Infinitival passives and pseudo-relatives in French: a raising account

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In this paper, we shall discuss the status of a class of French à-infinitives, sometimes referred to as modal reduced relatives, with respect to both their attributive and predicative uses. In particular, we shall contrast their behaviour in several raising contexts with that of ordinary finite and infinitival relatives, and conclude that a reduced relative analysis fails to capture the boundedness of the dependency between the antecedent noun and the "relativised" complement in the attributive use, and, more importantly, fails to account for their predicative uses. Instead, we shall argue that such à-infinitives are infinitival passives, as witnessed not only by object promotion (Giurgea & Soare, 2007), but also by demotion of the logical subject to an optional par-phrase. Moreover, embedding under subject-to-object raising verbs like avoir 'have' and donner 'give' shows that both the surface subject and the logical subject must be accessible externally, thereby underlining the analysis as full passives. In the formal analysis, which is carried out with Head-driven Phrase Structure Grammar, we shall build on a previous proposal by Haider (1984) for German, where both the derived surface subject and the logical subject (=designated argument) are externally accessible. We show how this move accounts for the full range of raising constructions, while at the same time limiting true relatives to mostly attributive function.

1 Passive à-infinitives: reduced relatives?

Passive à-infinitives in French appear in a wide variety of contexts: they can be used attributively (1), predicatively (2), and they act as complements in the tough-construction (5). In all three of these examples, it is the direct object of the lexical verb in the à-infinitive that corresponds to the antecedent noun or to the subject that is predicated on.

(1)   un livre à lire
       a   book to read
       'a book to read'

Possibly owing to the attributive use, its superficial similarity to infinitival relatives (3a), and a somewhat relaxed locality (see § 1.3) this construction has sometimes been analysed as a reduced relative (cf. e.g. Abeillé et al., 1998). However, as we will show in the next subsections, French à-infinitival passives follow a distribution pattern that is clearly distinct from that of any type of French relatives.

1.1 Attributive vs. predicative uses

The first property that sets the à-infinitival passive apart from the French relative system is its predicative use, illustrated in (2). Neither infinitival relatives (3) nor finite relatives (4) can be used predicatively.

(2)   Ce livre est à lire.
       this book is to read
       'This book is to be read.'

(3) a.   un endroit où   aller
           a   place   where go
           'a place where we could/should go'

     b. * Cet endroit est où aller.

(4) a.   un livre qui fait   réfléchir
           a   book qui make think
           'a book that makes you think'

     b. * Ce livre est qui fait réfléchir.

Secondly, à-infinitival passives (5), but not infinitival relatives (6) appear as the complement of a certain class of adjectives in tough-constructions:

(5)   un livre facile à lire
       a   book easy to read
       'a book that is easy to read'

(6) * un endroit facile où   aller
       a   place   easy where go

1.2 Object predication

A fourth and last use of the à-infinitive is the object predication construction exemplified below.

(7) Tu as   des livres à lire.
     2sg have a   book to read
     'You have books to read.'

(8) a. Tu les   as   à lire.
         2sg 3pl.acc have to read

     b. *Je les   ai   lus intéressants.
         1sg 3pl.acc have read interesting

This construction is distinct from the attributive use in (1): the à-infinitive can stay in situ when the NP that is semantically understood as its missing object is pronominalised (8a), something that attributes cannot normally do in French (8b). The main predicate is also limited to a specific class, including avoir 'have', but also donner/laisser 'give/let'(9).

(9) Je leur   ai   donné des livres à
     1sg 3pl.dat have given indef books to
     lire.
     read
     'I have given them books to read.'

(10) Je les leur ai donnés à lire.

This object-predicative use is mostly specific to à-infinitives, and neither infinitival (11) or finite relatives in que (12) are allowed; the exception is that some predicates do allow a relative clause introduced by qui (13), a construction known as pseudo-relative or predicative relative (see § 1.4).

(11) *Cet endroit, je l'ai où aller.

(12) *Ce livre, je l'ai que je dois lire.

(13) Ces enfants, je les   vois qui jouent.
     these children I 3pl.acc see qui play
     'These children, I see them playing.'

The main challenge provided by this use of the à-infinitival passive is that not only should the downstairs logical object be exposed outside of the construction, but the logical subject as well: in (7), the agent of lire 'read' is understood to be the second person singular pronominal tu, and in (9) it is the third person plural leur.

Any analysis will therefore need to expose pointers to both core arguments of an à-infinitive to be accessed by the upstairs verbs. 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 'have' exerts subject control, while donner 'give' exerts control by the indirect object.

1.3 Locality

French à-infinitives of the type discussed here are bounded rather than unbounded dependencies (Kayne, 1974, 1975; Abeillé et al., 1998), in contrast to their English counterparts and to other relatives in French, including infinitival ones as in (3) (Huot, 1981).

(14) *Le travail était facile à essayer de finir.
     the work   was easy to try   to finish

(15) The assignment was easy to try to finish.
            (from Abeillé et al., 1998, glossing ours)

Nevertheless, their use is not strictly local either: tense auxiliaries appear to be transparent, letting their complement's direct object enter in the dependency. Abeillé et al. (1998) have taken this as evidence in favour of argument composition, whereby the argument structure of the lexical verb is raised in its entirety to become that of the auxiliary.

(16) des   gens   utiles à avoir fréquenté
     indef.pl people useful to have socialise_with
     'people useful to have known'

(17) % une ville difficile à aller visiter
        a   town difficult to go   visit
        en ce moment
        nowadays
        'a town difficult to go to visit now'
            (from Abeillé et al., 1998, glossing ours)

(18) Ce n'est pas un livre à vouloir lire en
     this ne.is not a book to want   read in
     une nuit
     one night
     'This is not a book to want to read in a night...'
     (amazon.fr)

However, as admitted by Abeillé et al. (1997), the class of (raising) verbs that show this transparency towards their complement's direct object in these constructions does not fully align with the class of auxiliaries that are said to trigger argument composition: apparently, some speakers of French clearly accept access to the logical object with à-infinitives even for auxiliaries that do not trigger argument composition, such as modal pouvoir/vouloir 'can/want' or aspectual aller 'go'. Most interestingly, this transparency translates from

attributive uses to predicative ones, as well as tough-constructions and object-predicative constructions.

Abeillé et al. (1998) have proposed an HPSG account of à-infinitives both as modifiers and in tough-constructions. For the latter, they propose that a direct object of the tough predicate's complement be raised to subject valency, essentially a bounded version of the promotion to subject found in English for accusative gaps (slash elements).

Another limitation of the reduced relative analysis of à-infinitives is that it fails to recognise the passive-like nature of the construction: in both attributive and predicative uses, the demoted logical subject can be expressed by a par-phrase, an option that is unavailable to active verbs.

(19) une pétition à signer par tous les membres
      a   petition to sign by   all   the members
      'a petition to be signed by all members'

(20) Cette pétition est à signer par tous les
      this petition is to sign by   all   the
      membres.
      members
      'This petition is to be signed by all members.'

Finally, the reduced relative analysis leaves entirely open how the logical subject can be controlled in the object predication construction, which is, again, a property not shared by relatives.

1.4 Pseudo-relatives

In their paper on French pseudo-relatives, Koenig & Lambrecht (1999) argue convincingly that pseudo-relatives, as illustrated in (13), do not form a constituent with their antecedent noun, but rather that the relative's subject undergoes raising to object (cf. Kleiber, 1988; Labelle, 1996; Muller, 1995; Willems & Defrancq, 2000).

In order to permit raising of the subject of the relative, they suggest a variant of the subject-head schema for French whereby the corresponding valence requirement of the head may not be saturated upon combination with the subject daughter.

While we concur with the raising analysis, we take issue with the constructional approach: first, the constructional solution offered by Koenig & Lambrecht (1999) contradicts HPSG's Valence Principle (Pollard & Sag, 1994), a move that clearly weakens the theory of subcategorisation in terms of valence cancellation. Second, the constructional solution further begs the question why only subjects of qui-relatives may in fact undergo this valency-preserving rule.

Instead, we build on Abeillé & Godard (2006), who suggest that French qui and que are actually relative complementisers, rather than pronouns, and propose a lexical approach according to which qui, but not que, takes an unsaturated finite VP complement, the subject of which it will raise. This solution is not only in perfect accord with HPSG's Valence Principle, but it directly derives the fact that raising is lexically conditioned by the choice of complementiser.

2 Analysis

In § 1, we have shown that French à-infinitival passives contrast with relatives on a number of properties, casting doubt on an analysis as reduced relatives. Instead, we capitalise on the valence-alternation property largely overlooked by the reduced relative approach and show how this perspective provides for a generalised treatment of the full range of constructions these infinitives figure in.

Attributive and predicative uses (être 'be'), as well as the use in tough-constructions clearly instantiate a passivisation effect: the external argument always corresponds to the logical direct object of the à-infinitive. Likewise, all these constructions permit in principle the realisation of the demoted logical subject by a par-phrase. Our analysis in terms of à-infinitives as having a predicative use, together with object promotion, directly accounts for their acceptability as complements to subject-to-subject raising verbs other than être 'be':

(21) L'introduction me   semble à revoir.
      the.introduction 1sg.dat seems to review
      'It seems the introduction must be reviewed.'

Embedding under avoir/donner 'have/give' is similar, yet not identical to être/sembler/facile 'be/seem/easy': instead of subject-to-subject raising, we observe subject-to-object raising. Additionally, the subject of avoir 'have' and the indirect object of donner/laisser 'give/let' control the logical subject of the à-infinitive, blocking use of the par-phrase. The combination of raising to object and subject control

means that passivisation is effectively undone in the case of avoir 'have'.

Studying modal passive zu-infinitives in German, Haider (1984) equally notes a passivisation effect and proposes that haben 'have' unblocks the logical subject of the zu-infinitives, whereas sein 'be' merely raises the derived surface subject of its complement. Crucial for his account is the notion of designated argument (da), which exposes the logical subject of verbs and makes it accessible for deblocking. Furthermore he uses this property to distinguish verbs as to whether they can form a participial passive. As suggested by Müller (2003), the da feature can also serve to establish the linking to the logical subject's role under an adjunct analysis of the by-phrase.

In our formal HPSG analysis, we shall build on Haider's proposal and incorporate a head feature da that serves to (i) expose the logical subject of the à-infinitive for purposes of control (avoir/donner 'have/give'), (ii) provide lexical control for participial passives (cf. (22)), and (iii) regulate the possibility to express the logical subject by way of a par-phrase (cf. (23)): i.e. transitive verbs that have a participial passive and take a par-phrase lexically specify a non-empty da containing the logical subject, while those that cannot, by contrast, have an empty da list.

(22) * Ce livre a   été eu (par nous).
        this book has been had by   us

(23)   Ce livre est à avoir (*par tous les
        this book is to have by   all   the
        membres).
        members
        'This book is to be owned (by all members).'

As is standard in lexicalist frameworks such as HPSG or LFG (Bresnan, 1982), we shall model the passivisation effect by means of a lexical rule operating on the verb's argument structure: as depicted in Fig. 1, the direct object, i.e. the second argument, is promoted to subject function, and the first argument is put au chômage. In contrast to German, the exponent of the passive à-infinitive is not morphologically integrated into the verb, but rather realised by the complementiser à, an independent word. In order to capture this case of periphrastic exponence, we shall rely on Bonami (2015) who proposes an inside-out mechanism
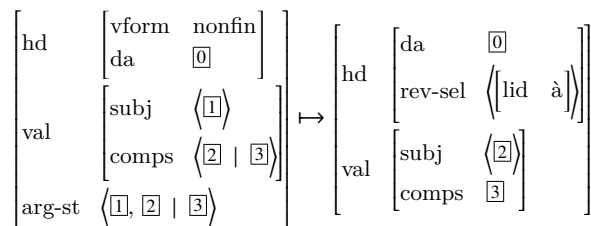

Figure 1: Lexical rule for à-infinitival passives

for inflectional periphrasis, a device that is independently called for by analytic tenses in French.
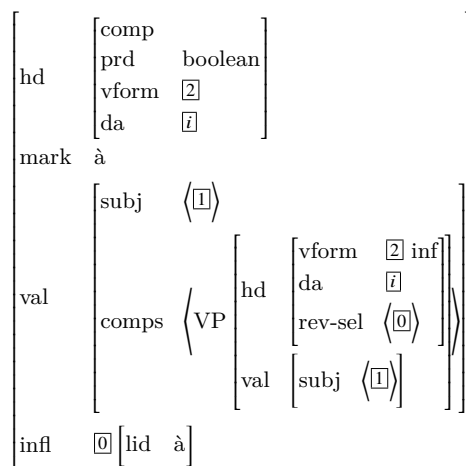

Figure 2: Lexical entry for complementiser à

At the top of the à-infinitive we find the complementiser à, which is subcategorised for taking an infinitival VP complement. As detailed in Fig. 2, the complementiser further satisfies the inside-out selection in its complement's rev-sel value. Most crucially, à raises the VP's subject valency onto its own subj list, and similarly inherits its complement's da value. The attributive use is then derived by a general type shifting lexical rule that turns the subcategorisation for an NP subject into selection for an N̄ via mod, cf. Fig. 3. Taking the predicative use as primary, we directly capture that the infinitival passive of a verb like croire 'believe', which promotes a CP, not an NP object, can be used all but attributively (24). Besides, such a rule is independently motivated by the fact that e.g. the majority of adjectives and many a preposition share this systematic alternation between predicative and attributive uses, a property which is lexically governed, since we find purely attributive and purely predicative cases as well.

(24) Que Nixon ne soit pas impliqué [...] est
      that Nixon neg.be not involved   is
      difficile à croire.
      difficult to believe

      'Nixon's not being involved [...] is difficult to
      believe.' (Ruwet, 1976, glossing and transla-
      tion ours)

$$
\begin{bmatrix} \text{hd} & \begin{bmatrix} \text{prd} & - \\ \text{mod} & \langle\,\rangle \end{bmatrix} \\ \text{val} & \begin{bmatrix} \text{subj} & \langle \text{NP:}\boxed{c} \rangle \end{bmatrix} \end{bmatrix} \mapsto \begin{bmatrix} \text{hd} & \begin{bmatrix} \text{prd} & - \\ \text{mod} & \langle \bar{\text{N}}\text{:}\boxed{c} \rangle \end{bmatrix} \\ \text{val} & \begin{bmatrix} \text{subj} & \langle\,\rangle \end{bmatrix} \end{bmatrix}
$$

Figure 3: PRD-to-MOD lexical rule

Having seen how à-infinitival passives are
constructed, we are now in a position to turn to
their external distribution: the most straight-
forward case is embedding under subject-to-
subject raising verbs like the copula être 'be'
or sembler 'seem' that take predicative (i.e.
[prd +]) complements (cf. Gazdar et al., 1985).
Fig. 4 specifies the lexical entry for copular
être 'be', featuring an off-the-shelf HPSG rais-
ing analysis.

$$
\begin{bmatrix} \text{subj} & \langle \boxed{1} \rangle \\ \text{comps} & \left\langle \text{XP} \begin{bmatrix} \text{hd} & \begin{bmatrix} \text{prd} & + \end{bmatrix} \\ \text{val} & \begin{bmatrix} \text{subj} & \langle \boxed{1} \rangle \end{bmatrix} \end{bmatrix} \right\rangle \end{bmatrix}
$$

Figure 4: Lexical entry for the copula être 'be'

A very similar entry can be given for tough-
adjectives, as shown in Fig. 5. Since tough-
adjectives in French only take à-infinitival pas-
sives, we restrict the subcategorisation to a
predicative CP[à] (standard verbal projections
are [prd −]).

Turning finally to the object predication
cases, all we need is to specify a lexical de-
scription for a verb like avoir 'have', which
raises the à-infinitive's logical object to become
its syntactic direct object and whose thematic

$$
\begin{bmatrix} \text{subj} & \langle \boxed{1}\ \text{XP} \rangle \\ \text{comps} & \left\langle \text{CP} \begin{bmatrix} \text{hd} & \begin{bmatrix} \text{prd} & + \end{bmatrix} \\ \text{marking} & \text{à} \\ \text{val} & \begin{bmatrix} \text{subj} & \langle \boxed{1} \rangle \end{bmatrix} \end{bmatrix} \right\rangle \end{bmatrix}
$$

Figure 5: Lexical entry for a tough-adjective

$$
\begin{bmatrix} \text{subj} & \langle \text{NP}_{\boxed{i}} \rangle \\ \text{comps} & \left\langle \boxed{1}\ \text{NP, CP} \begin{bmatrix} \text{hd} & \begin{bmatrix} \text{prd} & + \\ \text{da} & \langle \text{XP} \begin{bmatrix} \text{real} & - \\ \text{index} & \boxed{i} \end{bmatrix} \rangle \end{bmatrix} \\ \text{mark} & \text{à} \\ \text{val} & \begin{bmatrix} \text{subj} & \langle \boxed{1} \rangle \end{bmatrix} \end{bmatrix} \right\rangle \end{bmatrix}
$$

Figure 6: Entry for lexical avoir 'have'

$$
\begin{bmatrix} \text{hd} & \begin{bmatrix} \text{mod} & \left\langle \text{VP} \begin{bmatrix} \text{da} & \langle \text{XP} \begin{bmatrix} \text{real} & + \\ \text{index} & \boxed{i} \end{bmatrix} \rangle \end{bmatrix} \right\rangle \end{bmatrix} \\ \text{val} & \begin{bmatrix} \text{comps} & \langle \text{NP}_{\boxed{i}} \rangle \end{bmatrix} \end{bmatrix}
$$

Figure 7: Entry for preposition par 'by'

subject controls the downstairs logical subject,
as shown in Fig. 6. Essentially the combina-
tion of raising to object and control of the des-
ignated argument ends up undoing the passivi-
sation effect. Prior downstairs realisation by a
par-phrase is blocked by insisting the da be not
realised ([real −]), cf. Fig. 7 and Müller (2003).
A similar entry can be given for e.g. donner
'give' in the corresponding construction, with
control of the da by the indirect object.

Now that the four uses of the à-infinitive
are covered, we return to the two construction-
internal properties that we introduced in § 1,
viz. the somewhat extended locality and the
par-phrases.

As discussed in § 1.3, the shared property of
verbs that are transparent to the dependency
established in the à-infinitival passive cannot
be full argument composition, since it involves
verbs that take classic VP complements. How-
ever, all the verbs (=modal, aspectual, tempo-
ral) that can intervene between the passivised
lexical verb and the complementiser à are al-
ready subject raising verbs. As for control, it
appears sufficient to extend inheritance of the
derived surface subject valency to inheritance
of the logical subject (da). In our view of the
construction as a periphrastic passive, we as-
sume these verbs to be transparent to inside-
out selection, i.e. these verbs may raise their
VP complement's rev-sel feature, effectively
passing it on to the complementiser. A sam-
ple derivation is given in Fig. 10 at the end of
the paper.

As for the par-phrase, since the logical subject is readily exposed in the DA feature at every level of the à-infinitive, it is accessible for a representation as a VP adjunct that identifies it with the index of its NP complement (Fig. 7), providing a unified analysis of such phrases in both infinitival and regular passives.
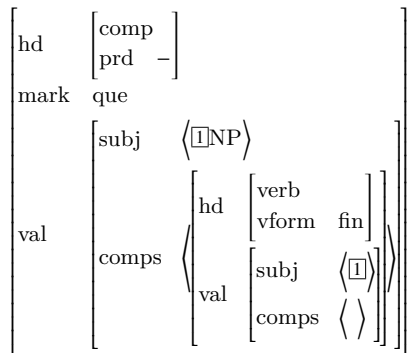
$$
\begin{bmatrix}
\text{hd} & \begin{bmatrix} \text{comp} & \\ \text{prd} & - \end{bmatrix} \\
\text{mark} & \text{que} \\
\text{val} & \begin{bmatrix}
\text{subj} & \langle \boxed{1}\text{NP} \rangle \\
\text{comps} & \left\langle \begin{bmatrix}
\text{hd} & \begin{bmatrix} \text{verb} & \\ \text{vform} & \text{fin} \end{bmatrix} \\
\text{val} & \begin{bmatrix} \text{subj} & \langle \boxed{1} \rangle \\ \text{comps} & \langle \ \rangle \end{bmatrix}
\end{bmatrix} \right\rangle
\end{bmatrix}
\end{bmatrix}
$$

Figure 8: Entry for relative complementiser qui

To close the discussion, we shall briefly examine how pseudo-relatives fit in the picture: as shown in Fig. 8, we treat qui not just as a complementiser that selects for a finite VP complement (Abeillé & Godard, 2006) but crucially one that raises the subj valency. Application of the lexical rule in Fig. 3 will straightforwardly derive the attributive variant.
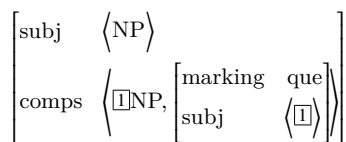
$$
\begin{bmatrix}
\text{subj} & \langle \text{NP} \rangle \\
\text{comps} & \left\langle \boxed{1}\text{NP}, \begin{bmatrix} \text{marking} & \text{que} \\ \text{subj} & \langle \boxed{1} \rangle \end{bmatrix} \right\rangle
\end{bmatrix}
$$

Figure 9: Entry for pseudo-relative voir 'see'

Embedding under a verb like voir 'see' will access the subj valency of the relative and raise it onto its own comps list, as sketched in Fig. 9. Note that this is highly reminiscent of a raising analysis with a VP complement, the only difference being selection for a CP vs. a bare VP.

To conclude, we compared infinitival passives in French to relative constructions and showed that while they overlap in their attributive use, they differ markedly in terms of locality and their distribution in raising contexts. We therefore rejected the reduced relative analysis in favour of an approach as a full-fledged passive construction, evidenced by the realisation of the demoted subject as a par-phrase and its control by e.g. avoir 'have'. The pointwise similarity of infinitival passives and pseudo-relatives reduces to subject-to-object raising.

References

Abeillé, Anne, Danièle Godard & Philip Miller. 1997. Les causatives en français : un cas de compétition syntaxique. Langue française 62–74.

Abeillé, Anne, Danièle Godard, Philip Miller & Ivan Sag. 1998. French bounded dependencies. In Luca Dini & Sergio Balari (eds.), Romance in HPSG, 1–54. Stanford: CSLI publications.

Abeillé, Anne & Danièle Godard. 2006. Les relatives sans pronom relatif. In Michaël Abecassis, Laure Ayosso & Elodie Vialleton (eds.), Le français parlé au 21ème siècle : Normes et variations dans les discours et en interaction, vol. 2, Oxford University Press.

Bonami, Olivier. 2015. Periphrasis as collocation. Morphology 25(1). 63–110.

Bresnan, Joan (ed.). 1982. The mental representation of grammatical relations. Cambridge, Massachusetts: The MIT Press.

Gazdar, Gerald, Ewan Klein, Geoffrey K. Pullum & Ivan Sag. 1985. Generalized Phrase Structure Grammar. Oxford: Basil Blackwell.

Giurgea, Ion & Elena Soare. 2007. When are adjectives raisers? tough to get it. In Yehuda Falk (ed.), Proceedings of the Israel Association of Theoretical Linguistics (IATL) 23, Tel Aviv University.

Haider, Hubert. 1984. Was zu haben ist und was zu sein hat. Papiere zur Linguistik 30. 23–36.

Huot, Hélène. 1981. Constructions infinitives du français: le subordonnant de. Genève : Droz.

Kayne, Richard. 1974. French relative que. Recherches Linguistique de Vincennes II, 40–61.

Kayne, Richard. 1975. French relative que. Recherches Linguistique de Vincennes III, 27–92.

Kleiber, Georges. 1988. Sur les relatives du type Je le vois qui arrive. Travaux de linguistique (17). 89–115.

Koenig, Jean-Pierre & Knud Lambrecht. 1999. French relative clauses as secondary predicates: A case study in construction theory. In Carmen Dobrovie-Sorin Francis Corblin & Jean-Marie Marandin (eds.), Empirical issues in formal syntax and semantics, vol. 2, 191–214. The Hague: Thesus.

Labelle, Marie. 1996. Remarques sur les verbes de perception et la sous-catégorisation. Recherches linguistiques de Vincennes 25, 83–106.

Muller, Claude. 1995. Les relatives de perception: J'entends le garçon qui bégaie qui bégaie. Tendances récentes en linguistique française et générale. Volume dédié à David Gaatone. Amsterdam-Philadelphia: Benjamins 311–322.

Müller, Stefan. 2003. Object-to-subject-raising and lexical rule. an analysis of the German passive. In Stefan Müller (ed.), Proceedings of the HPSG-2003 Conference, Michigan State University, East Lansing, 278–297. Stanford: CSLI Publications.

Pollard, Carl J. & Ivan A. Sag. 1994. Head-Driven Phrase Structure Grammar. Chicago: University of Chicago Press.

Ruwet, Nicolas. 1976. Note sur la montée de l'objet. Recherches linguistiques de Saint-Denis IV, 185–208.

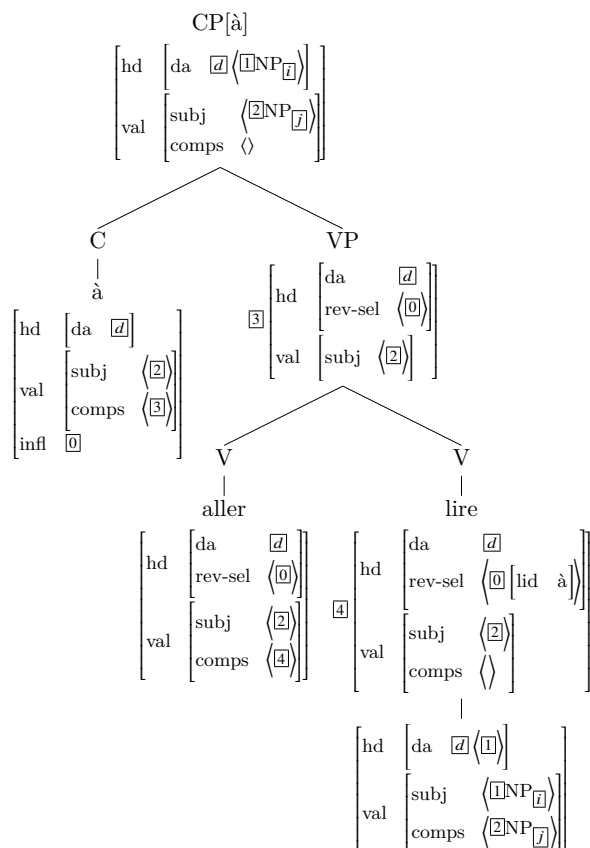Willems, Dominique & Bart Defrancq. 2000. L'attribut de l'objet et les verbes de perception. Langue française 127. 6–20.

Figure 10: Argument percolation in the à-infinitive