French infinitival passives

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à-infinitival passives

- Some French *à*-infinitival constructions involve a dependency between a DO and an antecedent

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

- Here the *à*-infinitival phrase modifies the antecedent in an attributive construction
- This attributive use combined with superficial similarity to an object relative have led them to be analysed in HPSG as reduced relatives (Abeillé et al., 1998)

Distribution I

There are at least three other uses that do not lend themselves easily to a reduced relative analysis:

1. *tough*-constructions:

(2) un livre facile à lire
a book easy to read.INF
'a book that is easy to read'

- This use is unavailable to finite (3) or non-finite (4) relatives

(3) * un garçon facile qui rencontre
a boy easy QUI meet.PRS.3SG

(4) * un endroit facile où aller.
a place easy where go.INF

Distribution II

2. Predicative use:

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

- This use is similarly unavailable to finite (6) or non-finite (7) relatives

(6) * Ce garçon est qui rencontre.
this boy is QUI meet.PRS.3SG

(7) * Cet endroit est où aller.
this place is where go.INF

- Also available with other predicative verbs (*sembler*...)

Distribution III

3. Object predication:

(8) J'ai un livre à lire.
I have a book to read.INF
'I have a book to read.'

(9) Je l'ai à lire.
I CL_{DO}.have to read.INF
'I have to read it.'

- Pronominalisation of the DO (9) leaves *à*-infinitive in situ, revealing object predication structure
- Available with a limited class of predicates, comprising also *donner, laisser*

(10) Je le donnerai à lire aux étudiant.e.s.
I CL_{DO} give.FUT.1SG to read.INF to the students
'I will give it for the students to read.'

- Again not available to finite or non-finite relatives
- Significance: the analysis will need to expose two indexes out of the *à*-infinitive

Locality

- French *à*-infinitives have been claimed since at least Kayne (1974, 1975) to be VP bounded

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

(12) The assignment was easy to try to finish.

(from Abeillé et al., 1998, glossing ours)

- Tense auxiliaries are transparent to this dependency

(13) des gens utiles à avoir fréquenté
INDEF.PL people useful to have socialise_with
'people useful to have known' (id.)

- Abeillé et al. (1998) relate this to flat structure (monoclausality) motivated by clitic climbing on tense auxiliaries

(14) Elle l'a lu.
she CL_{DO}.has read
'She has read it.'

Locality

- Tense auxiliaries are transparent to this dependency

(13) des gens utiles à avoir fréquenté
INDEF.PL people useful to have socialise_with
'people useful to have known' (id.)

- … but so are a class of modal, aspectual and movement verbs, none of them allowing clitic climbing

(15) % une ville difficile à aller visiter en ce moment
a town difficult to go visit nowadays
'a town difficult to go to visit now'

(from Abeillé et al., 1998, glossing ours)

(16) Ce n'est pas un livre à vouloir lire en une nuit ou même 3 jours.
this NE.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)

Corpus study I

- What classes of verbs are involved?
- Search on frWaC (Ferraresi et al., 2010) for *à* + Vinf + Vinf

(17) Movement:

a. *aller* ("go"): Un bon film à **aller** voir pour le plaisir des yeux.

b. *venir* ("come"): des panneaux de petites annonces à **venir** consulter sans modération

(18) Modality:

a. *devoir* ("must"): Histoire de ne pas avoir trop d'autocollants à **devoir** coller sur la carrosserie, …

b. *pouvoir* ("can"): les deux Italiens ont tant de portes à **pouvoir** entrouvrir qu'on peut s'attendre à de magnifiques surprises

c. *manquer de* ("fail to"): Les laboratoires, équipes ou départements et les chercheurs à ne pas **manquer** de visiter.

Corpus study II

(19) Aspect:

a. *finir de* ("finish"): J'ai aussi trois tonnes de billets à **finir** d'écrire

b. *commencer à* ("begin"): les cartes et la frise à **commencer** à apprendre page 31

c. *continuer à/de* ("continue"): J'ai récupéré un projet de la fac à **continuer** de développer en html php javascript.

(20) Cognition:

a. *savoir* ("know how to"): C'est la première chose à **savoir** faire

b. *apprendre à* ("learn to"): C'est le plus aisé à **apprendre** à utiliser

c. *oublier de* ("forget to"): Voyage vous propose une petite liste de choses à ne pas **oublier** de faire

d. *penser à* ("think"): Je réalisais accessoirement que je n'avais toujours pas d'information sur ce qu'on y mangeait, ni à quel prix, petits détails à **penser** à demander si toutefois j'étais rappelée

Corpus study III

(21) Volition:

a. *décider de* ("decide to"): ma question c'est : comment trouver ce qu'il y a de possible à **décider** de faire

b. *vouloir* ("want to"): La qualité, donc l'appréciation des lecteurs, semble l'objectif logique à **vouloir** atteindre.

c. *essayer de* ("try to"): l'économie est un truc à étudier (ou à **essayer** de comprendre)

d. *éviter de* ("avoid"): Le padding est à **éviter** de modifier

- What classes of verbs are involved?
  - ⇒ Verbs with and without clitic climbing
  - ⇒ Various semantic classes
  - ⇒ Various syntactic markings on the embedded infinitive (bare, *à, de*)
  - ⇒ Both subject control and subject raising verbs

Reduced relative analysis

- Abeillé et al. (1998)'s HPSG analysis of *à*-infinitives relies on object raising
  - in *tough*-constructions, the adjective raises the object (to either SUBJ or MOD)
  - in attributive uses, a constructional type for infinitival *à*-relatives (a subtype of *relative*) coindexes MOD with the object
- Analysis does not cover predicative uses nor object predication
- Extension to the predicative case seems difficult:
  predicative copula is typically subject-raising
- It also leaves unexplained the passive-like properties of *à*-infinitives (Giurgea & Soare, 2007)

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

- Extended locality only explained for argument composition verbs, but not for raising/control verbs

Analysis

	attributive use	predicative use	object predication	*tough*-construction	locality
à-infinitive	✓	✓	*avoir, donner, laisser...*	✓	bounded
finite relative	✓	✗	PRC (*voir, rencontrer...*)	✗	unbounded
infinitival relative	✓	✗	✗	✗	unbounded (Huot, 1981)

- We propose a unified analysis of *à*-inifinitivals as passives
  - supported by *par*-phrase
  - logical object of downstairs infinitive uniformly acts as argument for external combination:
    - attributive use
    - predicative use
    - raising-to-object (*avoir, donner*)
    - tough-construction
  - logical subject of downstairs infinitive may act as a target for control
- Two-step passivisation (Grover, 1995)
  - object promoted to secondary subject on the downstairs infinitive
  - subject demotion performed by *à*

  ⇒ construction externally behaves like passives

  ⇒ control by intervening infinitive internally behaves like actives

A lexical rule for passive infinitives

- The first part of the passivisation is effected by means of a lexical rule operating on valence lists (cf. Grover, 1995)
  - The object is blocked, becoming a secondary subject
  - Grammatical function change concluded at top of the construction

(23) Lexical rule for *à*-infinitival passives

$$\left[\begin{array}{ll} \textsc{hd} & \left[\textsc{vform}\ \ \textit{nonfin}\right] \\ \textsc{val} & \left[\begin{array}{ll} \textsc{subj} & \langle \boxed{1} \rangle \\ \textsc{comps} & \langle \boxed{2} \mid \boxed{3} \rangle \end{array}\right] \\ \textsc{arg-st} & \langle \boxed{1}, \boxed{2} \mid \boxed{3} \rangle \end{array}\right] \mapsto \left[\textsc{val} \left[\begin{array}{ll} \textsc{subj} & \langle \boxed{1}, \boxed{2} \rangle \\ \textsc{comps} & \boxed{3} \end{array}\right]\right]$$

Passive *à*

- The marker *à* concludes the grammatical function change
  - the primary (logical) subject is demoted to optional PP complement
  - the secondary subject (logical object) becomes primary subject

(24) Lexical entry for complementiser *à*

$$\begin{bmatrix} \textsc{hd} & \begin{bmatrix} \textit{comp} & \\ \textsc{prd} & \textit{boolean} \\ \textsc{vform} & \boxed{2} \end{bmatrix} \\ \textsc{mark} & \textit{à} \\ \textsc{val} & \begin{bmatrix} \textsc{subj} & \langle \boxed{1} \rangle \\ \textsc{comps} & \left\langle \textsc{vp} \begin{bmatrix} \textsc{hd} & \begin{bmatrix} \textsc{vform} & \boxed{2}\ \textit{inf} \end{bmatrix} \\ \textsc{val} & \begin{bmatrix} \textsc{subj} & \langle \textsc{np}_i\ , \boxed{1} \rangle \end{bmatrix} \end{bmatrix}, \left(\textsc{pp}_i \begin{bmatrix} \textsc{mark} & \textit{par} \end{bmatrix} \right) \right\rangle \end{bmatrix} \end{bmatrix}$$

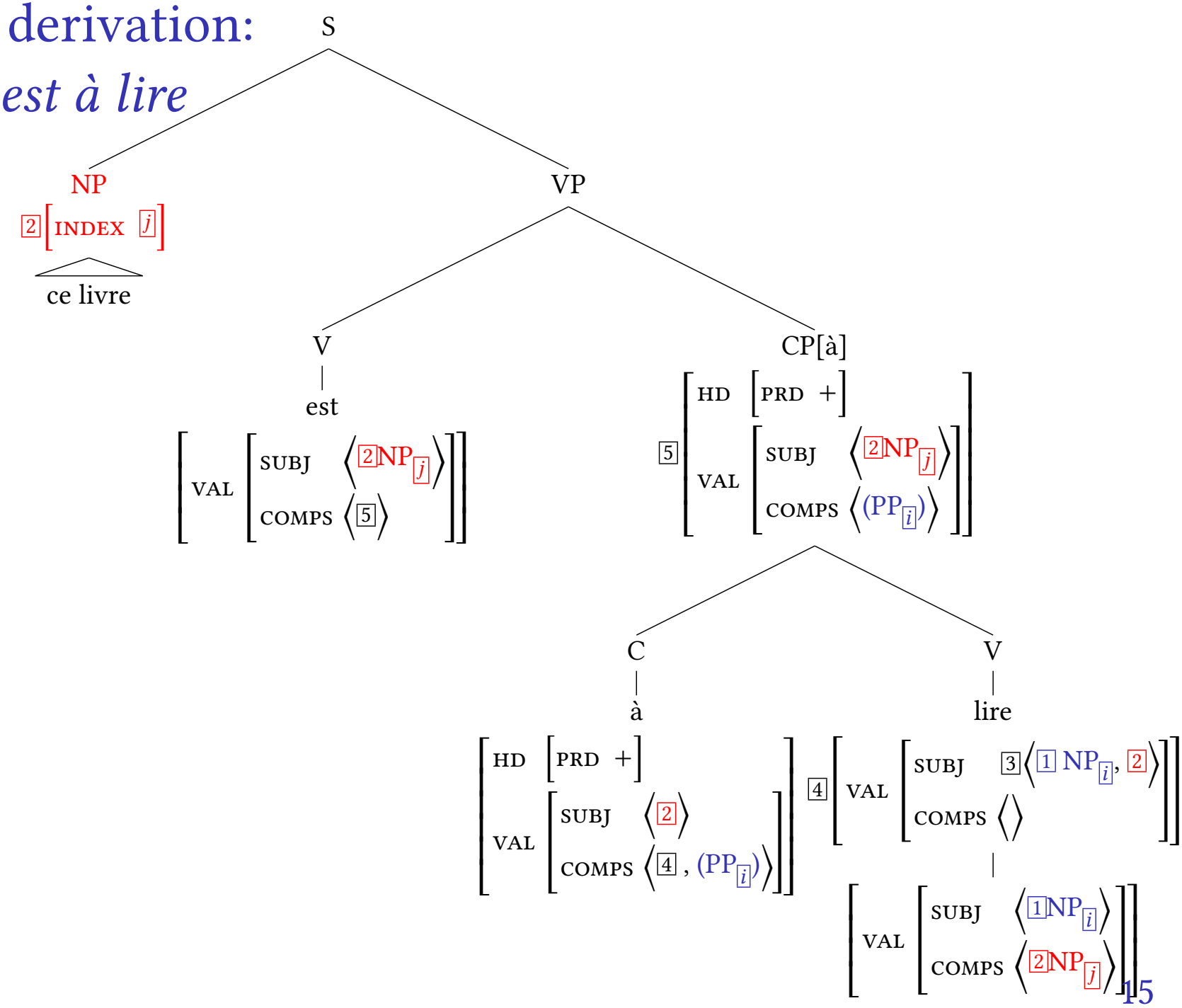
Predicative use

- The copula and other predication verbs, like *sembler*, raise a predicative XP's SUBJ
- Standard HPSG raising analysis

(25) Lexical entry for the copula *être*

$$\left[\begin{array}{ll} \textsc{subj} & \langle \boxed{1} \rangle \\ \textsc{comps} & \langle \textsc{xp} \left[\begin{array}{ll} \textsc{hd} & [\textsc{prd} \ +] \\ \textsc{val} & \left[\begin{array}{ll} \textsc{subj} & \langle \boxed{1} \rangle \\ \textsc{comps} & \langle\ \rangle \end{array}\right] \end{array}\right] \rangle \end{array}\right]$$

Sample derivation:
ce livre est à lire



tough-construction

- *facile* and other *tough*-adjectives raise an *à*-marked CP's SUBJ
- French *tough*-construction treated as subject-to-subject raising

(26) Lexical entry for a *tough*-adjective

$$\left[\begin{array}{ll} \textsc{subj} & \langle \boxed{1}\ \textsc{xp} \rangle \\ \textsc{comps} & \langle \textsc{cp} \left[\begin{array}{ll} \textsc{hd} & [\textsc{prd}\ +] \\ \textsc{marking} & \grave{a} \\ \textsc{val} & \left[\begin{array}{ll} \textsc{subj} & \langle \boxed{1} \rangle \\ \textsc{comps} & \langle\ \rangle \end{array}\right] \end{array}\right] \rangle \end{array}\right]$$

Object predication

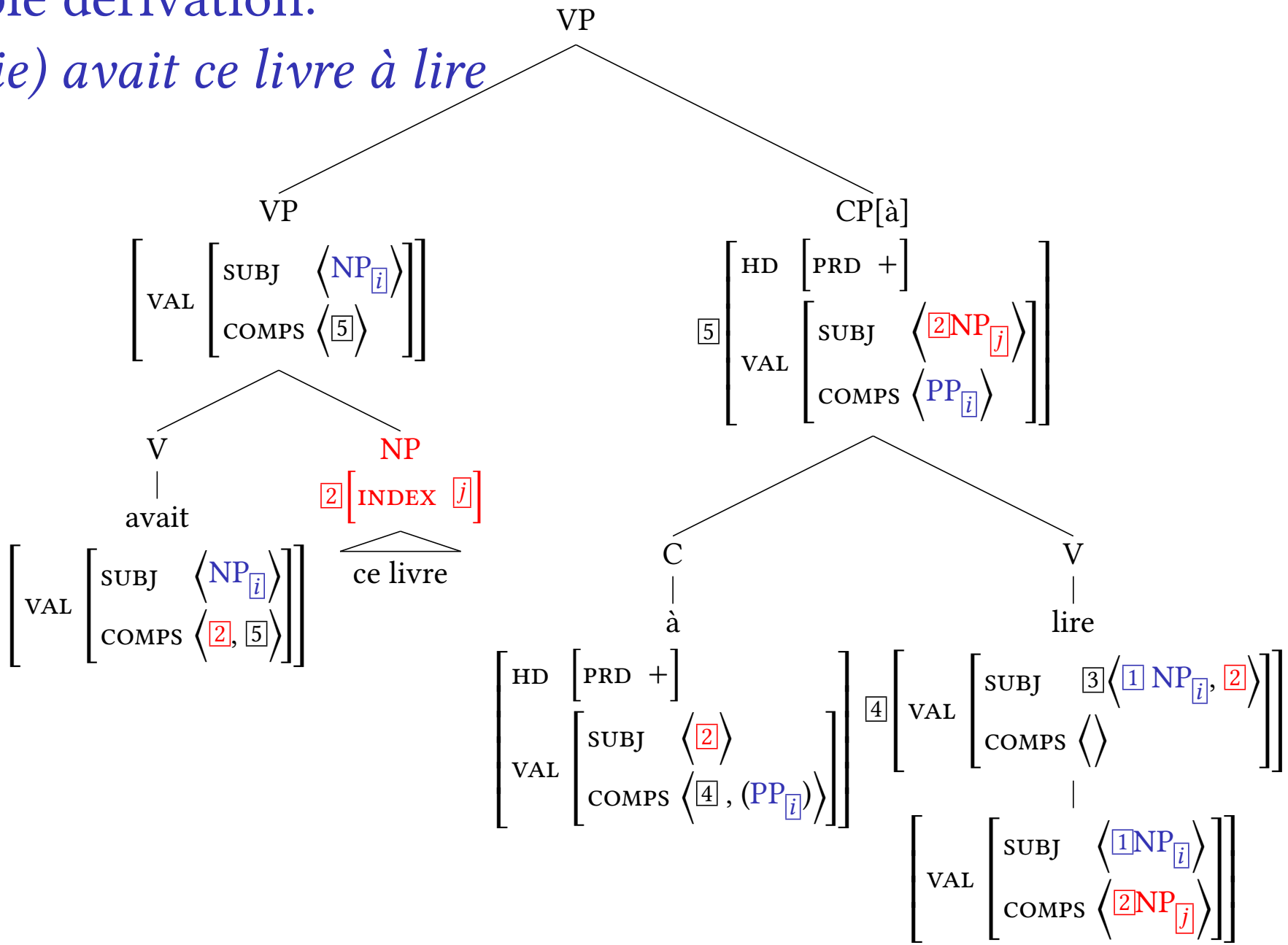
- *avoir* (as involved in the object predication construction):
  - takes an *à*-marked CP complement with an unsaturated COMPS valency
  - raises that complement's SUBJ to its own COMPS list
  - takes an NP subject that *controls* the CP's unsaturated PP complement

  ⇒ subcategorisation for complement with unsaturated PP[*par*] on COMPS
    - makes selected PP's index available for control
    - correctly rules out realisation by *par*-phrase

(27) Entry for lexical *avoir*

$$\left[\begin{array}{l} \textsc{subj} \quad \left\langle \text{NP}_{\boxed{i}} \right\rangle \\ \\ \textsc{comps} \left\langle \boxed{1}\ \text{NP},\ \text{CP} \left[\begin{array}{ll} \textsc{hd} & \left[\textsc{prd}\ +\right] \\ \textsc{mark} & \textit{à} \\ \textsc{val} & \left[\begin{array}{l} \textsc{subj} \quad \left\langle \boxed{1} \right\rangle \\ \textsc{comps} \left\langle \text{PP}_{\boxed{i}} \left[\textsc{mark}\ \textit{par}\right] \right\rangle \end{array}\right] \end{array}\right] \right\rangle \end{array}\right]$$

Sample derivation:
(Marie) avait ce livre à lire



Attributive use

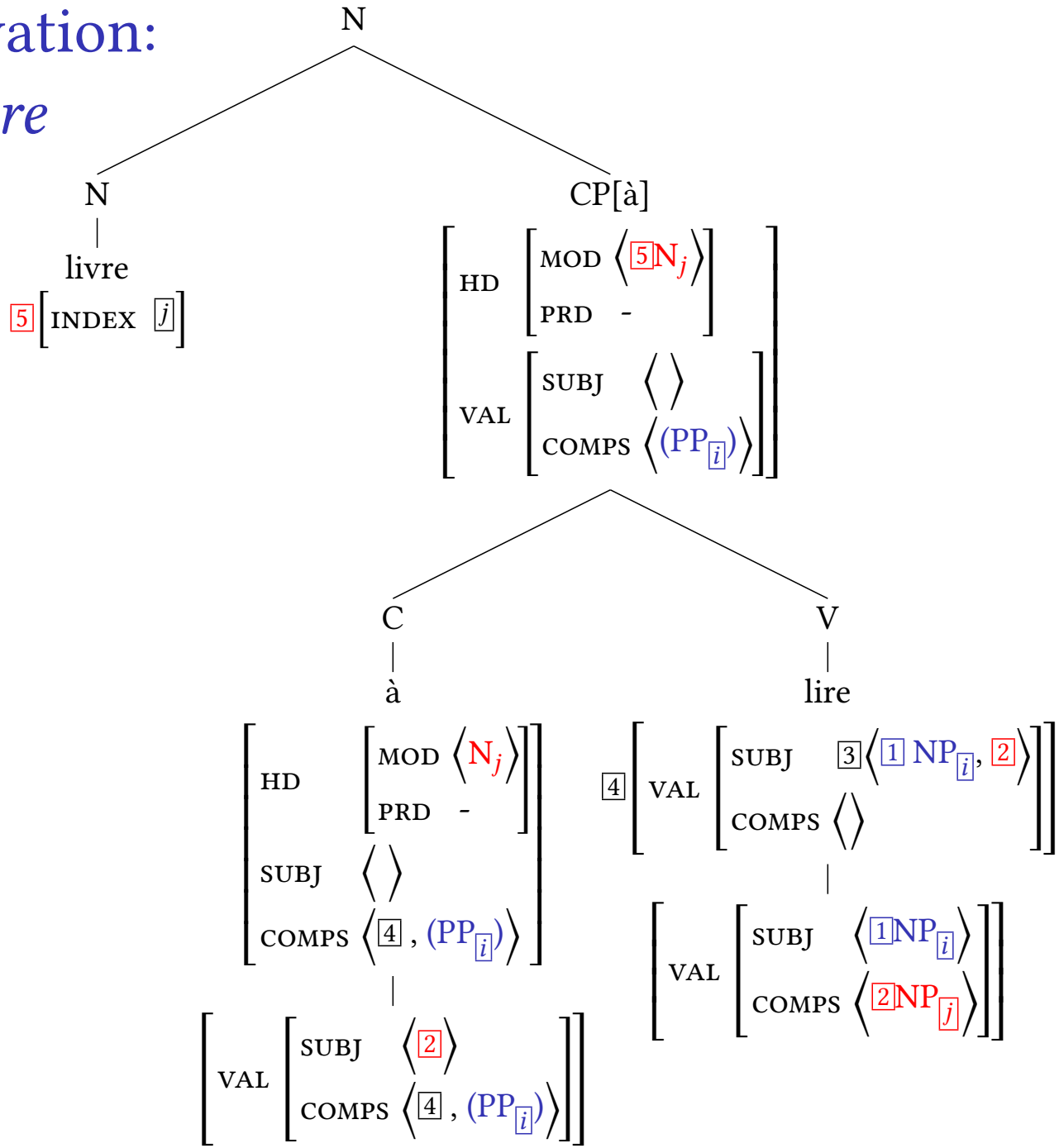
- There is a systematic alternation between predicative and attributive uses for e.g. adjectives in French (and many other languages)
- passive *à*-infinitives pattern with adjectives
- a lexical rule derives attributive uses by shifting SUBJ valency to MOD

(28) PRD-to-MOD lexical rule

$$\left[\begin{array}{ll} \textsc{hd} & \left[\begin{array}{ll} \textsc{prd} & - \\ \textsc{mod} & \langle\ \rangle \end{array}\right] \\ \textsc{val} & \left[\textsc{subj}\ \left\langle \textsc{np}:\boxed{c} \right\rangle\right] \end{array}\right] \mapsto \left[\begin{array}{ll} \textsc{hd} & \left[\begin{array}{ll} \textsc{prd} & - \\ \textsc{mod} & \left\langle \bar{\textsc{n}}:\boxed{c} \right\rangle \end{array}\right] \\ \textsc{val} & \left[\textsc{subj}\ \langle\ \rangle\right] \end{array}\right]$$

- Boolean feature PRD controls which lexical items
  - undergo the alternation ([PRD bool])
  - can only be used predicatively ([PRD +])
  - can only be used attributively ([PRD −])

Sample derivation:
(un) livre à lire



Locality

- Bounded nature of dependency can be captured quite straightforwardly using Grover's (1995) theory of missing object constructions:
  - subject control and raising verbs inherit secondary subjects from their complements

(29) Subject control

$$\begin{bmatrix} \textsc{subj} & \langle \mathrm{NP}_i \mid \boxed{r} \rangle \\ \textsc{comps} & \left\langle \left[\textsc{subj} \ \langle \mathrm{NP}_i \mid \boxed{r} \rangle \right] \right\rangle \end{bmatrix}$$

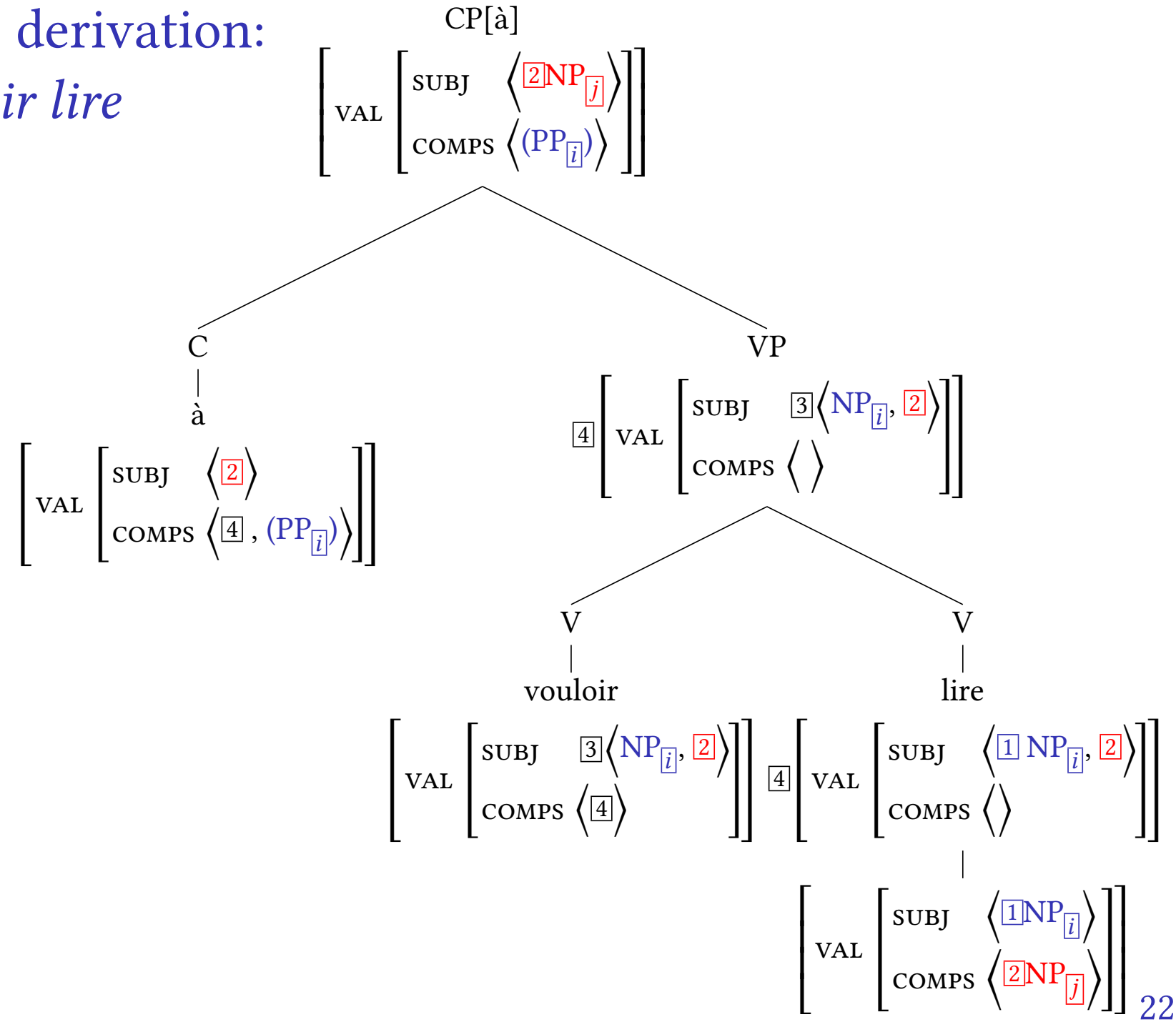
(30) Subject raising

$$\begin{bmatrix} \textsc{subj} & \boxed{l} \\ \textsc{comps} & \left\langle \left[\textsc{subj} \ \boxed{l} \right] \right\rangle \end{bmatrix}$$

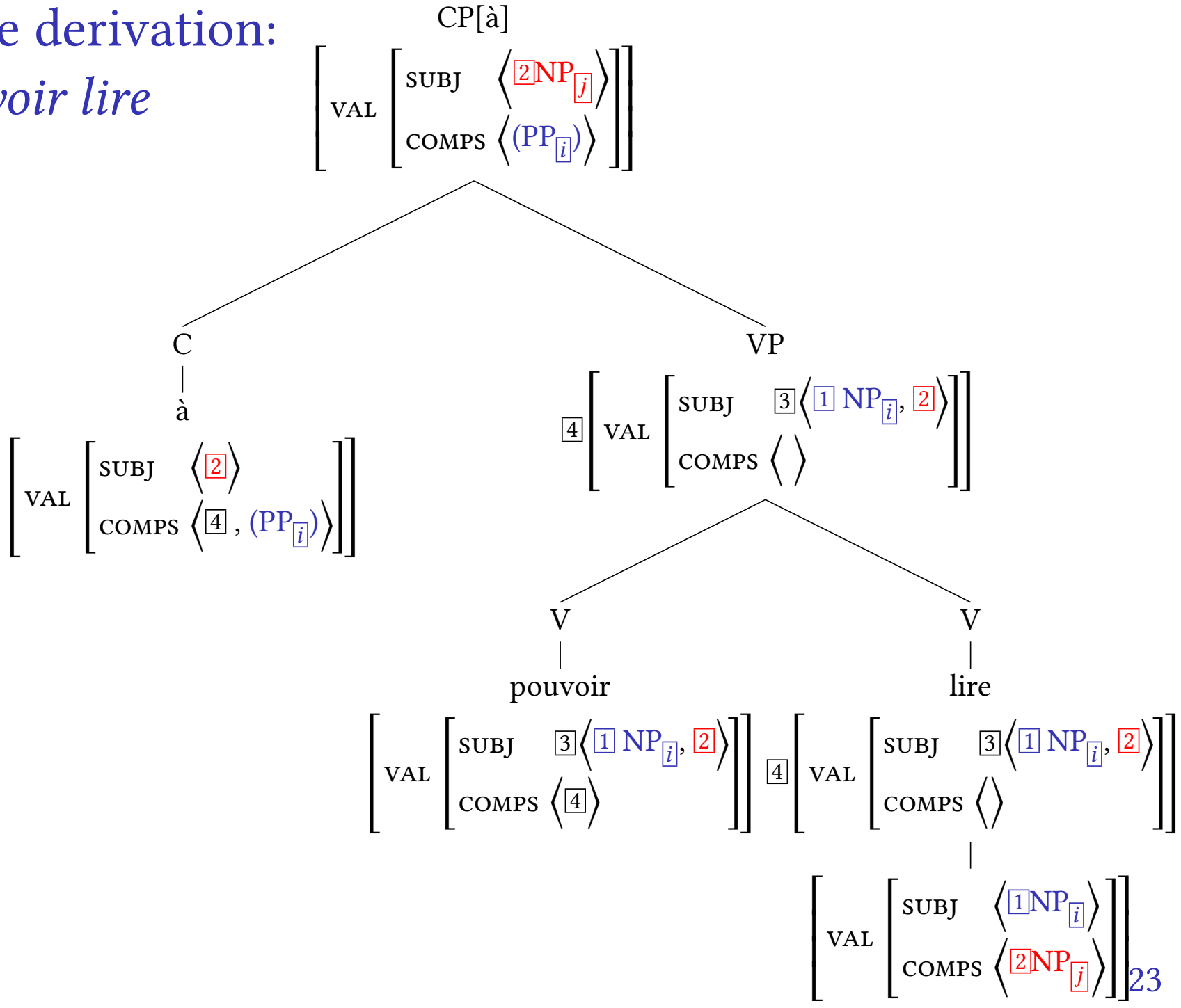
  - finite verbs restrict their SUBJ list to be at most 1

(31) $$\left[\textsc{hd} \left[\textsc{vform} \ \textit{fin} \right] \right] \rightarrow \left[\textsc{val} \left[\textsc{subj} \ \langle \langle [\ ] \rangle \rangle \right] \right]$$

Sample derivation:
à vouloir lire



Sample derivation:
à pouvoir lire



Conclusion

- Unified analysis of modal *à*-infinitives
  - attributive use
  - predicative use
  - tough-construction
  - subject-to-object raising
- Key to the analysis is recognition of the passivisation effect
  - exposition of logical object as pivotal argument for external combination
  - *par*-phrases
  - builds on Grover's theory of missing object constructions:

    independent of argument composition
- Attributive use systematically related to predicative use by lexical rule

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Other controlling predicates

$$\begin{bmatrix}
\textsc{cont} & \begin{bmatrix} \textsc{pred} & \textit{donner-rel} \\ \textsc{arg1} & \boxed{k} \\ \textsc{arg2} & \boxed{i} \\ \textsc{arg3} & \boxed{2} \end{bmatrix} \\
\textsc{arg-st} & \left\langle \text{NP}_{\boxed{k}}, \boxed{1}\ \text{NP}, \text{CP} \begin{bmatrix} \textsc{marking} & \grave{a} \\ \textsc{prd} & + \\ \textsc{val} & \begin{bmatrix} \textsc{subj} & \left\langle \boxed{1} \right\rangle \\ \textsc{comps} & \left\langle \text{PP}_{\boxed{i}} \right\rangle \end{bmatrix} \\ \textsc{cont} & \boxed{2} \end{bmatrix}, \text{NP}_{\boxed{i}} \begin{bmatrix} \textsc{mark} & \grave{a} \end{bmatrix} \right\rangle
\end{bmatrix}$$

Figure: Lexical entry for *donner*

CP antecedents

- The antecedent need not be an NP

  (32) 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, glossing and translation ours)

- This is similar to morphological passives

  (33) 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 believed by many.'

- This is easily captured by any passivisation lexical rule

Pseudo-relatives

- However, there is exactly one relative construction with both a predicative and an attributive use: the pseudo-relative
  - only with *qui* subject relativizer
  - only in **object** predication with a restricted class of perception verbs

(34) Ces enfants, je les vois qui jouent.
these children I 3PL.ACC see *qui* play
'These children, I see them playing.'

- Koenig & Lambrecht (1999) treat the construction using subject raising
- Special construction for *qui* relative that suspends cancellation of SUBJ valency
- Abeillé & Godard (2006) show convincingly that *qui* can be treated as a relative complementiser taking a finite VP complement
- we suggest to synthesise these two approaches in favour of a lexical account

Pseudo-relatives

- We suggest to synthesise the analyses for
  - subject relatives (Abeillé & Godard, 2006): complementiser *qui* takes a finite VP complement
  - pseudo-relatives (Koenig & Lambrecht, 1999) pseudo-relatives expose their clause's SUBJ valency

⇒ Relative *qui* raises its finite complement's SUBJ valency

(35) Entry for relative complementiser *qui*

$$\begin{bmatrix} \textsc{hd} & \begin{bmatrix} \textit{comp} \\ \textsc{prd} & - \end{bmatrix} \\ \textsc{mark} & \textit{que} \\ \textsc{val} & \begin{bmatrix} \textsc{subj} & \langle \boxed{1}\textsc{np} \rangle \\ \textsc{comps} & \left\langle \begin{bmatrix} \textsc{hd} & \begin{bmatrix} \textsc{vform} & \textit{fin} \end{bmatrix} \\ \textsc{val} & \begin{bmatrix} \textsc{subj} & \langle \boxed{1} \rangle \end{bmatrix} \end{bmatrix} \right\rangle \end{bmatrix} \end{bmatrix}$$

Perception verbs

- Perception verbs like *voir* 'see' raise their complement's SUBJ valency

(36) Entry for VP-taking *voir*

$$\begin{bmatrix} \textsc{subj} & \langle \text{NP} \rangle \\ \textsc{comps} & \langle \boxed{1}\text{NP}, \begin{bmatrix} \textsc{vform} & \textit{inf} \\ \textsc{subj} & \langle \boxed{1} \rangle \end{bmatrix} \rangle \end{bmatrix}$$

- Pseudo-relative *voir* merely differs in taking a relative clause, instead of an inifinitive

(37) Entry for relative-taking *voir*

$$\begin{bmatrix} \textsc{subj} & \langle \text{NP} \rangle \\ \textsc{comps} & \langle \boxed{1}\text{NP}, \begin{bmatrix} \textsc{marking} & \textit{que} \\ \textsc{subj} & \langle \boxed{1} \rangle \end{bmatrix} \rangle \end{bmatrix}$$

Ordinary relatives

- Attributive use of *qui* relatives derived by PRD-to-MOD lexical rule

(38) Derived entry for attributive relative complementiser *qui*

$$\left[\begin{array}{ll} \textsc{hd} & \left[\begin{array}{ll} \textit{comp} & \\ \textsc{prd} & - \\ \textsc{mod} & \left\langle \bar{\text{N}}_i \right\rangle \end{array}\right] \\ \textsc{mark} & \textit{que} \\ \textsc{val} & \left[\begin{array}{ll} \textsc{subj} & \langle\rangle \\ \textsc{comps} & \left\langle \left[\begin{array}{ll} \textsc{hd} & \left[\textsc{vform} \quad \textit{fin}\right] \\ \textsc{val} & \left[\textsc{subj} \left\langle \boxed{1}\text{NP}_i \right\rangle\right] \end{array}\right] \right\rangle \end{array}\right] \end{array}\right]$$