3, the class of verbs transparent to the MOC is by no means limited to clitic climbing or argument composition verbs, but comprises a larger class of VP-taking control and raising verbs, most of which do not exhibit the kind of behaviour that Abeillé & Godard (2002) associate with argument composition.

Third, the passive-like properties of the construction remain entirely unaccounted for. This holds most obviously for the realisation of the logical subject as an oblique *par*-phrase (9.37). But it also treats as a mere coincidence the fact that the external argument in a MOC is always the logical direct object.

- (9.37) une pétition à signer par tous les membres
 a petition to sign by all the members
 ‘a petition to be signed by all members’

9.4.3 Raising

9.4.3.1 A-movement in Romance

Giurgea & Soare (2007) discuss *tough* constructions in Romance, noting the formal similarities to predicative and attributive uses of the missing object construction. They suggest that these constructions are passive-like and should therefore be captured in terms of A-movement (raising).

Giurgea & Soare, however, do not address the issue of locality: in the light of the data presented in Section 9.3, A-movement will have to cross intervening PRO subjects, essentially leading to principle A violations. Similarly, their proposal does not address the case of external control either. Thus, while I concur with their perspective of the missing object construction as an instance of grammatical function change, it appears to me that A-movement *per se* is insufficient to do full justice to internal and external control.

9.4.3.2 Missing object constructions in English

While English *tough* constructions are often regarded as unbounded dependencies (Pollard & Sag, 1994), it has been noted that extraction from finite clauses may be subject to individual or dialectal variations (Hukari & Levine, 1987). Studying a wide range of missing object constructions in British English, including *tough* constructions and parasitic gaps, Grover (1995) observes that non-locality of the dependency uniformly involves chains of control or raising verbs.

Consequently, Grover suggests that missing objects are removed from COMPS, akin to direct objects in true passives, but that they are promoted to secondary subject status: technically, this is implemented by appending the erstwhile direct object valency to the SUBJ list. Control and raising continue to target the first element of a complement's SUBJ list, but additionally structure-share (=inherit) the list remainder, thereby implementing a notion of secondary subject raising that goes piggy-back on existing control and raising dependencies.

Given the partial yet substantial overlap between missing object constructions in English and French and the parallelism regarding locality conditions and control relations,

the formal analysis of the French data proposed here will actually build on Grover's account.

9.5 Discussion: Subject status in the missing object construction

As we have seen in the previous sections, the French MOC shares some properties with standard lexical passives. First, the argument that remains unexpressed *in situ* is always the DO. Second, the missing object behaves as the external argument of the construction, being co-referent with the antecedent noun in attributive use or the grammatical function being predicated on. Third, the downstairs logical subject is either omitted, or else realised by a *by* phrase.

While the missing object behaves as the external argument of the construction as a whole, subject status within the construction does not reflect this: most notably, whenever a (subject) control verb intervenes (see Section 9.3 above), the logical subject of the control verb is co-referent with the logical subject of its infinitival complement, and crucially not with the missing object.

The logical subject of the verb whose object is locally missing is not only available to control within the construction, but can also be controlled from outside: with object predication, the missing object of the downstairs infinitive corresponds to the DO of *donner* or *avoir*, while at the same time the logical subject of the *à*-infinitive is controlled by some other function of the object predication verb (by the subject in the case of *avoir*, or by the indirect object, in the case of *donner*). Similarly, control of the logical subject from outside was also found with *tough* predicates like *coûter* 'cost' and *prendre* 'take', cf. example (9.12d).

These observations show that we are confronted here with two notions of subjecthood being operative at the same time. One way we can make sense of this is in terms of a two-step passivisation, separating promotion of the DO from demotion of the logical subject. More precisely, I shall assume that, in a first step, a lexical rule promotes the DO to secondary subject in the sense of Grover (1995), without demotion of the logical subject, which stays available for control. At the top of the *à*-infinitive, the grammatical function change is finally concluded.

9.6 Analysis

I now propose a unified analysis of the MOC as an infinitival passive phrase able to act as a predicate, a modifier, or a selected complement (*tough* uses). The chosen approach shall expose two of the construction's core arguments, viz. not only the missing DO but also the logical subject which needs to be available for external control. I also take care to account

for the particular locality of the dependency independently of argument composition by allowing select lexical heads (i.e. verbs of the class of *aller* that were found to naturally occur in this position) to intervene transparently within the construction.

I rely specifically on the double subject approach suggested by Grover (1995) to encode the dependency with the missing object. Lexically, the DO valency is promoted to secondary subject, which accounts not only for the absence of a local DO complement, but also makes the DO available to raising. This approach captures the fact that the MOC behaves externally like a passive, but internally maintains canonical control relations by intervening infinitives in non-local cases.

9.6.1 The bottom of the construction: A lexical rule for passive infinitives

$$\left[\begin{array}{l} \text{HD} \\ \text{VAL} \\ \text{ARG-ST} \end{array} \left[\begin{array}{l} \text{VFORM } nonfin \\ \text{SUBJ } \langle \boxed{1} \rangle \\ \text{COMPS } \langle \boxed{2} \mid \boxed{3} \rangle \\ \langle \boxed{1}, \boxed{2} \mid \boxed{3} \rangle \end{array} \right] \right] \mapsto \left[\text{VAL} \left[\begin{array}{l} \text{SUBJ } \langle \boxed{1}, \boxed{2} \rangle \\ \text{COMPS } \boxed{3} \end{array} \right] \right]$$

Figure 9.3: Lexical rule for *à*-infinitival passives

$$\left[\begin{array}{l} hd-sbj-phr \\ \text{HD-DTR} \\ \text{NON-HD-DTR} \end{array} \left[\begin{array}{l} \text{SYNSEM.LOC.CAT.VAL.SUBJ } \langle \boxed{1} \rangle \\ \text{SYNSEM } \boxed{1} \end{array} \right] \right]$$

Figure 9.4: Head–subject schema limiting the realisation of double subjects

We can implement the first step of the passivisation effect, i.e. the local suppression of a DO valency, by means of a lexical rule operating on valence lists (cf. Grover, 1995). This rule, given in Figure 9.3, applies to a non-finite verb and blocks the realisation of its DO by taking it off the COMPS list. As in Grover (1995), the dependency is established on the SUBJ list: the blocked DO becomes a secondary subject of the verb.⁸ This is enough to license downstairs infinitives or participles with an unexpressed object, while

⁸The possibility of having more than one element on the SUBJ valence list has also been explored for the treatment of the Double Nominative Construction in Korean (Lee, 2003; Ko, 2010; Ryu, 2013). Similarly, Müller & Ørsnes (2013) propose an analysis of object shift in Danish that has multiple elements on the SPR list, alongside the subject.

at the same time constraining the distribution of such passive verbs: as contexts for finite phrases require a single subject under standard HPSG theory, the double subject value effectively limits occurrences of passive infinitives to the special contexts defined below. This can be enforced by a constraint on head–subject phrases requiring the subject list being saturated to have exactly one element, as in Figure 9.4.

9.6.2 The top of the construction

As we have seen in the discussion of the empirical patterns, the MOC features in four different contexts: attributive use, subject predicatives, object predication (e.g. *avoir* and *donner*), and *tough* constructions. While in the case of *tough* predicates and object predication verbs the MOC is specifically selected by the lexical entry of the governing predicate, this is certainly not the case for the attributive use, and it is not necessarily the case for subject predicatives either, if we take absolute predicatives into account, cf. (9.38).

- (9.38) Avec cinq livres à lire, il est vraiment en retard.
 with five books to read he is really behind
 ‘With five books to read, he is really behind.’

It can therefore be proposed that MOCs in French can be licensed in one of two ways: either lexically by a governing predicate, or constructionally.

This distinction is further corroborated by the differences regarding control: while the subject of the *à*-infinitive can undergo obligatory control from outside, this again appears to be limited to the cases where the MOC is specifically selected by a governing lexical head, as is the case for object predication verbs, and some *tough* predicates, cf. (9.12d), but crucially not for ordinary attributive and predicative uses. Furthermore, the fact that there is lexical variation among *tough* predicates with respect to control provides additional support for a lexical perspective.

Moreover, we observed in Section 9.2.2 that MOCs differ also with respect to the modality they introduce: while attributive and predicative uses clearly involve necessity or possibility, this is not the case for *tough* predicates. Thus, it appears preferable to associate modality not with the *à*-infinitive directly, but rather make it a property of the context in which it is used.

Finally, there is no evidence that the marker *à* found at the top of the infinitival construction behaves any differently from ordinary infinitival markers: in particular, modal infinitives do not constitute extraction islands, as shown below.⁹

- (9.39) À qui est-ce que ce film est facile à montrer ?
 to who Q this film is easy to show
 ‘Who is this film easy to show to?’

⁹I thank one of the reviewers of the *Glossa* journal for having pointed this out.

(GGF: VI – 60d, my translation)

This contrasts with prepositions, which, unlike VP markers, are indeed islands (Abeillé et al., 2006). If the marker \grave{a} is unlikely to be a preposition, the predicative and attributive properties are best conceived of as properties of the construction, rather than of its initial lexical marker.

9.6.2.1 The infinitival marker \grave{a}

Given the fact that MOCs are not extraction islands, thus patterning with ordinary \grave{a} -marked VPs, we can propose that the marker found at the top of the MOC is indeed the ordinary infinitival VP marker.

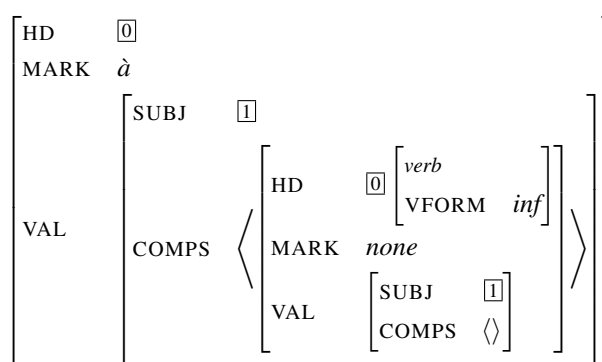


Figure 9.5: Lexical entry for VP marker \grave{a}

I shall essentially follow Abeillé et al. (2006), treating the marker as a weak head (Tseng, 2002), as depicted in Figure 9.5.

In a nutshell, the marker takes an infinitival VP complement, with which it shares the SUBJ and H(EA)D values. It differs from its bare VP complement, however, in terms of its MARK value.

9.6.2.2 Constructional licensing of MOCs: predicative and attributive uses

As we have observed above, attributive and subject predicative uses differ from *tough* constructions and object predications in two crucial respects: first, there is no specific lexical governor selecting the MOC and there is no control of the infinitive's primary subject from outside. Moreover, French VPs do not normally have attributive or predicative uses.

Predicative and attributive uses can then actually be licensed by a specific construction, implemented by the unary rule detailed in Figure 9.6. The rule projects an XP[PRD ±] from a double subject \grave{a} -marked VP. Crucially, this rule ignores the primary subject of the VP daughter, and raises that daughter's secondary subject to its own SUBJ value, thereby concluding the passivisation effect.

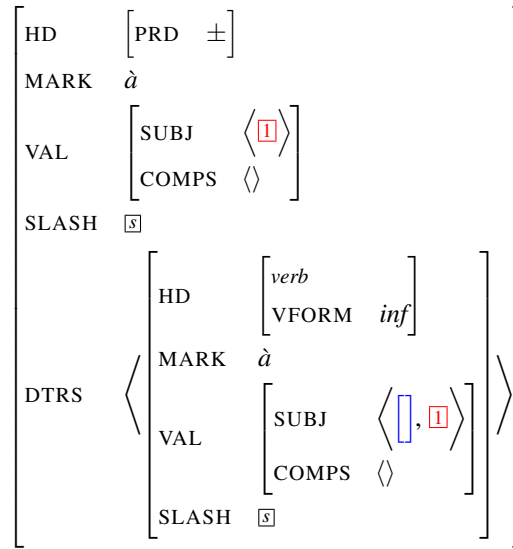
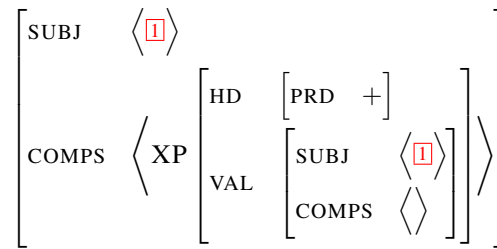


Figure 9.6: Constructional licensing by unary rule

Figure 9.7: Lexical entry for the copula *être*

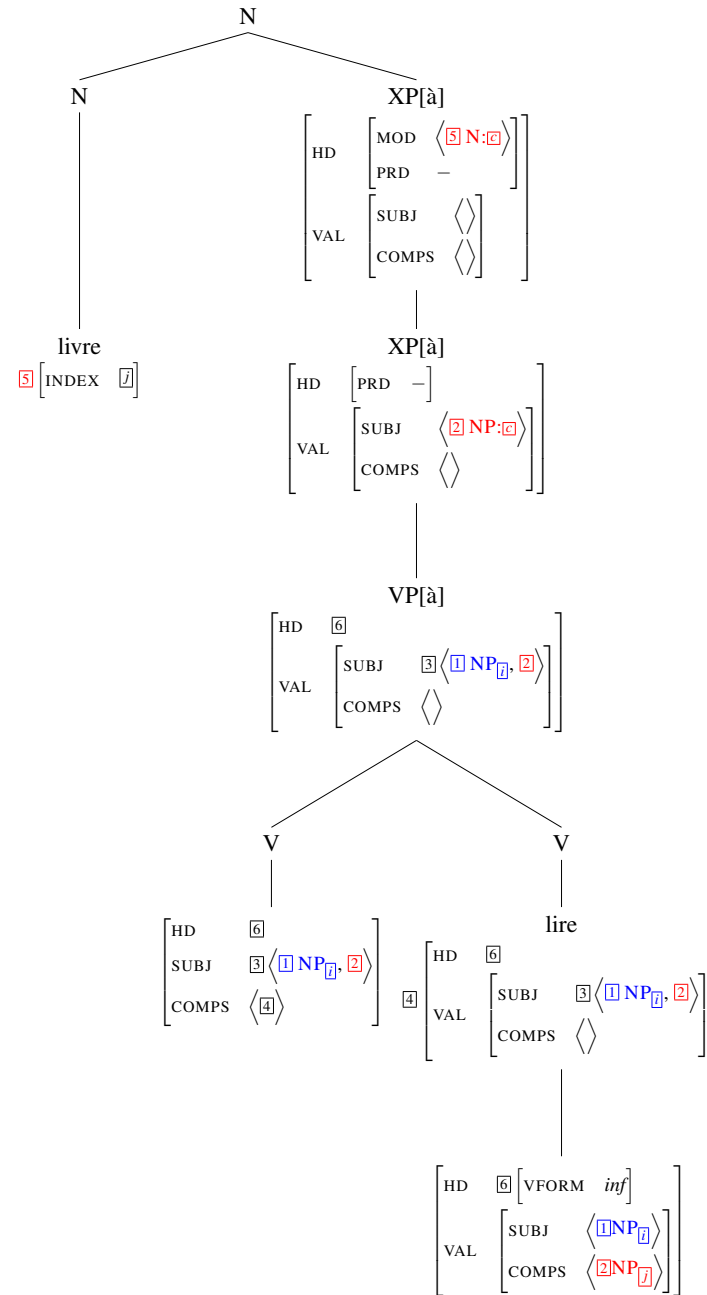
Subject predication The predicative use of the MOC is straightforwardly derived under a standard HPSG account by subject-to-subject raising. A lexical entry for the copula is given in Figure 9.7; similar entries can be given to other copular verbs.

The tree in Figure 9.8 illustrates the analysis of a simple predicative instance of the construction, *ce livre est à lire* ‘this book is to be read’.

Attributive use Just like English, French displays a systematic alternation between predicative and attributive uses for e.g. adjectives. We can model this alternation by means of a unary rule deriving the latter from the former. This rule is given in Figure 9.9. The rule simply shifts the valence from SUBJ to MOD. As the predicative/attributive alternation in general may have exceptions both ways (non-attributive predicates and non-predicative attributes), the feature PR(E)D(ICATIVE) controls which elements may undergo it, restricting application to signs for which PRD is defined and where the value unifies with $-$, which includes \pm .

$$\left[\begin{array}{l} \text{HD} \\ \text{VAL} \\ \text{DTRS} \end{array} \left[\begin{array}{l} \left[\begin{array}{l} \text{PRD} \quad \boxed{p} \quad - \\ \text{MOD} \quad \langle \bar{N} : \boxed{c} \rangle \end{array} \right] \\ \left[\begin{array}{l} \text{SUBJ} \quad \langle \rangle \end{array} \right] \\ \left\langle \begin{array}{l} \text{HD} \left[\begin{array}{l} \text{PRD} \quad \boxed{p} \\ \text{MOD} \quad \langle \rangle \end{array} \right] \\ \text{VAL} \left[\begin{array}{l} \text{SUBJ} \quad \left\langle \left[\begin{array}{l} \text{HEAD} \quad \textit{noun} \\ \text{CONT} \quad \boxed{c} \end{array} \right] \right\rangle \end{array} \right] \end{array} \right\rangle \end{array} \right] \right]$$

Figure 9.9: PRD-to-MOD unary rule

Figure 9.10: Sample analysis for *livre à lire*

A sample derivation for a simple local attributive MOC, *livre à lire* ‘book to read’, is given in Figure 9.10.

9.6.2.3 Lexical licensing of MOCs

Lexical heads selecting for the MOC include object predication verbs, such as *avoir*, *donner*, or *laisser*, as well as *tough* predicates. In contrast to attributive and subject predicative uses, these also display control of the primary subject of the *à*-infinitive. Thus, we can assume that in these constructions, the governing lexical item directly subcategorises for a double subject *à*-infinitive.

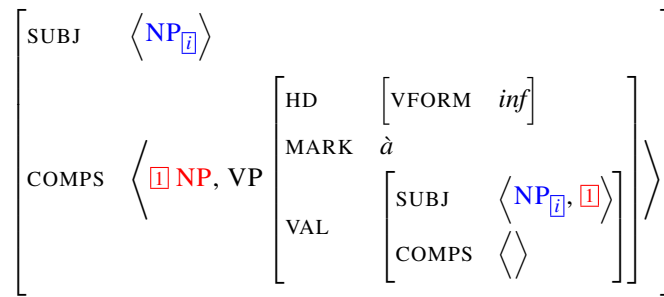


Figure 9.11: Entry for lexical *avoir*

Object predication Object predication can be treated as involving both control and raising. A lexical entry for *avoir* is given in Figure 9.11. As can be seen in the entry, the subject of *avoir* exerts control over the primary subject of the MOC, just like control is done within the MOC. The secondary subject of the *à*-infinitive is raised to object.

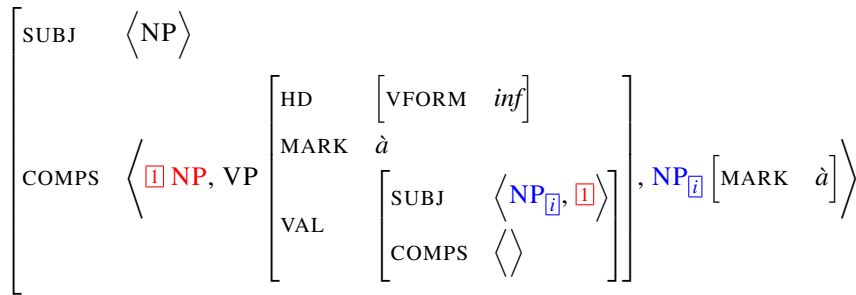
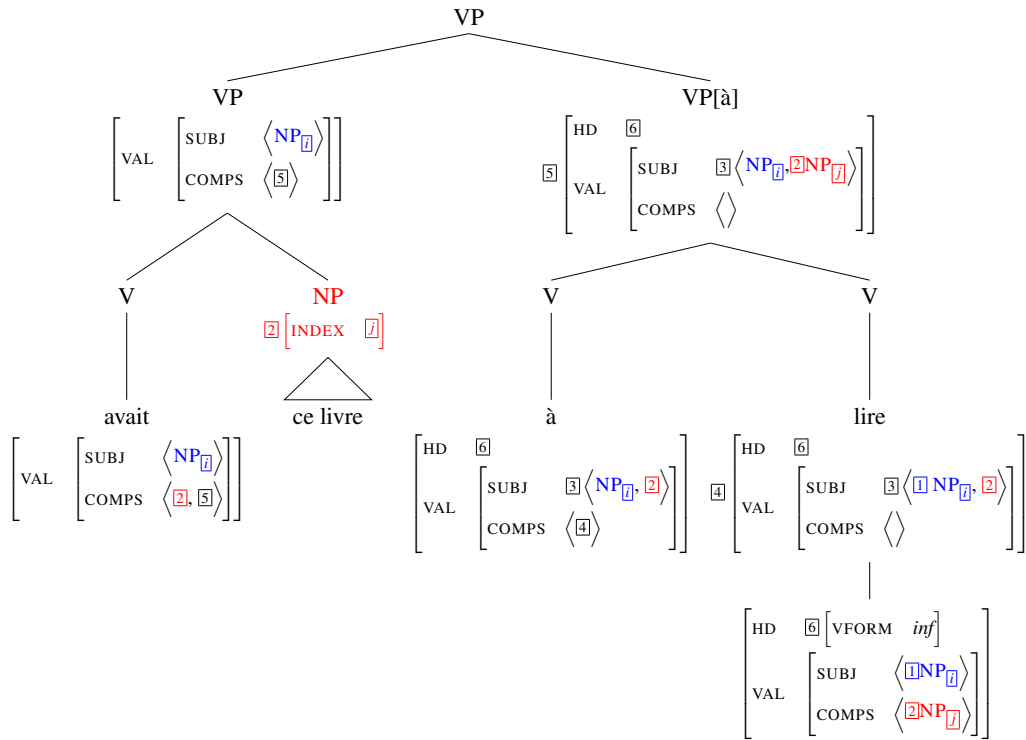
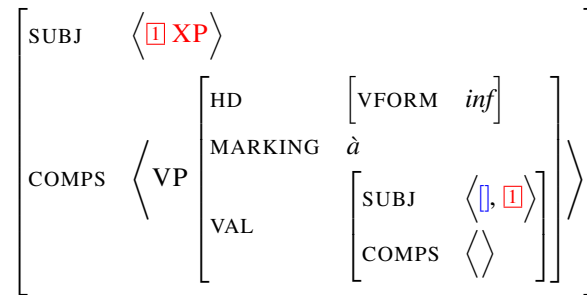


Figure 9.12: Entry for lexical *donner*

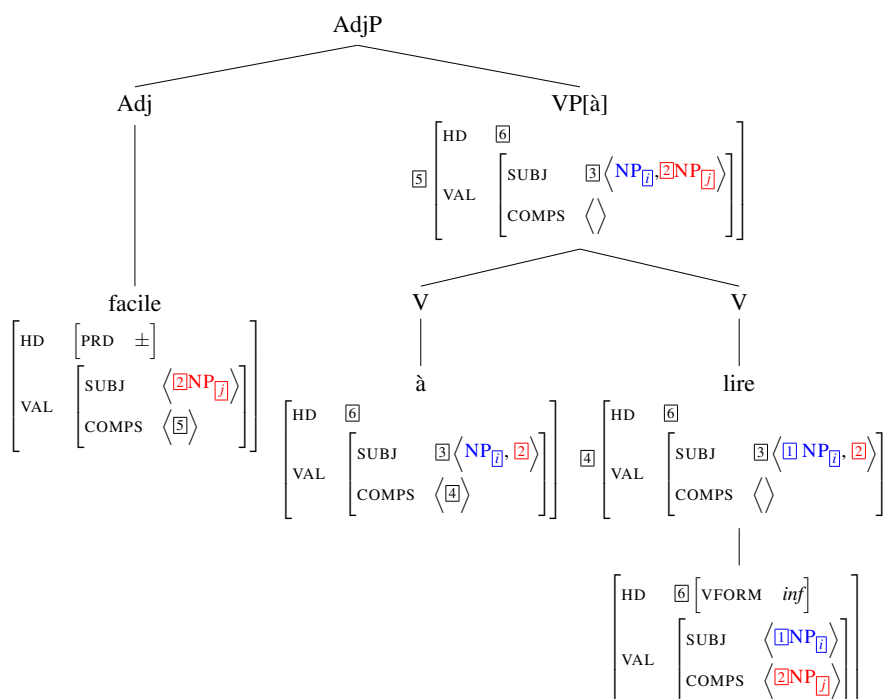
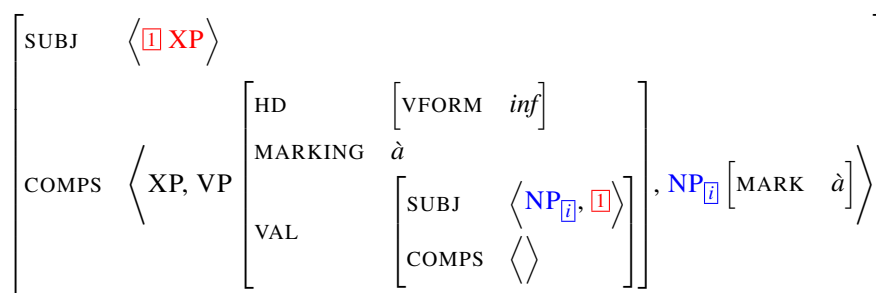
Donner works very similarly to *avoir* in this context, only it is the indirect object rather than the subject that acts as a controller for the primary subject of the *à*-infinitive (Figure 9.12).

The different raising and control relations are illustrated in Figure 9.13, which derives *avait ce livre à lire* ‘had to read this book’.

Figure 9.13: Sample analysis for *avait ce livre à lire*Figure 9.14: Lexical entry for a *tough* adjective

Tough uses We can also analyse *tough* predicates in terms of raising of a secondary subject. A lexical entry for *facile* is given in Figure 9.14, and a sample derivation for *facile à lire* in Figure 9.15. Note that attributive uses of *tough* adjectives can be derived by the unary rule previously given (Figure 9.9).

As for *tough* predicates that introduce a controlling argument such as *coûter*, they can again specify the control relation between the controller and the MOC's primary subject (Figure 9.16), analogous to the object predication verbs discussed above.

Figure 9.15: Sample analysis for *facile à lire*Figure 9.16: Lexical entry for *coûter*

9.6.3 Boundedness

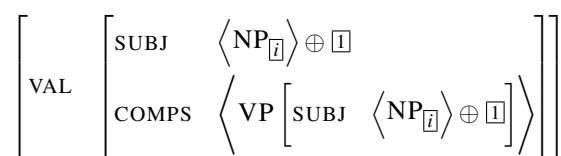
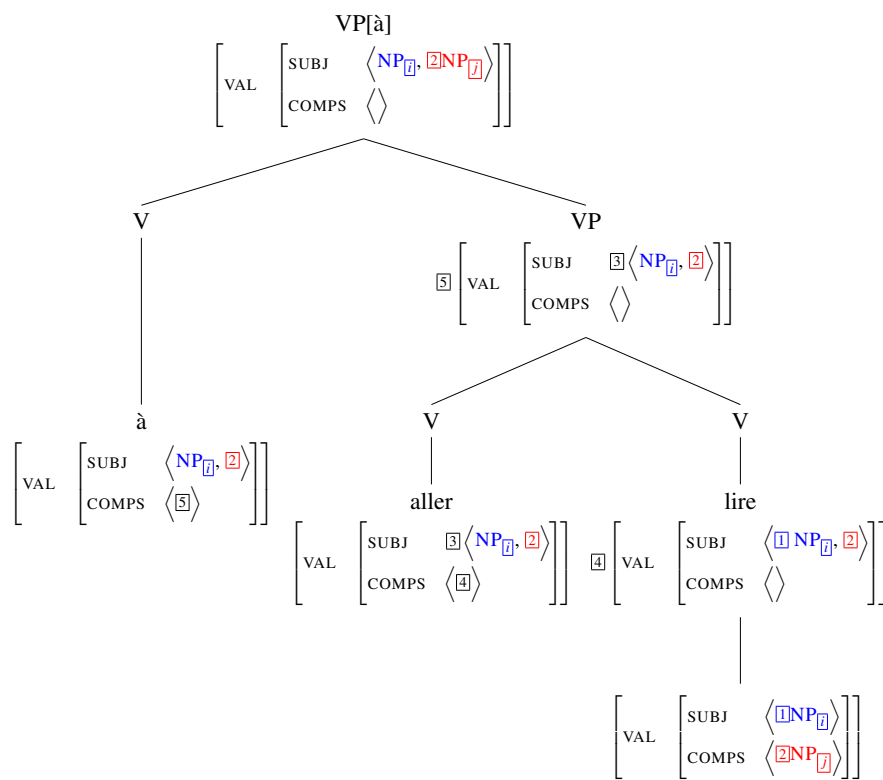
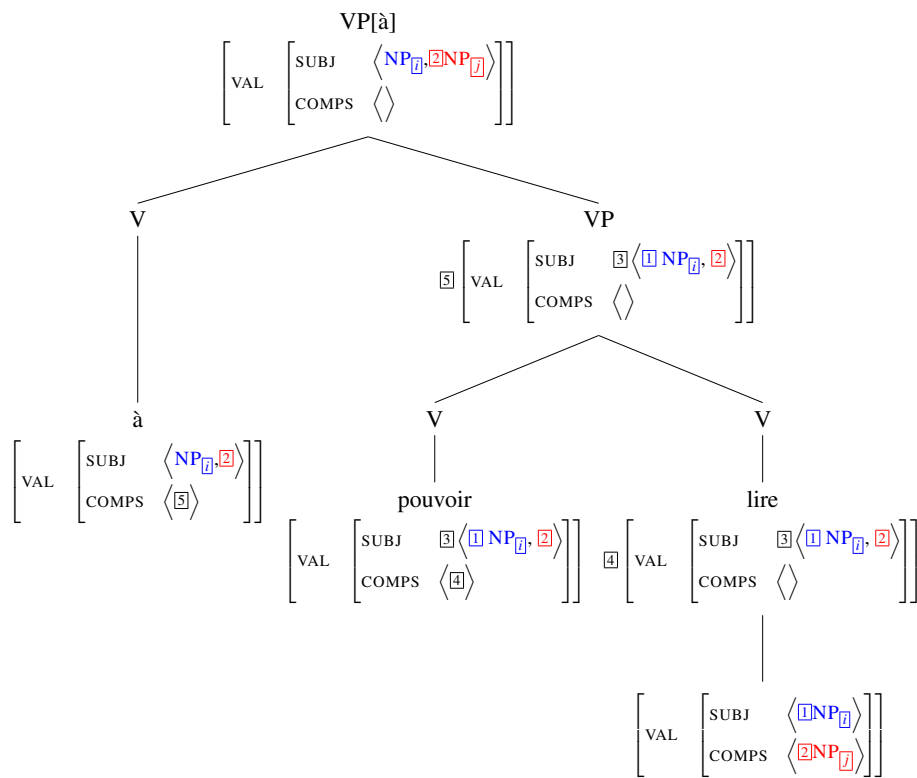


Figure 9.17: Lexical entry for a transparent subject control verb

As was found in Section 9.3, a class of verbs may intervene in the dependency with the

Figure 9.19: Sample analysis for *à aller lire*

Figure 9.20: Sample analysis for *à pouvoir lire*

the infinitive form used in the MOC can easily host pronominal affixes of any kind, French syncretic passive-past-perfective participles are morphologically defective, and can never combine with reflexive pronouns such as *se*. Of course, given the possibility of clitic climbing to the copula in the passive case, this fact alone does not predict the impossibility of (9.40b). However, facts from another voice phenomenon involving clitic climbing, namely the causative *faire* construction, illustrate a peculiarity of the interaction of voice and reflexivity in French. Recall the alternation between upstairs and downstairs *se* in causatives from Section 8.2:

(9.41) $Il_i\ se_{i/*j}$ est fait coiffer par Camille_j.
 he REFL.3 is made do_one's_hair by Camille
 'He got his hair done by Camille.'

(9.42) $Il_i\ a\ fait\ se_{j/*i}$ coiffer les enfants_j
 he has made REFL.3 do_one's_hair the children
 'He got the children to do each other's/their hair.'

Essentially, when *se* originates from the argument structure of a verb in a causative construction, its placement (climbing or local) dictates how it is interpreted: upstairs *se* is bound by the subject of the causative event, while downstairs *se* is bound by the lexical verb's subject. In other words, reflexive *se* is always locally interpreted, i.e. bound by the local subject of the verb it attaches to. We can take the causative situation to be parallel to the participial passive case, and therefore expect that the only way for participial passives to express the binding of *se* by the logical subject as in (9.40b) is by downstairs realisation of *se*. This realisation is however ruled out by morphological defectiveness, whereas upstairs realisation would come with a different binding relying on the passive subject (e.g. the original DO), which explains the ungrammaticality of (9.40b). The MOC's passive, which, on the other hand, is an infinitive, can freely realise *se* locally downstairs, where it is accordingly bound by the lexical verb's original subject, accounting for (9.40a).

9.6.5 Missing sentential complements

Before concluding, let us briefly address a particular case of the MOC in which the missing object is not an object NP, but a complement clause introduced by *que*:¹⁰

(9.43) Que Nixon ne soit pas impliqué [...] est difficile à croire.
 that Nixon NEG be not involved is difficult to believe
 'That Nixon is not involved [...] is difficult to believe.'
 (Ruwet, 1976: 79–83, my translation)

¹⁰ Another noteworthy case involves a missing object that is part of a V–NP idiom together with the infinitive:

- (9.44) Que Nixon ne soit pas impliqué est à ne pas croire une seconde.
 that Nixon NEG be not involved is to not believe a second
 ‘That Nixon is not involved is not to be believed for a second.’

This situation is in fact to be expected under a passive analysis, as *que*-complements are passivisable in French:

- (9.45) Qu’ il ne soit pas impliqué est encore cru par beaucoup.
 that he NEG be not involved is still believed by many
 ‘That he is not involved is still believed by many.’

The distribution of such missing sentential complements seems restricted compared to the missing DOs. Attributive uses are excluded, a fact readily derived by the description of the rule in Figure 9.9, which applies only to nominal heads. Object predication uses are also excluded, which can be ascribed to selectional constraints for NP by the relevant verbs (e.g. *avoir*, *donner*; cf. Figures 9.11–9.12). Subject predication is possible (9.44), which is allowed by the underspecified description of the subject of copular verbs (Figure 9.7). As for *tough* predicates, they also take underspecified XP subjects (Figures 9.14–9.16), correctly allowing sentential complements.

9.7 Conclusion

In this chapter I have presented an in-depth investigation of the French missing object construction (MOC), studying its properties in *tough* constructions, as well as attributive, subject predicative and object predicative uses. While I concur with previous research regarding the bounded status of the dependency, I have shown on the basis of a corpus study that the class of verbs that can intervene in this construction extends beyond tense auxiliaries and includes a wide range of subject control and subject raising verbs. Furthermore, while the missing object serves as the external argument of the construction, the logical subject remains available for realisation by a *by* phrase, as well as for control, both by an intervening verb and from outside. Building on Grover (1995), I have proposed

-
- (i) La soirée s’annonçait sinistre, mais, grâce à ce boute-en-train de Gaston, la
 the evening promised_to_be sinister but thanks to this jolly_fellow of Gaston the
 glace a été facile à briser.
 ice has been easy to break
 ‘The evening promised to be dreadful, but thanks to that jolly fellow Gaston the ice was easy to break.’

(Ruwet, 1983: 42, my translation)

As Ruwet (1983: 40–47) notes, this property of idioms is shared with participial passives. Although I do not provide a sample analysis of such cases, it should be sufficiently clear that these cases are easily captured by the passive-like approach defended here.

a formal HPSG analysis that treats the missing object as a secondary subject: promotion to secondary subject status not only accounts for the passive-like behaviour of the infinitival construction, but it also captures the potential for obligatory control both within the construction and from outside. In this approach, the way raising of the secondary subject depends on existing subject control or raising for the primary subject readily models the locality conditions of the construction.

An immediate consequence of this discussion is the decorrelation of clitic climbing and transparency in MOCs: numerous verbs that do not license clitic climbing can intervene in the construction. The analyses of clitic climbing and MOCs I have defended consequently dissociate the two dimensions: clitic climbing is related to inflectional periphrasis, while transparency to MOCs is a derived property of subject raising and control verbs.

Chapter 10

Conclusion

This thesis has offered a shift in perspective in the study of Romance ‘pronominal clitics’: in light of the affixal nature of the pronominals involved, clitic climbing can be reframed as a problem of morphology. The core proposal of the thesis, clitic climbing as periphrastic exponence, can be seen as bringing together the syntactic facts with the recent morphological literature. As was shown in Chapters 5–6, the morphological view applies seamlessly to clitic climbing in French tense auxiliary constructions using only two independently necessary ingredients: a morphological analysis of pronominal arguments such as that of Miller & Sag (1997), and a formal theory of inflectional periphrasis such as that of Bonami (2015).

In addition to the adequate treatment of pronominal morphotactics and morphophonology, which a large part of the syntactic literature has mostly glossed over, shifting the onus of clitic climbing onto independent morphological mechanisms has considerably reduced the burden of syntax in tense auxiliary constructions. Whereas previous lexicalist approaches required systematic argument raising to account for clitic climbing, resulting in a flat structure for tense auxiliary constructions, the proposed analysis is compatible with much simpler phrase structure, such as a hierarchical VP. This thesis has also proposed a re-evaluation of the evidence adduced for argument composition in French clitic climbing constructions (Abeillé & Godard, 1996, 2002), and shown a decorrelation between clitic climbing and syntactic properties involving constituency and the clausality of missing object dependencies. These alleged flat structure properties were shown to characterise neither a subset nor a superset of clitic climbing constructions, and to necessitate independent syntactic analyses. As soon as clitic climbing is disconnected from phrase structure in this way, argument composition can be shown to be both unnecessary and undesirable for the treatment of French auxiliary constructions.

Among the flat structure properties, the facts concerning extraction, pronominalisation and ellipsis in tense auxiliary constructions were shown to receive a very straightforward account using constraints on realisation mode (see e.g. Miller & Sag, 1997), i.e. a simple cross-classification of types of subcategorised elements (*synsems*) independently required

and widely used in HPSG. As for missing object constructions, I have shown on the basis of a corpus study that their boundedness does not coincide with previous claims in the literature. I have shown that the class of verbs that may embed a VP with a missing object comprises many subject raising and subject control verbs, a fact which argues against Abeillé et al. (1998a)'s analysis relating MOC transparency to argument composition. I have instead proposed a syntactic analysis of the construction treating them as infinitival passives, building on similar proposals by Grover (1995) and Giurgea & Soare (2007). In addition to the locality property, the proposed analysis covers the observed wide external distribution of the construction.

The proposal of clitic climbing as periphrasis was further generalised to climbing from passives and predicatives. This extension has produced a similar simplifying effect on the syntax of French copular constructions, for which constituency data in fact argue directly against argument composition, leading previous approaches to spurious systematic ambiguity. The phenomena of periphrasis stacking, reflexive auxiliary alternation, and participle agreement were also addressed with a morphological perspective.

The thesis has further presented an application of the periphrasis approach to French complex predicates, with a focus on *faire* constructions. Drawing on criteria for inflectional periphrasis (Haspelmath, 2000; Ackerman & Stump, 2004; Brown et al., 2012) as well as various insights from the literature on their high degree of grammaticalisation, I have proposed to view French *faire* constructions as causative periphrases. This view allows for the possibility to effect clause union outside of syntax: a morphological voice alternation phenomenon is responsible for augmenting the argument structure of the lexical verb in the causative periphrase, just like in a morphological causative in e.g. Japanese. This morphologically-motivated argument structure extension is in turn responsible for the host of clause union properties commonly reported in French causatives. The causative periphrasis approach was shown to thus effectively derive clause union in the morphology, thereby reaping the benefits of previous monoclausal approaches (i.a. Aissen & Perlmutter, 1976; Alsina, 1992; Abeillé et al., 1998b) while simplifying the syntactic side of things considerably.

In particular, the *se faire* construction naturally reduces to a reflexivised causative, i.e. the combination of two independent voice processes. More phenomena were given similar analyses as combinations of morphological processes, including reflexive trapping (in my view a causativised reflexive), long and trapped medio-passives, the distribution of negative polarity in the *faire* construction, and the interaction with perfective periphrasis. As was previously argued for at a theoretical level by Koenig (1998), and as I have formally shown in Chapters 7–8, this inside-out implementation of clause union is furthermore better suited to account for argument realisation in the *faire* construction, which is sensitive to properties of the lexical verb that are inaccessible in outside-in approaches, such as argument composition.

I have also proposed a reorganisation of the empirical generalisations regarding clitic

climbing in the *faire* constructions. Elaborating on insights by Baschung & Desmets (2000), I consider that a distinction between a control variant and a monoclausal, clitic climbing variant of *faire* (Abeillé et al., 1998b) is necessary but insufficient to account for the diversity of cases of downstairs realisation of pronominals. *Contra* Abeillé et al., I have argued that climbing of object pronominals is simply optional from infinitives in French. Although climbing is the preferred realisation mode, several morphological, lexical and syntactic factors were identified that may lead to a local realisation, making so-called trapping a subcase of a broader phenomenon.

Appendix A

Glossing abbreviations

DO	direct object
IO	indirect object
POL	polite
GER	gerund
ANA	anaphoric
DEIC	deictic

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