An inside-out approach to French causatives

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Abstract

In this paper[1], we provide a novel account of French causatives that crucially derives the core properties of the construction inside-out from the downstairs lexical verb to the causative verb, rather than outside-in, as is commonly assumed by argument composition (Miller & Sag, 1997; Abeillé et al., 1997; Abeillé et al., 1998). We shall argue on the basis of clitic trapping (Miller & Sag, 1997), as well as marking of the downstairs subject (Koenig, 1998) that the downstairs verb assumes a more active role than what is suggested by an argument composition approach and, conversely, we shall show that argument composition leads to problems with coordination and with en-cliticisation. The analysis we are going to propose combines an inversion analysis of the downstairs subject as a downstairs complement, accounting for scrambling and case marking, with an analysis of clitic climbing in terms of inflectional periphrasis (Aguila-Multner & Crysmann, 2020).

Clitic climbing, defined in Romance as the non-local realisation of clitic or affixal pronominal arguments, is limited in modern French to four cases: tense auxiliaries *avoir* and *être*, copular *être* and other predicative constructions, causative *faire* ("make") and *laisser* ("let"), and certain perception verbs like *voir* ("see"). Examples (1–4) illustrate the phenomenon in the four classes of constructions, respectively.

(1) a. Le chat l' a cassé.
the cat DO.SG have.PRS.3SG broken
'The cat broke it.'

b. Le chat y est allé.
the cat LOC be.PRS.3SG gone
'The cat went there.'

(2) a. Un chat leur sera donné.
a cat IO.PL be.FUT.3SG given
'A cat will be given to them.'

b. Le chat nous restera fidèle.
the cat 1PL remain.FUT.3SG loyal
'The cat will remain loyal to us.'

(3) a. Je le ferai manger au chat.
I DO.SG.M make.FUT.1SG eat to.the cat
'I will make the cat eat it.'

b. Je le laisserai manger au chat.
I DO.SG.M let.FUT.1SG eat to.the cat
'I will let the cat eat it.'

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(4) Je l' ai vu casser par le chat.
I DO.SG have.PRS.3SG seen break by the cat
'I saw the cat break it.'

Within Head-driven Phrase Structure Grammar (HPSG, Pollard & Sag, 1994), French clitic climbing has been analysed (Abeillé & Godard, 2002; Abeillé et al., 1997; Abeillé et al., 1998) as a case of argument composition (Hinrichs & Nakazawa, 1990), i.e. generalised raising of the downstairs verb's arguments by the auxiliary. In a more recent proposal (Aguila-Multner & Crysmann, 2020), we suggested an alternative approach to clitic climbing, building on the model of inflectional periphrasis in HPSG by Bonami & Webelhuth (2013); Bonami (2015). However, this analysis so far only accounts for temporal, passive and predicative constructions. In this paper we extend the periphrasis approach to the causative construction.

We follow Abeillé et al. (1998) (after Hyman & Zimmer, 1976) in assuming two types of causative constructions in French, a generalisation summarised in the following section. The proposals based on argument composition by Abeillé & Godard (2002); Abeillé et al. (1998) are then presented in Section 2. Section 3 argues for an inside-out approach that gives more control to the downstairs verb, while a critical discussion of the argument composition approach is provided in Section 4. After an interim summary in Section 5, a new analysis based on periphrasis is laid out in Section 6.

1 Two types of French causatives

When *faire* is followed by an infinitive, it can give rise to two sorts of causative meanings. One takes the form of a three-place predicate assigning roles to a causer, a causee, and a caused event; the first corresponds to the subject of *faire*, the second to an object of *faire* co-indexed with the downstairs verb's subject in a control construction, and the third argument corresponds to the verb phrase. We call this type of *faire* "control *faire*". The other *faire* only assigns two roles: a causer and a caused event. This type of *faire*, which we call "non-control *faire*", contrasts with control *faire* in the semantic inferences it gives rise to: since a causee role is assigned by control *faire*, this kind of causation is generally interpreted as being direct, while non-control *faire* does not license such inferences (Abeillé et al., 1997, pp 66-67). 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 (5), where the only compatible causative meaning is the non-control one (5b).

(5) a. # Faites-les aimer Proust !
make-DO.3PL love Proust
'Make them like Proust.'

b. Faites-leur aimer Proust !
make-IO.3PL love Proust
'Make them like Proust.'

Several syntactic properties correlate with this distinction. Control *faire* invariably realises the (controller of the) downstairs subject as an accusative pronominal affix, as opposed to a phrase:

(6) Je l' ai fait manger des épinards.
I DO.3SG have made eat INDEF.PL spinach
'I made him eat spinach.'

(7) * J'ai fait manger des épinards les enfants.

Furthermore, clitic climbing is impossible with control *faire*:

(8) Je l' ai fait en manger.
I DO.3SG have made DO.INDEF eat
'I have made him eat some.'

(9) * Je l'en ai fait manger.

In the non-control construction, however, the realisation of the downstairs subject varies according to the transitivity of the infinitive: transitives give rise to a dative pronominal or an NP[à], while intransitives lead to an accusative pronominal or a bare NP.

(10) J' ai fait manger des épinards aux enfants.
I have made eat INDEF.PL spinach to.the children
'I made the children eat spinach.'

(11) J' ai fait dormir les enfants.
I have made sleep the children
'I have made the children sleep.'

This construction does license clitic climbing to *faire* (subject to some constraints, cf. Section 3.1):

(12) Je lui en ai fait manger
I IO.3SG DO.INDEF have made eat
'I have made him eat some.'

Finally, the downstairs subject in the non-control construction displays a peculiar pattern of realisation: when realised pronominally, it is always attached to *faire*. In case of phrasal realisation, however, the downstairs subject may scramble with other downstairs complements (or adjuncts for that matter), as illustrated by the following example.

(13) a. J' ai fait manger aux enfants des épinards.
I have made eat to.the children INDEF.PL spinach
'I had the children eat spinach.'

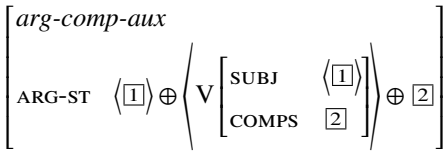

Figure 1: Argument composition

Thus, both marking and linearisation properties suggest that the logical subject of the downstairs verb enjoys the syntactic status of a non-subject complement.

2 Argument composition

Argument composition approaches to clitic climbing (Abeillé & Godard, 2002; Abeillé et al., 1997; Abeillé et al., 1998) rely on raising of the entirety of the downstairs verb's argument structure (and/or valence lists) by the upstairs verb. Arguments that are inherited in this way are naturally predicted to be hosted by the upstairs verb whenever they are affixal. In the case of causatives, non-control *faire* is then analysed as an argument composition verb. Figure 1 gives a schematic representation of such verbs.

Miller (1992) gives several arguments in defence of the flat structure of causatives. First, the free position of the downstairs subject relative to the complements of the infinitive is taken as evidence that the latter cannot form a VP with its complements alone. This does not rule out the possibility of a VP incorporating the downstairs subject, which we will explore in the analysis.

(14) Pierre a fait échanger les jouets aux enfants contre des livres.
Pierre has made exchange the toys to.the children against some books
'Pierre made the children swap the toys for books.' (Miller, 1992, 238)

Secondly, he draws an argument from the ungrammaticality of embedding of tense auxiliaries under a causative. He however admits that this ungrammaticality could be due to "some sort of independent semantico-pragmatic restriction" (p. 240 fn. 6), which is confirmed by the felicitous examples provided by Abeillé & Godard (1996, 38).

(15) 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 femme.
people that EXPL had.to to our new minister and to his wife
'Their intuition and their ambition have made the new minister and his wife have been acquainted with the people that they needed to.'

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.
copatriot and 3SG.ACC.F make live again a.long.time

'Frugality makes our famous copatriot have lived 110 years and will make her live an even longer time.'

(Abeillé & Godard, 1996, glossing and translation ours)

Thirdly, preverbal negation in the form of *ne pas* is impossible before the infinitive in the non-control case, which can easily be captured under the flat structure hypothesis, given that there is no infinitive VP for the negation to attach to. We return to this argument in the analysis.

(16) * Pierre fera ne pas rire Marie.
Pierre will make NEG not laugh Mary

(Miller, 1992, 240)

3 Restrictions imposed downstairs

As we have seen above, argument composition manages to reconcile climbing with a lexical perspective on pronominal affixation by means of giving the upstairs verb (*faire*) full control over the argument structure of the downstairs verb. In the *faire*-construction, however, there are still several cases where the downstairs verb maintains control over construction-specific aspects of realisation.

3.1 Trapping

With non-control *faire*, we typically observe climbing, i.e. upstairs realisation of all pronominal affixes of the downstairs verb. However, there are several exceptions: intrinsic arguments, medio-passive *se* and for most speakers even reflexive *se* resist climbing, as shown in (17).

(17) a. Le snobisme fait se vendre bien les classiques.
the snobism makes self sell well the classics
'Snobism makes the classics sell well.'

b. La chaleur a fait s'évanouir Paul.
the heat has made self.faint Paul
'The heat made Paul faint.'

c. (*) Marie a fait se laver les enfants.
Marie has made self wash the children
'Marie has made the children wash themselves.' (Abeillé et al., 1998, 24)

What is more, these intrinsic arguments also prevent any other pronominal affixes from being realised upstairs, with the exception of the downstairs subject.

(18) a. * Tout leur en fait vouloir à Paul.
everything IO.PL EN make angry to Paul
'Everything makes them/Paul angry at Paul/them.

b. Tout leur fait en vouloir à Paul.
everything IO.PL make EN angry to Paul
'Everything makes them angry at Paul.

c. Tout leur fait vous en vouloir.
everything IO.PL make 2.PL EN angry
'Everything makes them angry at you.'
(Miller & Sag, 1997, 609–610)

3.2 Subjects marked with *de/par*

Koenig (1998) notes another peculiarity of French *faire* construction which suggests that the downstairs verb plays a more active role with respect to argument realisation than what would be expected under an argument composition approach.

Agents of French passives can be expressed by either a *par*-phrase, or a *de*-phrase, the choice depending on the lexical aspect of the verb, i.e. whether it is dynamic (*par*) or stative *de*.

(19) Jean a été suivi *de / par Paul.
Jean has been followed of / by Paul
'Jean has been followed by Paul.'

(20) Le poisson a été suivi de / *par des rôtis.
the fish has been followed of / by INDEF.PL roasts
'The fish has been followed by a roast.'

In the *faire*-construction, realisation of the agent of the downstairs verb by an oblique by-phrase is equally possible, and we still observe sensitivity to the lexical aspect of the downstairs verb.

(21) Marc a fait suivre Jean *de / par Paul.
Marc has made follow Jean of / by Paul
'Marc had Jean followed by Paul.'

(22) Marc a fait suivre le poisson de / *par des rôtis.
Marc has made follow the fish of / by INDEF.PL roasts
'Marc had the fish be followed by a roast.'

With infinitives, however, realisation as a by-phrase is not a standard option. Koenig (1998) concludes that the grammatical function change must take effect on the downstairs verb, yet be conditioned inside-out on embedding in the causative construction.

4 Problems with argument composition

4.1 Controlling affixal realisation

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 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 clitics (see section 3.1 on trapping), leading to the paradoxical situation that even the presence of regular, valence-reducing argument clitics 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.

4.2 Coordination

One key characteristic of argument composition is that gives it rise to a flat verb phrase structure that complicates the treatment of VP coordination: i.e. the lexical non-finite verb figures as a direct complement of *faire* and does not itself combine with its own complements to project a VP. Thus, what looks like a case of ordinary constituent coordination, as indicated by the bracketing in (23), must be analysed as a case of non-constituent coordination.

(23) a. Elle la leur a fait [apprendre par cœur] et [réciter le
she DO.SG.F IO.PL have.3SG.PRS made learn by heart and recite the
lendemain].
next.day
'She made them learn it by heart and recite it the next day.'

b. Elle a fait [lire Sartre par les garçons] et [réciter Prévert
she have.3SG.PRS made read Sartre by the boys and recite Prévert
aux filles].
to.the girls
'She made the boys read Sartre and the girls recite Prévert.'

Under a traditional layered VP structure non-finite VP coordination an analysis in terms of conventional VP coordination is possible, as has been pointed out for tense constructions already by Manning (1997) and Aguila-Multner & Crysmann (2020).

4.3 en-cliticisation

Another piece of evidence that challenges the argument composition approach is contributed by *en*-cliticisation in conjunction with trapping.

The relevant contrasts are given in (24) below: non-local *en*-cliticisation is subject to the same trapping effect as ordinary argument clitics.

(24) a. Je leur ai fait s' en rappeler la fin.
I IO.SG have.PRS.1SG make.PTCP REFL.3 EN remember.INF the end
'I have made them remember the end of it.'

b. * je leur en ai fait se rappeler la fin
I IO.SG EN have.PRS.1SG make.PTCP REFL.3 remember.INF the end

(25) Voici le roman dont je leur ai fait se rappeler la fin.
here's the novel OF.WHICH I IO.PL have made REFL.3 remember.INF the end.
'Here's the novel I made them remember the end of.'

With argument composition, the above contrast is actually quite surprising: as discussed by Miller & Sag (1997), *dont*-relativisation and *en*-cliticisation are non-local in that they refer to a *de*-NP that can be arbitrarily deeply embedded within a complement of the host. To capture this, they argue that *en*-cliticisation goes piggy-back on the unbounded dependency independently needed for *dont*-relativisation, and propose a lexical rule that inserts an affixal synsem to bind the *de*-NP SLASH value of the verb's *canonical* complement. Given argument composition, this lexical rule should be able to apply not only to the lexical verb, but also to *faire*, in which case upstairs realisation will be predicted where only downstairs trapping should be possible.

5 Summary

In the previous sections, we have observed that the downstairs verb plays a more prominent role in the French causative construction than an argument composition approach would suggest: most notably the realisation of the downstairs subject, i.e. whether it surfaces as a bare NP or an indirect object, is a property decided by the transitivity of the downstairs verb. Furthermore, as discussed by Koenig (1998), the choice between *par* and *de* as an alternate marking for the subject of a transitive is determined by the lexical aspect of the downstairs verb. As for clitic climbing, trapping also militates for a position that grants the downstairs verb more active control over the construction.

In the remainder of this paper, we shall present a novel approach to the grammar of French causatives that does away with argument composition and derives the core properties of the construction inside-out from the downstairs lexical verb. In essence we shall generalise the inside-out dependence of *par/de* marking on an embedding causative verb and suggest that realisation as a direct or indirect object is equally an instance of demotion of the downstairs subject valency to a complement.

This "inversion" approach shall prove capable of deriving a number of core facts of the construction without having to rely on argument composition: if the downstairs subject is demoted to COMPS, scrambling with other complements of the downstairs verb is expected, cf. (13). Similarly, indirect object marking with transitives can equally be motivated by a ban on double accusatives as a constraint on the COMPS list of the downstairs verb. Finally, the perspective of representing all arguments of the downstairs verb as its complements provides for a straightforward account of VP coordination, including mixed subject marking, as shown in (23b).

Turning to clitic climbing, we have suggested in recent work (Aguila-Multner & Crysmann, 2020) that climbing with tense auxiliaries is best understood as an instance of periphrastic inflection (Bonami, 2015), arguing more specifically that delegation of pronominal affixation to the auxiliary is parasitic on an existing morphological inside-out dependency, namely tense periphrasis. Here, we shall extend our approach and suggest that clitic climbing in causatives equally relies on an independently motivated inside-out dependency (Koenig, 1998).

The analysis we are going to propose improves over the argument composition approach also in the area of *en*-cliticisation: given that there is no argument composition, *en*, just as all other clitics, can only ever originate on the downstairs verb. With intrinsic clitics, *en* will then be trapped, while it can climb otherwise, the decision being ultimately made by the downstairs verb.

6 Analysis

We have seen in Section 3 that the downstairs verb in constructions with non-control *faire* exerts a significant amount of control on argument realisation, both in terms of the realisation of the downstairs subject and in terms of the possibility vs. impossibility of clitic climbing. Rather than using argument composition to make as much information as possible available to the causative verb, we shall build on the work on clitic climbing via periphrasis by Aguila-Multner & Crysmann (2020) and place the various constraints associated with this construction on the downstairs verb.

6.1 Clitic climbing as periphrastic morphology

In our analysis of clitic climbing in French tense constructions (Aguila-Multner & Crysmann, 2020), we built on Bonami (2015)'s theory of inflectional periphrasis to reduce clitic climbing to a case of periphrastic exponence. Bonami's theory relies on reverse selection, a form of inside-out constraint, to allow the lexical element in a periphrase to impose morphological constraints to the auxiliary that syntactically selects for it, effectively creating a dependency that can convey information output by the inflectional component, i.e. periphrastic exponence. Since pronominal clitics in French are best analysed as lexical affixes (Miller, 1992), their non-locality in tense periphrases with clitic climbing can be accounted for as a form of periphrastic exponence, reverse-selected for by the downstairs verb to the auxiliary; in other words,

realisation of pronominal arguments is just another property that is realised upstairs in a French tense auxiliary construction, along with TAM and subject agreement.

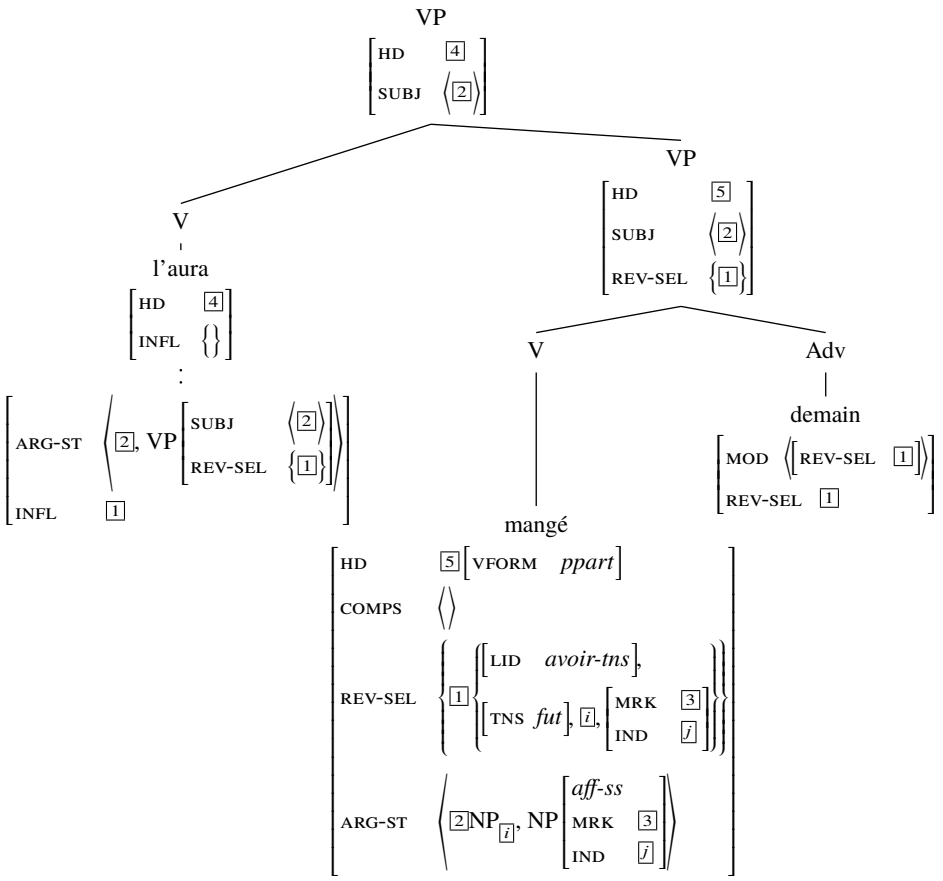

Figure 2: Percolation of periphrastic pronominal affixation

Figure 2 summarises the analysis of periphrastic realisation of pronominal affixes with a sample derivation of clitic climbing in periphrastic tenses. In essence, the lexical verb places its morphological requirements for the ancillary element in a feature REV(ERSE)-SEL(ECTION), which is passed up along the head projection path. The ancillary element, in this case a head governing the VP projection, lexically equates the requirements of its complement with its own INFL value, which defines the input for morphological realisation rules.

We define REV-SEL as a set-valued[2] feature located under CAT. The percolation mechanism of this feature is made explicit in Figure 3: ancillary lexemes subcategorise for an element with a non-empty REV-SEL set, one element of which they check against their INFL feature, while the rest is passed up to the ancillary lexeme's own REV-SEL. Non ancillary elements do not combine with elements carrying re-

[2]The REV-SEL feature was originally defined as list-valued by Aguila-Multner & Crysmann (2020), but we do not find any use for ordering of multiple reverse selection dependencies.

verse selection dependencies. Inheritance of REV-SEL by phrases proceeds simply from the head in head-valence phrases, and from both heads in coordinated phrases.

$$\textit{non-anc-hd-lex} \rightarrow \left[\begin{array}{ll} \textsc{ss} & \left[\begin{array}{ll} \textsc{loc} & \left[\textsc{cat.rev-sel} \quad \{\}\right] \\ \textsc{arg-st} & \left\langle \left[\textsc{loc.cat.rev-sel} \{\}\right] \ldots \left[\textsc{loc.cat.rev-sel} \{\}\right] \right\rangle \end{array}\right] \end{array}\right]$$

(a) Non-ancillary head

$$\textit{anc-hd-lex} \rightarrow \left[\begin{array}{ll} \textsc{ss} & \left[\begin{array}{ll} \textsc{loc} & \left[\textsc{cat.rev-sel} \quad \boxed{2}\right] \\ \textsc{arg-st} & \left\langle \ldots \left[\textsc{loc.cat.rev-sel} \{\boxed{1}\} \cup \boxed{2}\right] \ldots \right\rangle \end{array}\right] \\ \textsc{infl} & \boxed{1} \cup \textit{set} \end{array}\right]$$

(b) Ancillary head

Figure 3: Constraints on saturation of REV-SEL

6.2 Realisation of pronominal affixes

As stated in Aguila-Multner & Crysmann (2020), we assume argument mapping rules that type elements of ARG-ST with one of three synsem types (*canon-ss, gap-ss, praf-ss*) and insert them to the relevant features accordingly: canonical elements are left on valence lists, gap elements are tied to non-local features, and most relevantly here pronominal affixes are added to the inflectional agenda INFL as structures of type *praf*, containing case/marking and an index value. This is illustrated in Figure 4.

$$\left[\begin{array}{ll} \textsc{comps} & \boxed{2}\ \textit{list(canon)} \\ \textsc{infl} & \boxed{3} \cup \left\{\left[\begin{array}{lll} \textit{praf} & & \\ \textsc{mrk} & \boxed{m_1} & \\ \textsc{ind} & \boxed{i_1} & \end{array}\right] \ldots \left[\begin{array}{lll} \textit{praf} & & \\ \textsc{mrk} & \boxed{m_n} & \\ \textsc{ind} & \boxed{i_n} & \end{array}\right]\right\} \\ \textsc{dtr} & \left[\begin{array}{ll} \textsc{arg-st} & \left\langle \boxed{1}, \left[\begin{array}{lll} \textit{aff-ss} & & \\ \textsc{head}|\textsc{mrk} & \boxed{m_1} & \\ \textsc{cont}|\textsc{ind} & \boxed{i_1} & \end{array}\right] \ldots \left[\begin{array}{lll} \textit{aff-ss} & & \\ \textsc{head}|\textsc{mrk} & \boxed{m_n} & \\ \textsc{cont}|\textsc{ind} & \boxed{i_n} & \end{array}\right] \right\rangle \circ \textit{list(gap)} \circ \boxed{2} \\ \textsc{infl} & \boxed{3} \end{array}\right] \end{array}\right]$$

Figure 4: Mapping of pronominal arguments

Our implementation of the inflectional component is a set-valued feature INFL that acts as an agenda of morphosyntactic properties to be realised; realisation rules (synthetic and periphrastic) empty its contents and an empty INFL set is a requirement for entering syntax. A derivation for a simple tensed verb with local pronominal affixation is given in Figure 5 as an illustration of this morphology-syntax inter-

face: the verbal lexeme undergoes the mapping rule which adds a *praf* to its INFL, and inflectional rules symbolised by the dotted line realise it (along with TAM and agreement properties) accordingly with the form *les mangera*. Such rules can realise properties inherited by an ancillary element from their complement's REV-SEL, since their inheritance is mediated by INFL, as illustrated by the pronominalisation rule that applies to *l'aura* in Figure 2.

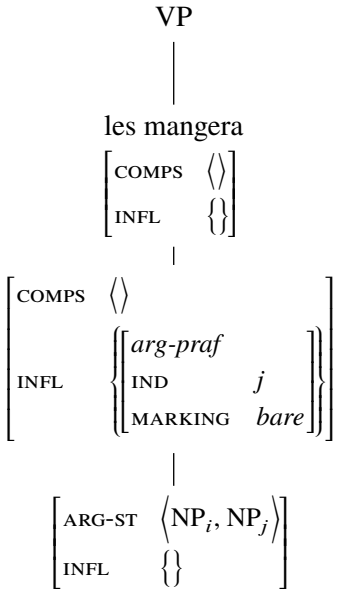

Figure 5: Synthetic pronominalisation

6.3 Realisation of the downstairs subject

All that is required now in order to model clitic climbing in causatives is a lexical rule to introduce the reverse-selection for *faire*. As argued by Koenig (1998), causativised infinitives independently need to carry an inside-out constraint for their licensor (causative *faire*) to properly constrain realisation of their subject as a *par* or *de*-phrase. I.e. the downstairs verb's subject is demoted to an oblique complement, contingent on the embedding under the causative verb. Our analysis goes piggyback on this independently required inside-out dependency (Koenig actually assumes argument composition together with a flat structure of VP): on the one side, we shall generalise realisation of the downstairs subject as an oblique complement to the case of realisation by an indirect object (transitives) or a direct object (intransitives). On the other hand, we shall argue that if there is already an inside-out dependency on a causative predicate, an analysis of clitic climbing as periphrasis will come at little extra cost. This is highly similar to the case of tense auxiliaries (Aguila-Multner & Crysmann, 2020) where periphrastic realisation of pronominal affixation depends on an already existing periphrastic relation between the participle and the auxiliary

for the expression of tense.

The relevant lexical rule is given in Figure 6, using the feature LID for identification of the causative verb. Generalising the case of oblique by-phrase realisation of the downstairs subject to direct and indirect objects, we suggest to extend the COMPS list of the downstairs verb with an NP co-indexed with the first element of ARG-ST. I.e. we essentially entertain an inversion analysis for downstairs NP subjects. Subtypes of this rule select the appropriate marking value on this inverted NP, sensitive to the argument structure and/or lexical semantics of the verb.

This rule only creates causative infinitive verbal lexemes, and given that French lacks a synthetic way of realising causative voice, these lexemes need a periphrasis rule to delegate their morphosyntactic properties to the relevant ancillary element (*faire*). As given in Figure 7, this rule not only delegates the realisation of causative voice, but also delegates expression of any *praf* specifications.

Finally, an entry for the causative verb is given in Figure 8. As was the case with *avoir*, *faire* inherits part of its inflection from its verbal complement's REV-SEL set, including any pronominal affixes delegated by the periphrasis rule.

The tree in Figure 9 summarises the analysis in the simple case of an intransitive verb (*dormir*) with an affixal subject. The one in Figure 10 features clitic climbing of the downstairs object.

$$\begin{bmatrix} \textsc{head} & \left[\textsc{vform} \quad \textit{nonfinite}\right] \\ \textsc{infl} & \left\{\left[\textsc{lid} \quad \textit{faire-lid}\right]\right\} \\ \textsc{subj} & \langle\rangle \\ \textsc{comps} & \boxed{1} \oplus \left\langle \mathrm{NP}_i \left[\textsc{marking} \quad \textit{bare} \vee \textit{à} \vee \textit{par} \vee \textit{de}\right]\right\rangle \\ \textsc{dtr} & \begin{bmatrix} \textsc{infl} & \{\} \\ \textsc{subj} & \langle \mathrm{NP}_i \rangle \\ \textsc{comps} & \boxed{1} \end{bmatrix} \end{bmatrix}$$

Figure 6: Lexical rule for causativised verbs

$$\begin{bmatrix} \textsc{head} & \left[\textsc{vform} \quad \textit{nonfinite}\right] \\ \textsc{rev-sel} & \left\{\boxed{1} \cup \boxed{2}\ \textit{set}\left(\left[\textit{praf}\right]\right)\right\} \cup \boxed{3} \\ \textsc{infl} & \{\} \\ \textsc{dtr} & \begin{bmatrix} \textsc{rev-sel} & \boxed{3} \\ \textsc{infl} & \boxed{1}\left\{\left[\textsc{lid} \quad \textit{faire-lid}\right]\right\} \cup \boxed{2} \end{bmatrix} \end{bmatrix}$$

Figure 7: Lexical rule for causative periphrasis

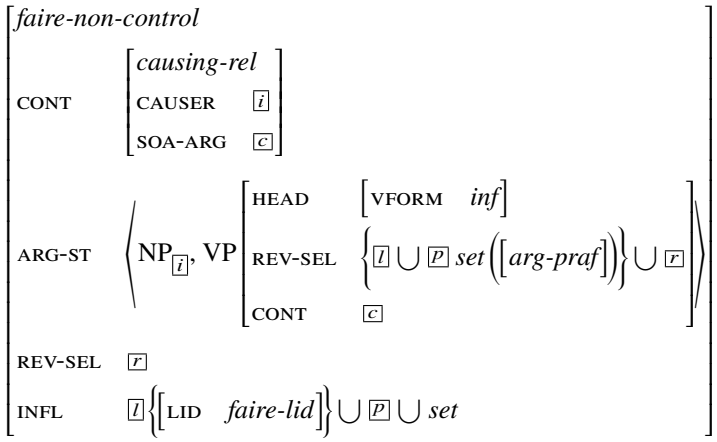

Figure 8: Non-control *faire*

6.4 Intrinsic arguments and trapping

Having laid out the basic line of analysis, we shall now turn to the treatment of trapping. As described in Section 3.1, trapping is triggered by lexically specified intrinsic arguments as well as inherent, medio-passive, and, for most speakers, reflexive *se*, so an important question is how such arguments are represented as part of the lexical entry of the verb. There are two basic observations regarding all these arguments: first, they are always realised affixally (cf. Abeillé et al., 1998), and second, intrinsic arguments, including inherent *se*, are not assigned a thematic role. This observation already carries over to medio-passive *se*, which is best understood as an exponent of grammatical function change (Grimshaw, 1982; Wehrli, 1986). Following Crysmann (2003), we shall therefore assume that intrinsic arguments and reflexives can be represented on ARG-ST as *aff-ss* objects whose CONT value is either *expl*, as is the case of intrinsic arguments, or else *refl*.

Given such an explicit representation of argument type, we shall always be able to detect the presence of intrinsic arguments and enforce their local realisation prior to the application of the causative lexical rule. This can be ensured by augmenting the description of non-control *faire* with a type constraint on the set of *praf* elements it may inherit as *arg(umental)-pr(onominal)af(fixes)*. This is exemplified in Figure 8. Figure 11 illustrates the derivation of a sentence with trapping of intrinsic *en* (*en vouloir* "to be angry with").

6.5 Interaction with tense auxiliaries

With at least two separate constructions (*faire* and *avoir/être*) entering a reverse selection dependency, the question arises what their possible combinations are and whether the analysis adequately generates them. A first combination is the possibility for *avoir* to embed a causative construction headed by *fait* (PTCP). In this case, any climbing from the downstairs infinitive to *faire* is simply further deferred to the

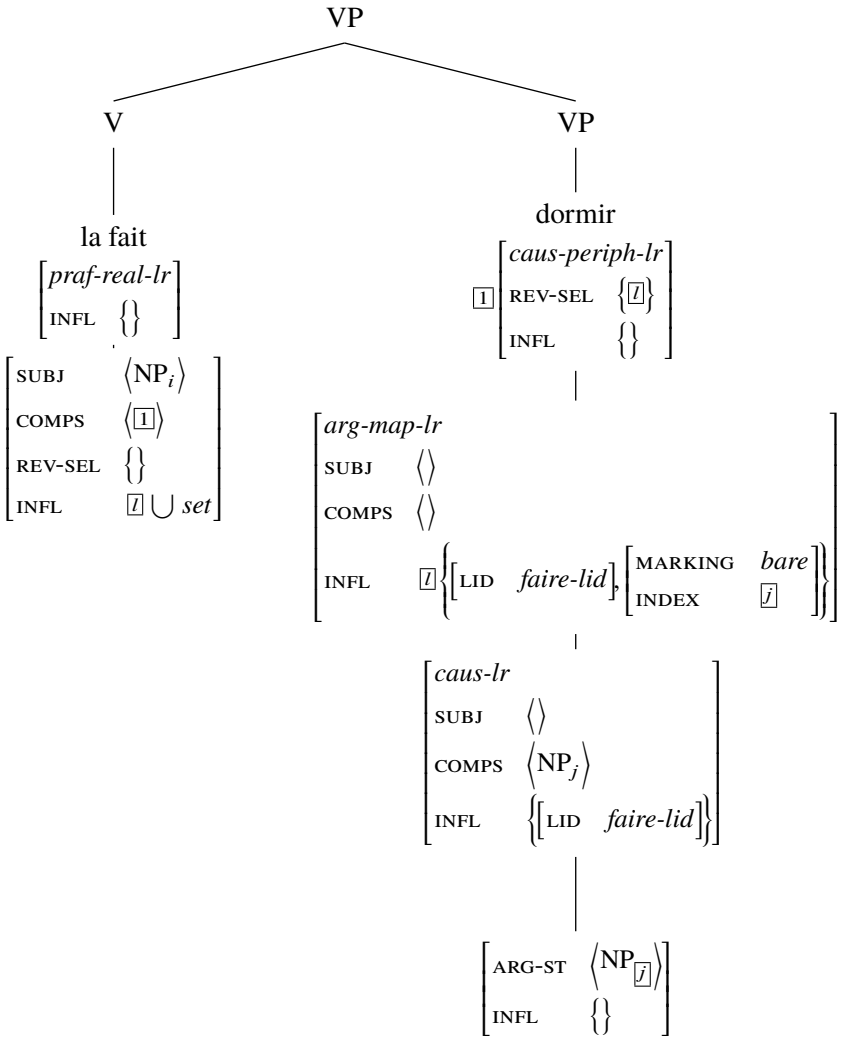

Figure 9: Sample derivation with affixal subject

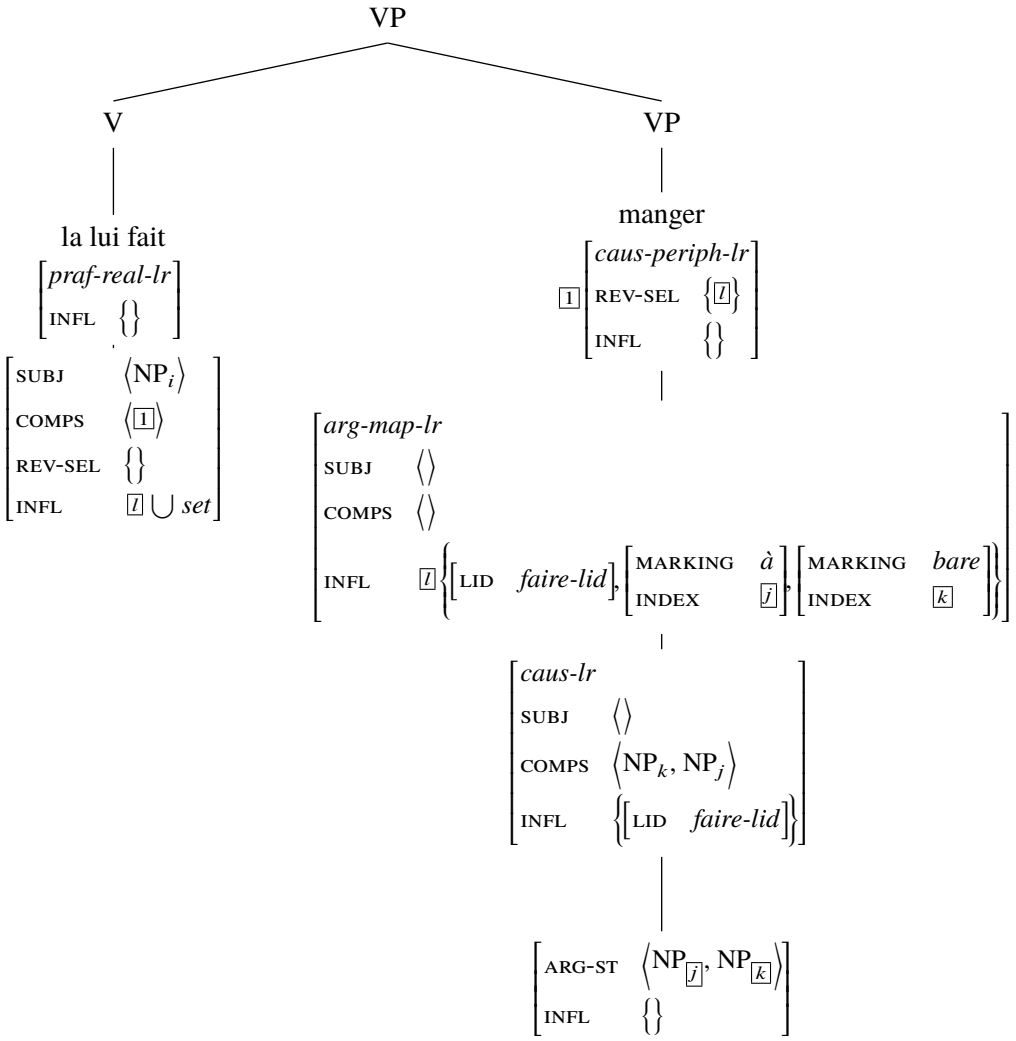

Figure 10: Sample derivation with affixal subject and climbing

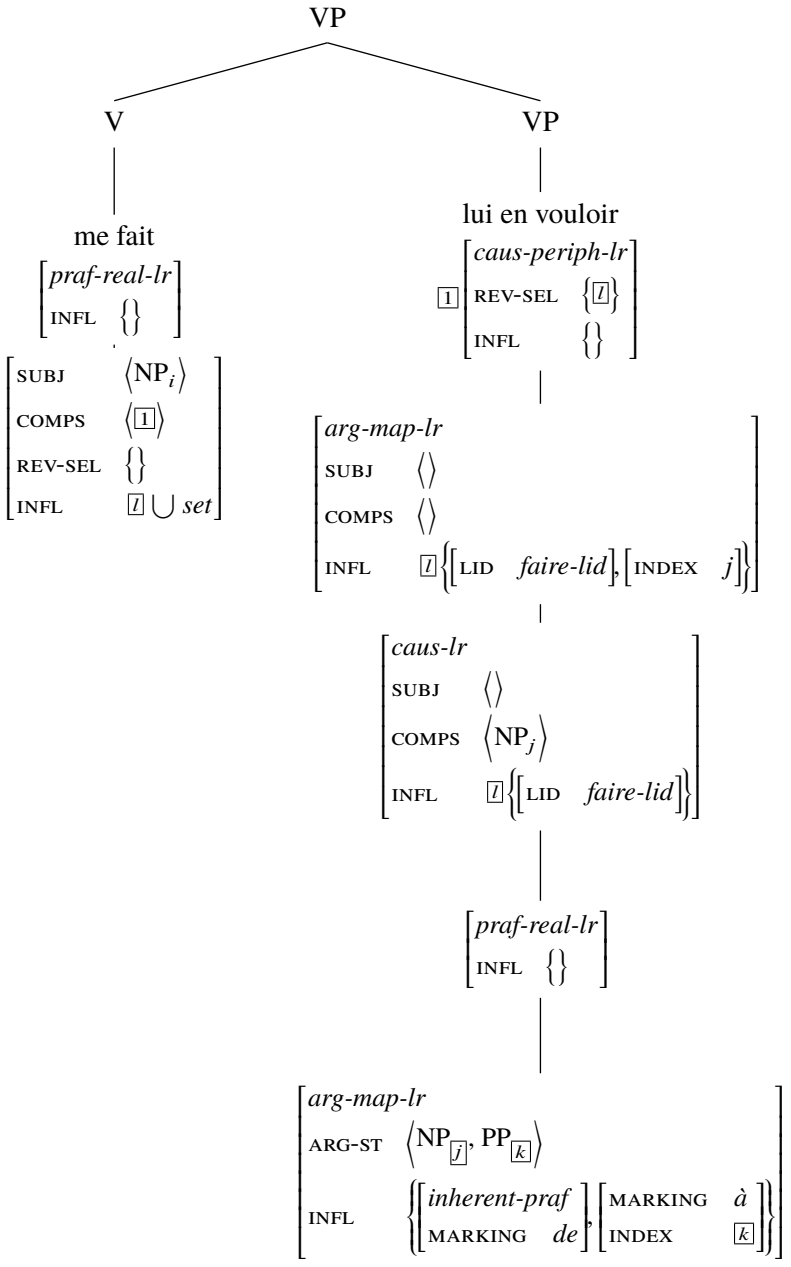

Figure 11: Sample derivation with affixal subject and trapping

tense auxiliaries, consistent with the rule of obligatory climbing from participles. Our approach readily captures this given the rules and lexical entries previously given: climbing from the infinitive is covered regardless of the particular form of *faire*, and the *praf* objects will be inherited by *fait*'s lexical entry on INFL. Participle periphrasis rules such as given in Aguila-Multner & Crysmann (2020) operate on a verb's INFL (and not e.g. directly on ARG-ST), and will appropriately create a new REV-SEL dependency with a tense auxiliary (in this case *avoir*) which contains all pronominal affixes inherited from the previous dependency.

More challenging is the second possible combination: a perfective periphrase can be embedded under *faire* (15). Again climbing of all affixes is obligatory from the participle to *avoir/être*, but further climbing to *faire* is limited to the downstairs subject in the presence of an intrinsic affix, following the trapping rule described in Section 3.1. Our approach as previously stated however suffices to produce the desired outcome, on the assumption that in the sequence of inflection rules aspect periphrasis precedes causativisation. This way the trapping case is covered by the early application of the mapping rule, after which all pronominal affixes will be inserted into the REV-SEL dependency by the aspect periphrasis rule, with the exception of the subject, which has not yet been inverted and is therefore not available to mapping. The affixal subject can only be mapped after the causativisation rule instead, and therefore after the aspect periphrasis rule; as a consequence its only possibility of realisation is to enter the REV-SEL dependency established by the causative periphrasis rule, which in the full climbing case will also contain all other pronominal affixes (Figure 7), effectively climbing from the participle to *faire* in one go.

Before closing, a remark is due concerning negation with non-control *faire*: as observed by Miller (1992), the downstairs infinitive cannot be modified by *ne pas*, unlike standard VPs. One way to capture this constraint is to ensure that negative modifiers cannot disrupt morphological periphrasis, e.g. by requiring that these modifiers select for a head whose REV-SEL value of the head is the empty set.

6.6 Control *faire*

To complement our analysis of French non-control *faire*, a brief remark is due to its counterpart, control *faire*: essentially, we shall follow Abeillé et al. (1998) in assuming that control *faire* is a standard object equi verb that assigns the thematic role of causee to its affixal direct object complement, the controller of the downstairs subject. Cf. Figure 12 for a sample lexical entry.

7 Conclusion

In this paper we have provided an analysis of clitic climbing in French causatives that is based on reverse selection from the downstairs infinitive to the causative verb. Building on Koenig (1998)'s argument for an inside-out view of such constructions

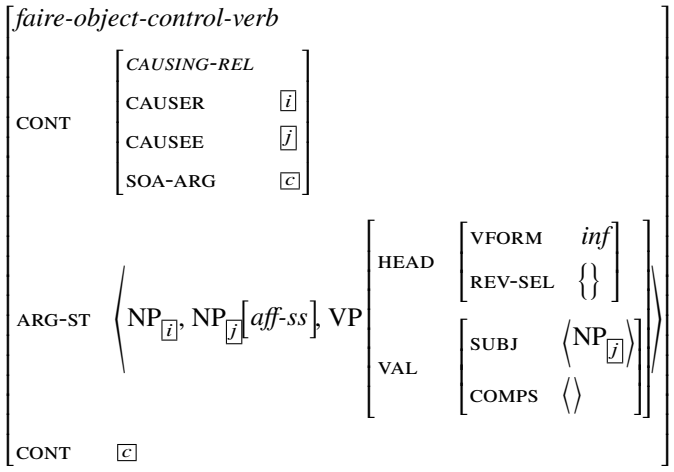

Figure 12: Control *faire*

and on Aguila-Multner & Crysmann (2020)'s proposal for clitic climbing by periphrasis with French tense auxiliaries and predicatives, this approach disposes with the need for argument composition and the concomitant flat structure of the VP. Instead, by giving the downstairs verb not just partial (Koenig, 1998) but full control over the realisation of its arguments, it covers the possibilities of climbing or trapping of arguments, the possible realisations of the subject including their dependence on lexical aspect, and the two possible realisations of the subject as either a climbing affix or a local phrasal complement. Moreover, the present approach to non-control *faire* is highly parallel to the periphrastic approach to climbing advanced by Aguila-Multner & Crysmann (2020): in both cases, morphological periphrasis goes piggyback on an independently required inside-out dependency, and in both cases, the syntax-semantics mismatch entailed by argument composition has been resolved in favour of syntax-semantics alignment. It is furthermore fully compatible with the approach to tense periphrasis in the interaction of the two phenomena. Finally, the present approach provides the missing piece towards a morphological theory of clitic climbing, showing that the periphrasis approach does scale up from auxiliary constructions to the full range of climbing phenomena.

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