An Agreement Mismatch with Outstanding Problems

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Outline (1)

1   Introduction

- Joint work with Chris Lucas (SOAS).

- Chomsky on levels of adequacy and the goals of linguistic theory:

  - Observational
  - Descriptive
  - Explanatory

- What good linguistics should look like:

  - detailed, accurate descriptions of phenomena in individual languages
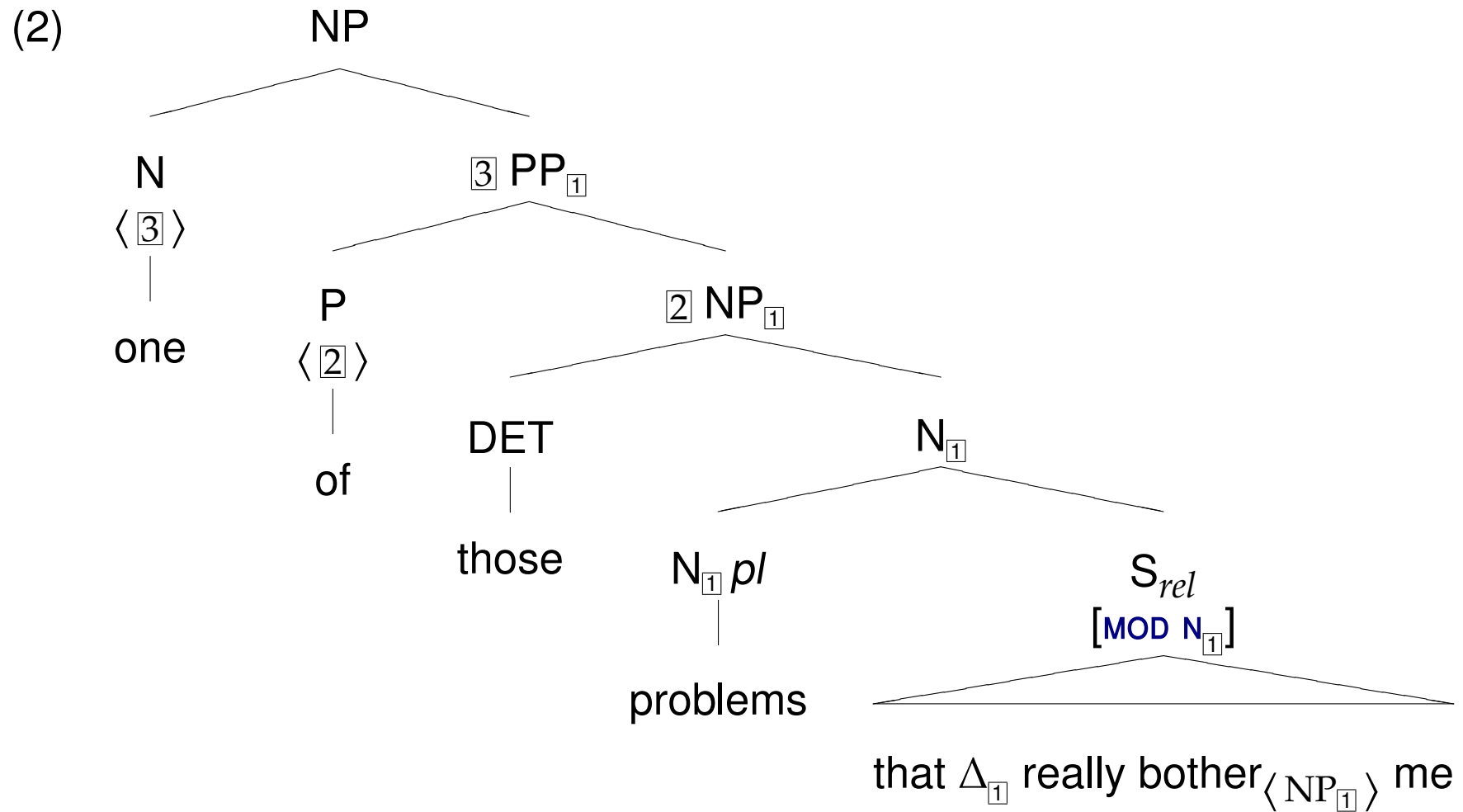 - accompanied by descriptively satisfying analyses properly formalised accounts

2   Phenomenon

■ (1) is a perfectly normal example of a restrictive relative in a partitive NP, for which (2) is a plausible representation:
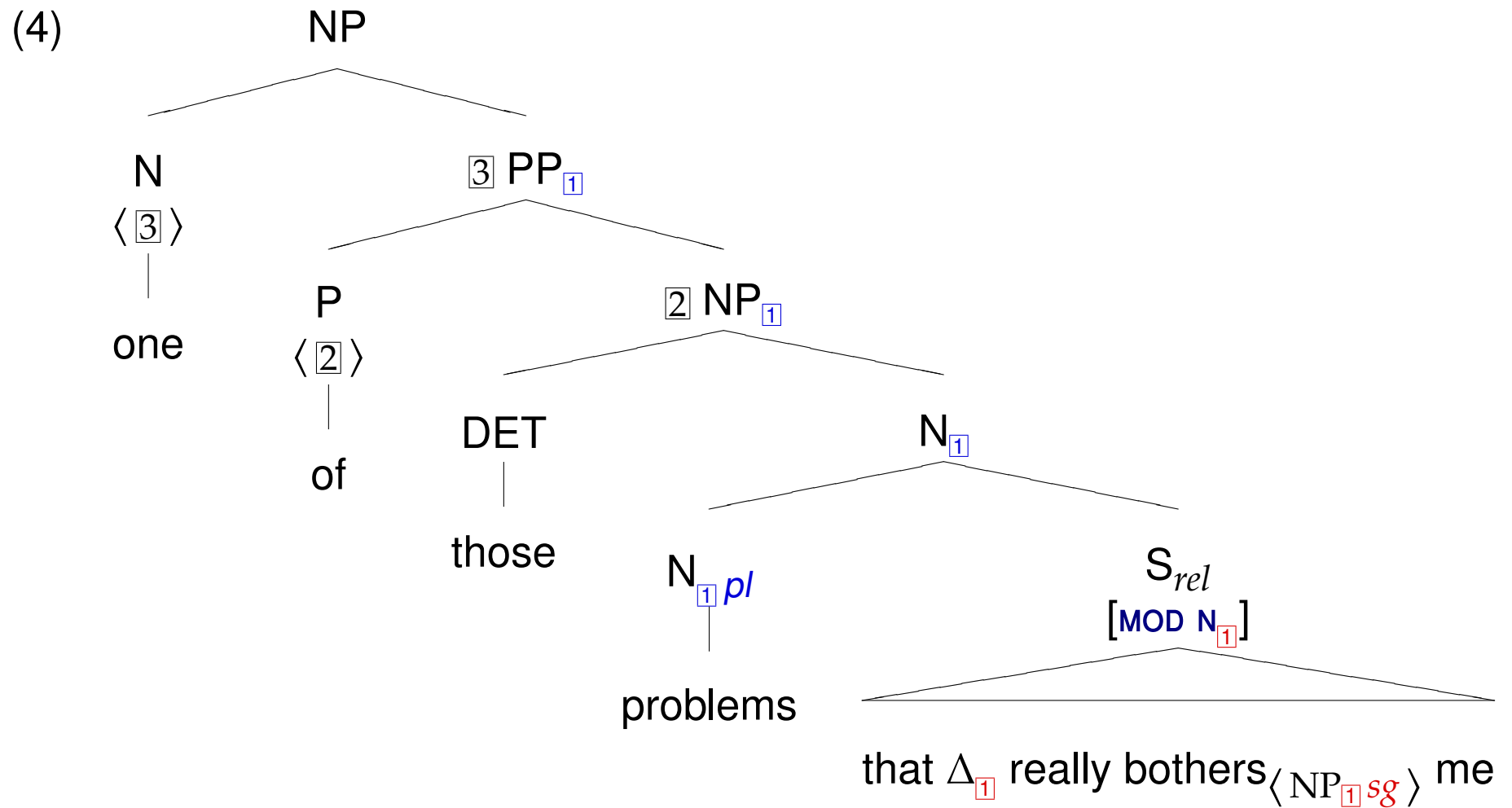
(1) This is one of those problems that really bother me.

■ I assume that the quantity word *one* is the nominal head which selects a non-predicative PP complement headed by *of* (Kim (2002), Flickinger (2008), Kim and Sells (2008)); I assume the analysis of relative clauses essentially as in Sag (1997).

■ I assume indices are collections of features, including a NUMBER feature.

(2)

$$
\begin{array}{c}
\text{NP} \\
\quad \diagup \qquad \diagdown \\
\text{N} \qquad\qquad \boxed{3}\ \text{PP}_{\boxed{1}} \\
\langle \boxed{3} \rangle \\
\mid \\
\text{one}
\end{array}
$$

N
⟨ 3 ⟩
|
one

3 PP 1

P
⟨ 2 ⟩
|
of

2 NP 1

DET
|
those

N 1

N 1 pl
|
problems

S_rel
[MOD N 1]

that Δ 1 really bother⟨ NP 1 ⟩ me

■ However, alongside (1), we also find examples like (3), which involve an agreement 'mismatch' between the Relative and the nominal it appears to modify:

(3) This is one of those problems that really bothers me.

■ In (3) *bothers* is singular (requires a singular subject), which means the relative clause must be singular (adjunct of a singular nominal). So in (4), ① must be at once *singular*, and *plural*, which is impossible.

(4)

$$NP$$

$$N \langle \boxed{3} \rangle$$

one

$$\boxed{3} \; PP_{\boxed{1}}$$

$$P \langle \boxed{2} \rangle$$

of

$$\boxed{2} \; NP_{\boxed{1}}$$

DET

those

$$N_{\boxed{1}}$$

$$N_{\boxed{1}} \, pl$$

problems

$$S_{rel}$$

$$[\text{MOD } N_{\boxed{1}}]$$

that $\Delta_{\boxed{1}}$ really bothers$_{\langle NP_{\boxed{1}} \, sg \rangle}$ me

■ Examples like (3) are very common – in fact more common than examples that show 'normal' agreement, even in writing. Searching google books for *one of the things that bother(s) me* gives about 5860 results for the mismatch form *bothers*, compared to 698 for *bother*).

■ Some examples from the BNC are given in (5).

(5) a. Dr Hemingway and colleagues [...] have also found one of the genes that makes malaria-transmitting mosquitoes resistant to pesticides such as DDT. [AKD/871]

b. This generation of vipers has again bitten one of the hands that was stretched out in blessing it. [B1J/1984]

c. They raised one of the questions that has been consistently debated.

d. He will try to train one of the dogs that has been brought in today.

e. This outstanding work [...] is one of the best books on economics and sustainable development that has ever been published.

f. The Cullen report is widely recognised as one of the most excellent reports that has ever been produced on matters that affect industrial safety. [HHX/19354]

g. It was, and remains, one of the best goals that has ever been scored at Carrow Road... [Edward Couzens-Lake, *Norwich City in the Eighties*, Amberley Pub., Stroud, 2015]

- It is hard to argue that (3) are ungrammatical – this 'mismatch' construction seem to be fully part of English.

- There is evidence for a similar construction in at least Maltese, Spanish, and Dutch.

- The construction has sometimes been mentioned in the literature (e.g. Huddleston and Pullum (2002:p506), Pinker (2014:p250)) and in some prescriptive grammars (e.g. Burchfield (2004:p30,550)). de Hoop et al. (n.d.) is a formal analysis of a similar construction in Dutch.

- This construction seems to pose a fundamental problem for existing theories of agreement (e.g. in HPSG Pollard and Sag (1994), Kathol (1999), Wechsler and Zlatić (2003), . . .).

- Arnold and Lucas (2016) suggest an HPSG analysis for the construction. But there are problems.

■ Arnold and Lucas (2016) provide a relatively detailed discussion of the construction, and consider (and reject) a number of potential approaches.

■ ('acceptable ungrammaticality')

■ pretending that the NP *those problems* is singular...

■ analysing the PP *of those problems* as singular...

■ pretending that the Relative is really plural...

■ exploiting the difference between CONCORD and INDEX agreement ...

■ using something like the 'restriction' operator of LFG (Kaplan and Wedekind, 1993)...

■ reducing the mismatch to one of the other more familiar agreement mismatches...

■ assigning a different structure from that in (4)...

■ 'Respecification' (Huddleston and Pullum (2002:p354); also Maekawa (2015), and other cases of in Pollard and Sag (1994:Ch2))

(6) [That ten days we spent in Florida] was fantastic.

(7) [Whoever's dogs are running around outside] is in big trouble.

(8) [The hash browns at table nine] is getting impatient/are getting cold.

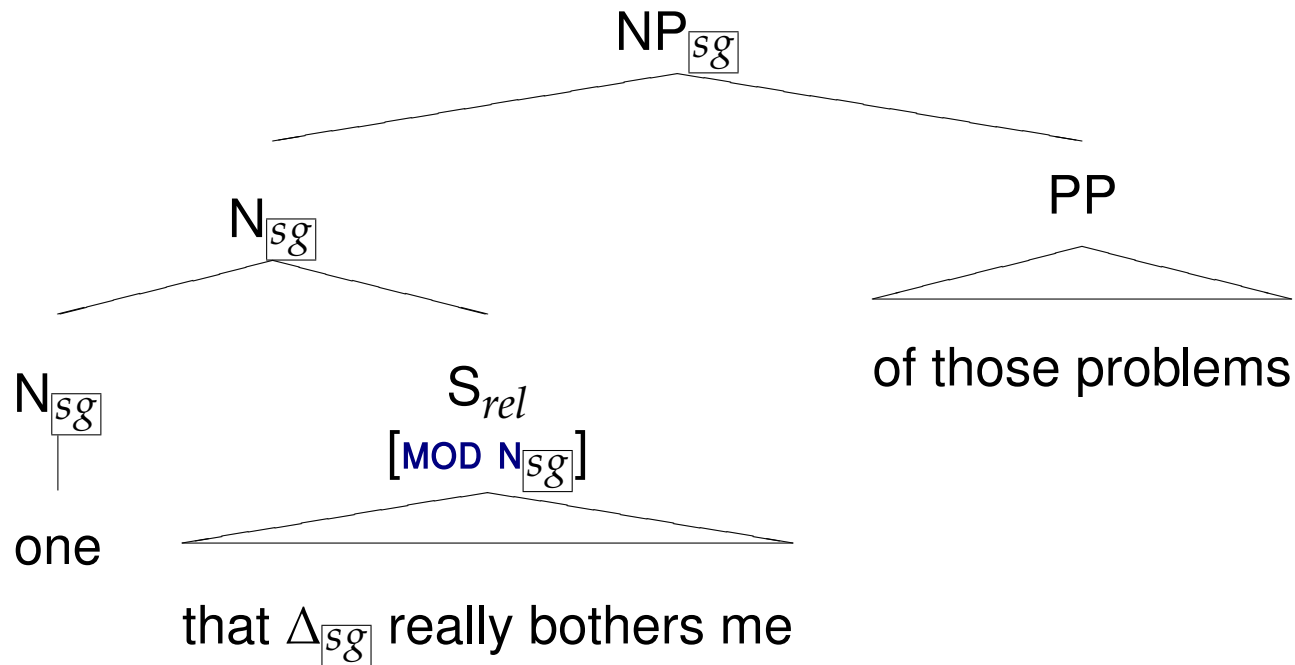■ Pseudo-partitives (measure phrases)

(9) a. That pile$_{sg}$ of problems$_{pl}$ that has$_{sg}$ puzzled people down the ages...
   b. That pile$_{sg}$ of problems$_{pl}$ that have$_{pl}$ puzzled people down the ages...

■ Perhaps the Relative is modifying *one* (which is singular):

(10)

$$NP_{\boxed{sg}}$$

```
                    NP_sg
              /              \
          N_sg                PP
        /      \            /    \
     N_sg      S_rel     of those problems
       |      [MOD N_sg]
      one     /        \
           that Δ_sg really bothers me
```

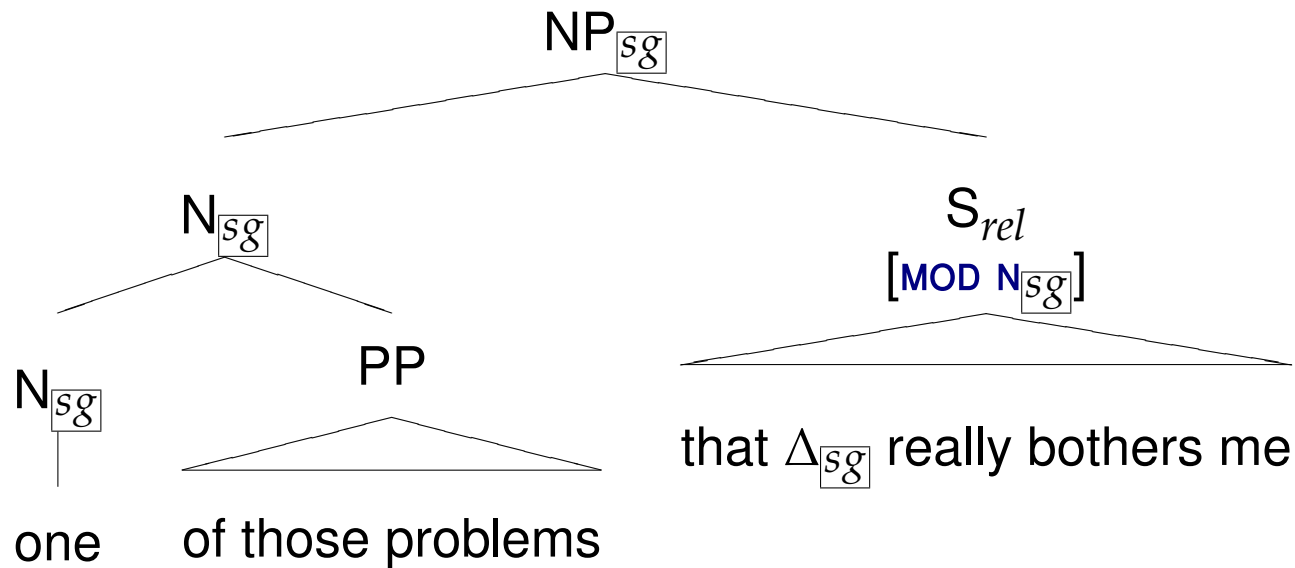(11) This is one (that really bothers me) of those problems

■ Perhaps the Relative is modifying *one of those problems* (which is singular):

(12)

$$NP_{\boxed{sg}}$$

$$N_{\boxed{sg}} \quad\quad\quad\quad S_{rel}$$
$$[\text{MOD } N_{\boxed{sg}}]$$

$$N_{\boxed{sg}} \quad\quad PP$$

that $\Delta_{\boxed{sg}}$ really bothers me

one   of those problems

(13) This is one of those problems (and it really bothers me).

■ Neither of these structures can be right.

■ They will give the wrong semantics: the semantics involves one of a collection of *problems that bother me* (not a set of problems, one of which bothers me)

■   Consider the interpretation of the pronoun *them* in (14):

(14)   This is one of those problems that really bothers me.
      I wish I could ignore *them*.

    ■   *Them* = 'the problems that really bother me'
    ■   *Them* ≠ 'the problems'

(15)   This is one (that really bothers me) of those problems.
      I wish I could ignore *them*.   (*them*='problems')
(16)   This is one of those problems (and it really bothers me).
      I wish I could ignore *them*. (*them*='problems')
(17)   This is a problem that really bothers me. #I wish I could ignore *them*.

■   The mismatch construction introduces a plurality of 'problems that bother me'
    into the discourse (not just a plurality of problems).

■   This requires the Relative to attach 'low' (i.e. to *(those) problems*)

■ Superlative adjectives create contexts which permit NPIs like *ever* in their scope:

(18) a. the most impressive goals that have ever been scored here
    b. *the impressive goals that have ever been scored here

(19) a. one of the most impressive goals that have ever been scored here
    b. *one of the impressive goals that have ever been scored here

■ NPIs are permitted in 'mismatch' relatives in the same way

(20) a. one of the most impressive goals that has ever been scored here
    b. *one of the impressive goals that has ever been scored here

■ The Relative is interpreted attached 'low' – somehow in the scope of the superlative, like other modifiers of the downstairs noun (i.e. *problems*) .

■ There are no restrictions on the kind of relative clause that is possible in the mismatch construction.

■ Relatives involving *which* and other relative pronouns are possible:

(21)   a.   This is one of those problems which really bothers me.
        b.   She is one of those people who really annoys me.

■ The relativized NP need not be a 'top-level' subject:

(22)   a.   one of those problems that [we think [Δ_i deserves urgent attention]]
        b.   one of those problems which$_i$ [we think [Δ_i deserves urgent attention]]

■ Examples involving non-subject relatives can also be found:

(23) a. This is one of those numbers (that) you can add Δ_i to itself$_i$ to get an interesting result.
  b. He is one of those people (who$_i$) you should leave Δ_i strictly to himself$_i$.
  c. He is one of those patients (who$_i$) you can't understand Δ_i until you have met his$_i$ mother.

■ Bare relatives are possible:

(24) This is one of those problems [we think [Δ_i deserves urgent attention]].

■ Examples with pied-piping, and non-finite relative clauses:

(25) a. He's one of those people [about whom$_i$] even his$_i$ best friends have reservations.
      b. He's one of those candidates [about whose$_i$ electoral prospects] not even his$_i$ strongest supporters could be certain.
      c. He may turn out to be one of those musicians [whose$_i$ appeal] is only clear when you actually see him$_i$ live.

(26) a. His sister had married one of the first merchants [to establish himself as a plantation owner in Virginia].
      b. The Weisswurst is one of those sausages [intended to be eaten without its skin].

■ The presence of *one* is crucial to the construction:

■ The construction is impossible without *one*:

(27) a. *those problems that really bother**s** me

b.   those problems that really bother   me

■ Other quantity words do not allow the construction:

$$
(28) \quad \left\{ \begin{array}{c} \text{*Two} \\ \text{*Some} \\ \text{*Many} \\ \text{*All} \\ \text{*None} \end{array} \right\} \text{ of the problems that bother}\textbf{s}\text{ you have been solved.}
$$

■ Partitive *one* seems to license a singular relative clause modifying a plural partitive;

(29) This is one of those problems$_{pl}$ [that Δ_{sg} really bothers me].

■ What we would like is a way of 'pluralising' the relative – but this is *difficult*...

■ Singular vs plural is not just a morphosyntactic matter (e.g. Kamp and Reyle (1993), Winter and Scha (2015) and references there);

■ We have to distinguish plural individuals from ordinary singular ones (cf. the way indices are treated in HPSG)

■ We have to distinguish plural predicates from ordinary singular ones:

(30)   a.   No problem that fixes itself bothers me.
       b. $\neg\exists x[problem(x) \wedge fixes(x,x) \wedge bothers(x,me)$

(31)   a.   No problems that fix themselves are bothering me.
       b. $\neg\exists X[problem^*(X) \wedge fix^*(X,X) \wedge bother^*(X,me)$
       c. $\neg\exists X[problems(X) \wedge fix(X,X) \wedge bother(X,me)$

(32) This is one of those problems that really bothers me.

(33)

NP
????

DET
$\lambda\mathcal{P}.\lambda\mathcal{R}.those(Z,\mathcal{P}(Z),\mathcal{R}(Z))$

N'
$\lambda x.bothers(x,me) \wedge problem^*(x)$

those

N'
$\lambda Z.problem^*(Z)$

RelC
$\lambda P.\lambda x.bothers(x,me) \wedge P(x)$

problems

that bothers me
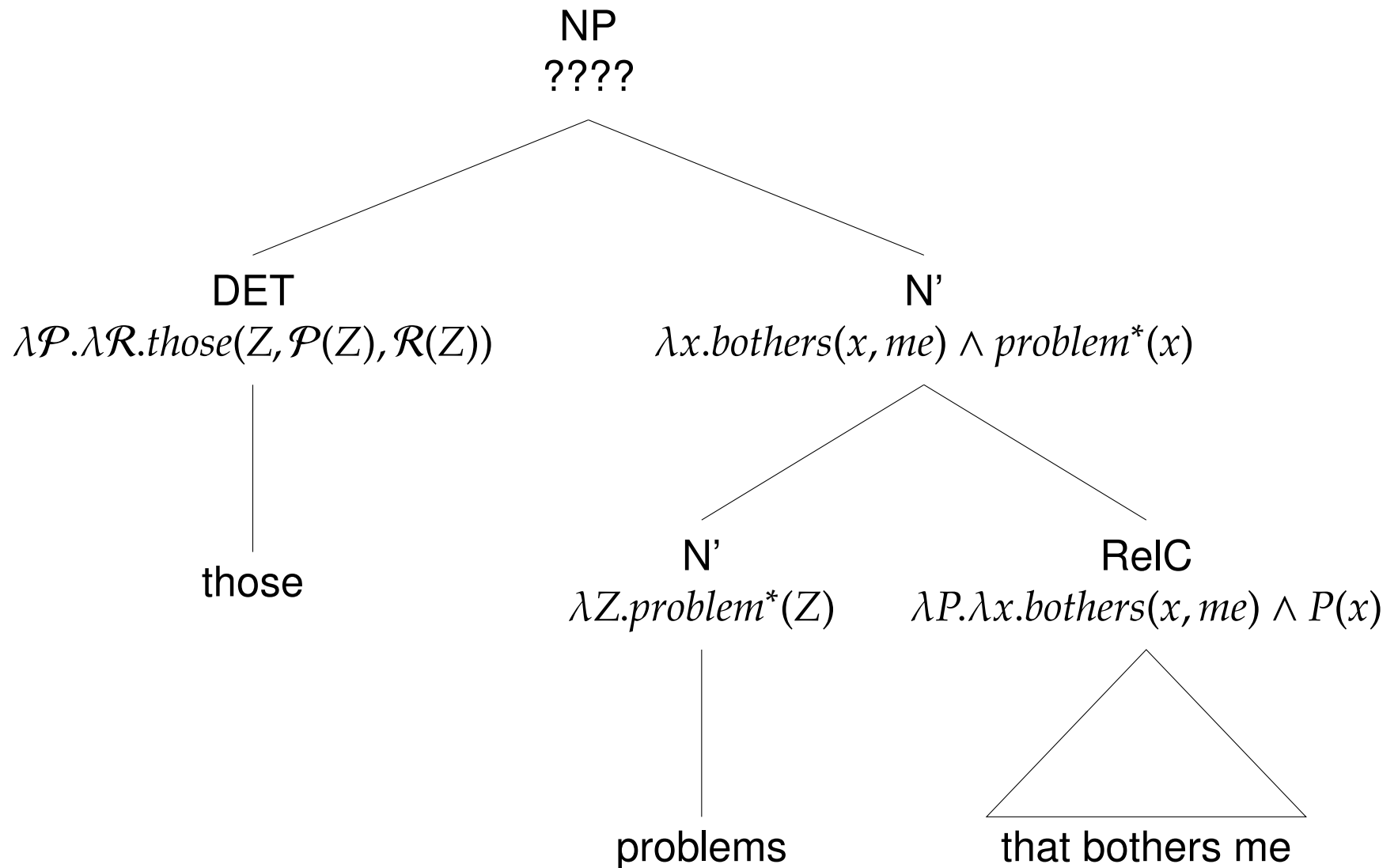
■ Singular relatives involve singular indices *and* singular predicates – it's not enough to 'change the indices': 'pluralizing' a relative poses a serious formal challenge.

3 Analysis

■ We want the analysis to be:

   ■ Precise;
   ■ Formalised;
   ■ If possible, conservative – compatible with existing theory and analyses;

■ Suggestion: partitive *one* can license a singular relative clause.

3.1   Background

- Sag (1997)'s constructional analysis:

  - A relative clause is a clause with a REL value – the referential index of the relative pronoun;
  - when a relative clause modifies a nominal whose index is ① and whose restrictions are ②:
    - ▶ the REL value is unified with the index of the index of the nominal
    - ▶ the result is a nominal whose index is ①, and whose restrictions are ② plus the propositional content of the relative clause.

(34)

$$
N
$$

$$
\left[\text{CONT} \begin{bmatrix} \text{INDEX} & \boxed{1} \\ \text{RESTR} & \boxed{2} \cup \{ \boxed{4} \} \end{bmatrix} \right]
$$

$$
N \qquad\qquad S_{rel\boxed{1}}
$$

$$
\left[\text{CONT} \ \boxed{3} \begin{bmatrix} \text{INDEX} & \boxed{1} \\ \text{RESTR} & \boxed{2} \end{bmatrix} \right] \qquad \left[\begin{matrix} \text{MOD} & \left[\text{CONT} \ \boxed{3} \right] \\ \text{CONT} & \boxed{4} \ \textit{proposition} \end{matrix} \right]
$$

(35)

$$
N
$$

$$
\left[\text{CONT} \begin{bmatrix} \text{INDEX} & \boxed{1} \\ \text{RESTR} & \{\, problems(\boxed{1}),\, bother(\boxed{1}, me)\,\} \end{bmatrix} \right]
$$

$$
N
$$

$$
\left[\text{CONT} \; \boxed{3} \begin{bmatrix} \text{INDEX} & \boxed{1} \\ \text{RESTR} & \{\, problems(\boxed{1})\,\} \end{bmatrix} \right]
$$

problems

$$
S_{rel\,\boxed{1}}
$$

$$
\begin{bmatrix} \text{MOD} & \begin{bmatrix} \text{CONT} & \boxed{3} \end{bmatrix} \\ \text{CONT} & bother(\boxed{1}, me) \end{bmatrix}
$$

that $\Delta_{\boxed{1}}$ bother me
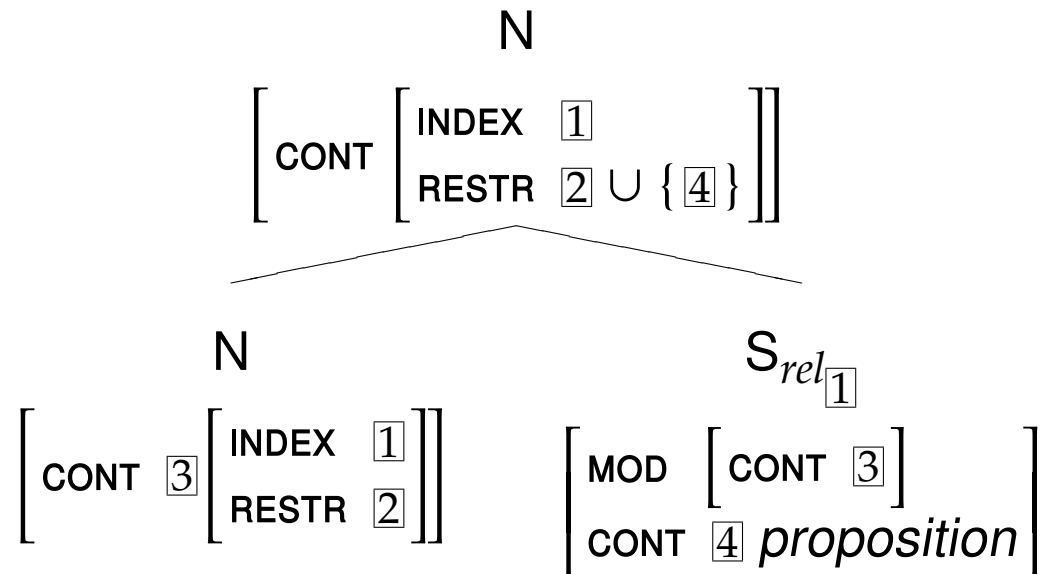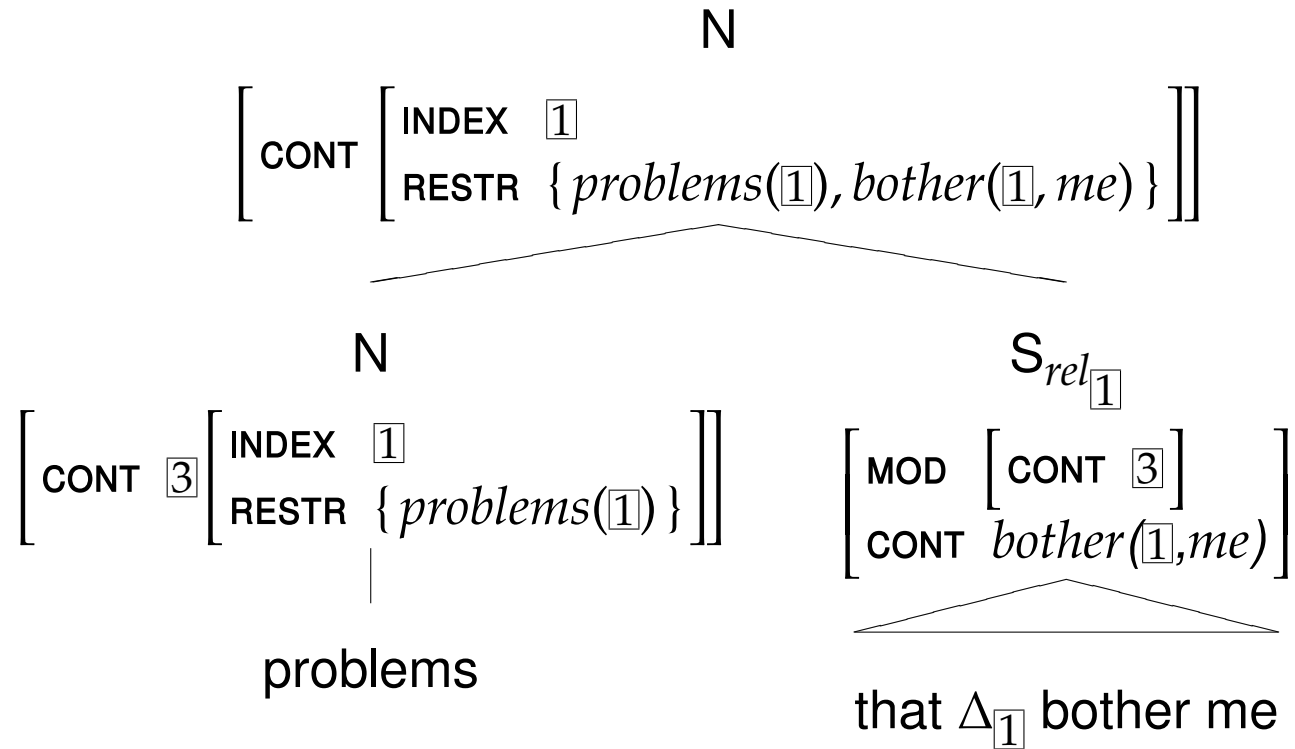
(36) $\lambda Q \lambda Y. Q(Y) \wedge bother^*(Y, me)$

Normal Partitive *one*

■ A lexical entry for normal partitive *one* (as in *one of the problems*).

(37)
$$
\left[
\begin{array}{l}
\text{SS | LOC} \left[\text{CONT} \left[
\begin{array}{l}
\textit{one-part-rel} \\
\text{INDEX} \quad \boxed{x}\left[\text{NUM} \quad sg \right] \\
\text{RESTR} \left\{ \boxed{x} \in \boxed{X} \right\} \cup \boxed{R}
\end{array}
\right] \right] \\[2em]
\text{ARG-ST} \quad \left\langle
\begin{array}{c}
PP_{of} \\
\left[\text{LOC | CONT} \left[
\begin{array}{l}
\textit{npro} \\
\text{INDEX} \quad \boxed{X} \\
\text{RESTR} \quad \boxed{R}
\end{array}
\right] \right]
\end{array}
\right\rangle
\end{array}
\right]
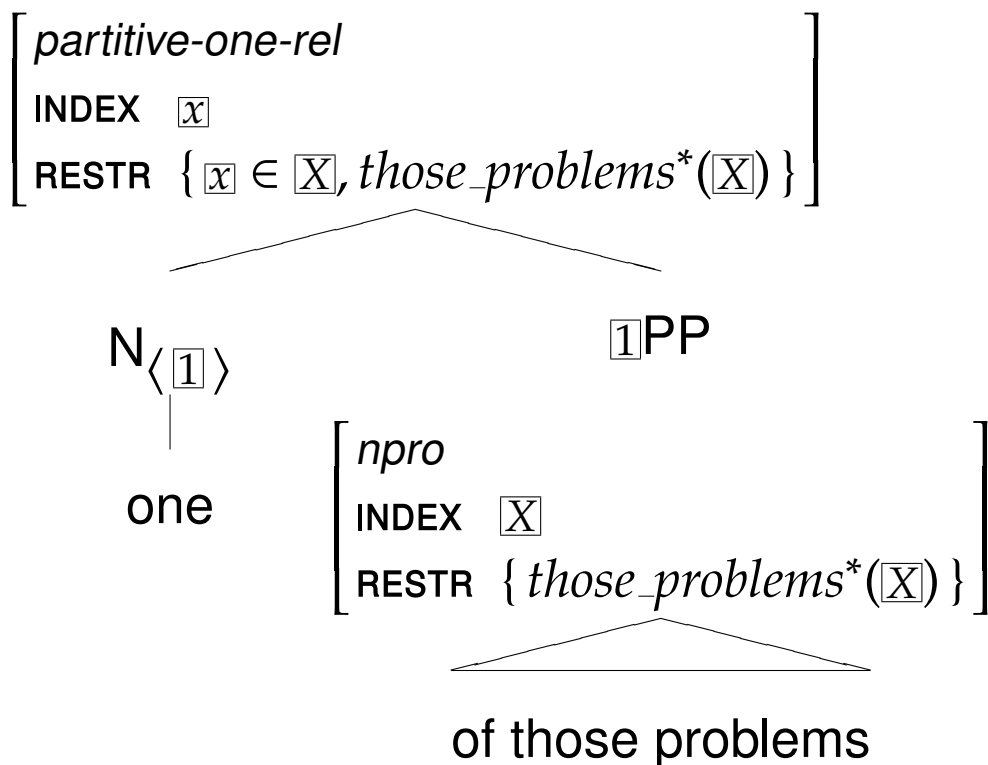$$

■ *One* combines with a non-predicative *of*-PP complement which denotes a plurality $\boxed{X}$ with restrictions $\boxed{R}$, . . .
■ and produces a singular NP whose index $\boxed{x}$ is interpreted as an element of the plurality.

(38) $\lambda Q.\lambda P.One_x \; x \in X \wedge Q(X) \wedge P(x)$

(39)

NP

$$\begin{bmatrix} \textit{partitive-one-rel} \\ \textsc{index} \quad \boxed{x} \\ \textsc{restr} \quad \{\, \boxed{x} \in \boxed{X}, \textit{those\_problems}^*(\boxed{X}) \,\} \end{bmatrix}$$

$N_{\langle \boxed{1} \rangle}$

one

$\boxed{1}$PP

$$\begin{bmatrix} \textit{npro} \\ \textsc{index} \quad \boxed{X} \\ \textsc{restr} \quad \{\, \textit{those\_problems}^*(\boxed{X}) \,\} \end{bmatrix}$$

of those problems

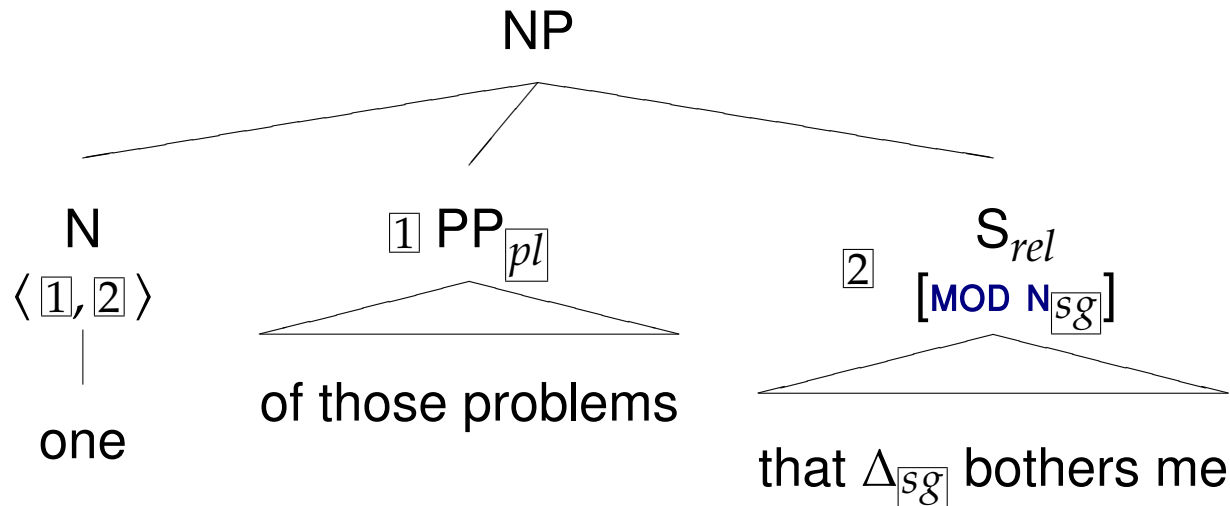(40) $\lambda P.One_x \; x \in X \wedge \textit{those\_problems}^*(X) \wedge P(x)$

(41) a. $One_x \; x \in X \wedge \textit{those\_problems}^*(X) \wedge \textit{has\_been\_solved}(x)$
      b. One of those problems has been solved.

3.2 Proposal

- I have suggested that *one* can also license a singular relative clause.

- The easiest way to capture this is to treat the relative clause as an (optional) complement of *one*, adding suitable additional restrictions to the resulting semantics ($\boxed{R'}$):

(42)
$$\begin{bmatrix} \text{SS} \mid \text{LOC} & \begin{bmatrix} \text{CONT} & \begin{bmatrix} \textit{partitive-one-rel} \\ \text{INDEX} & \boxed{x}\begin{bmatrix} \text{NUM} & sg \end{bmatrix} \\ \text{RESTR} & \left\{ \boxed{x} \in \boxed{X} \right\} \cup \boxed{R} \; \cup \boxed{R'} \end{bmatrix} \end{bmatrix} \\[2em] \text{ARG-ST} & \left\langle \overset{PP_{of}}{\begin{bmatrix} \text{LOC} \mid \text{CONT} & \begin{bmatrix} \textit{npro} \\ \text{INDEX} & \boxed{X} \\ \text{RESTR} & \boxed{R} \end{bmatrix} \end{bmatrix}} , \overset{Relc}{\begin{bmatrix} \text{REL} & \left\{ \boxed{y} \right\} \\ \text{LOC} & \begin{bmatrix} \text{CONT} & \boxed{p} \end{bmatrix} \end{bmatrix}} \right\rangle \end{bmatrix}$$

(43)

$$\text{NP}$$

$$\underset{\langle\boxed{1},\boxed{2}\rangle}{\text{N}} \qquad \boxed{1}\,\text{PP}_{pl} \qquad \boxed{2}\,\underset{[\text{MOD N}_{\overline{sg}}]}{\text{S}_{rel}}$$

one   of those problems   that $\Delta_{\overline{sg}}$ bothers me

- ■ The problem now is to combine the content of the Relative (e.g. propositional content) with the content of the PP.

- ■ This cannot be done directly (because the Relative is an open predication over singular entities, potentially containing other predicates over the same singular entities, and the PP denotes a plurality)

- ■ We want a way to 'pluralize' the Relative.

■ A solution is to 'distribute' the interpretation of the relative clause across the parts of the plurality $\boxed{X}$ denoted by the PP, by means of a condition that every atomic part of the plurality X satisfies the propositional content of the relative clause. . .

- The restriction we add is that every atomic part y of the plurality X should satisfy the proposition expressed by the Relative:

(44)
$$\boxed{R'} = \left\{ \begin{bmatrix} \text{QUANTS} & \left\langle \begin{bmatrix} \textit{foreach} \\ \text{INDEX} & \boxed{y} \\ \text{RESTR} & \left\{ \textit{partof}(\boxed{y},\boxed{X}), \textit{atomic}(\boxed{y}) \right\} \end{bmatrix} \right\rangle \\ \text{NUCLEUS} & \boxed{p} \end{bmatrix} \right\}$$

- In the case of *which bothers me*:

(45) a.
$$\left\{ \begin{bmatrix} \text{QUANTS} & \left\langle \begin{bmatrix} \textit{foreach} \\ \text{INDEX} & \boxed{y} \\ \text{RESTR} & \left\{ \textit{partof}(\boxed{y},\boxed{X}), \textit{atomic}(\boxed{y}) \right\} \end{bmatrix} \right\rangle \\ \text{NUCLEUS} & \textit{bothers}(\boxed{y},\textit{me}) \end{bmatrix} \right\}$$

  b. { foreach($\boxed{y}$, $\boxed{y} \in \boxed{X} \wedge$ atomic($\boxed{y}$), bothers($\boxed{y}$,me)) }
  c. { foreach($\boxed{y}$, $\boxed{y} \in \boxed{X}$, bothers($\boxed{y}$,me)) }

(46) $\lambda X. \forall y. y \in X \wedge atomic(y) \rightarrow bothers(y, me)$

(47) one of those problems that bothers me

(48) $\begin{bmatrix} \textit{partitive-one-rel} \\ \text{INDEX} \quad \boxed{x} \\ \text{RESTR} \quad \{ \boxed{x} \in \boxed{X}, \textit{those\_problems}^*(\boxed{X}), \textit{foreach}(\boxed{y}, \boxed{y} \in \boxed{X}, \textit{bothers}(\boxed{y}, me)) \} \end{bmatrix}$

$\lambda P.One_x \; x \in X \wedge \textit{those\_problems}^*(\boxed{X}) \wedge \forall y.y \in X \wedge atomic(y) \rightarrow bothers(y, me) \wedge P(x)$

$\lambda P.One_x \; x \in X \wedge \textit{those\_problems}^*(X) \wedge \qquad\qquad\qquad\qquad\qquad bother^*(X, me) \wedge P(x)$
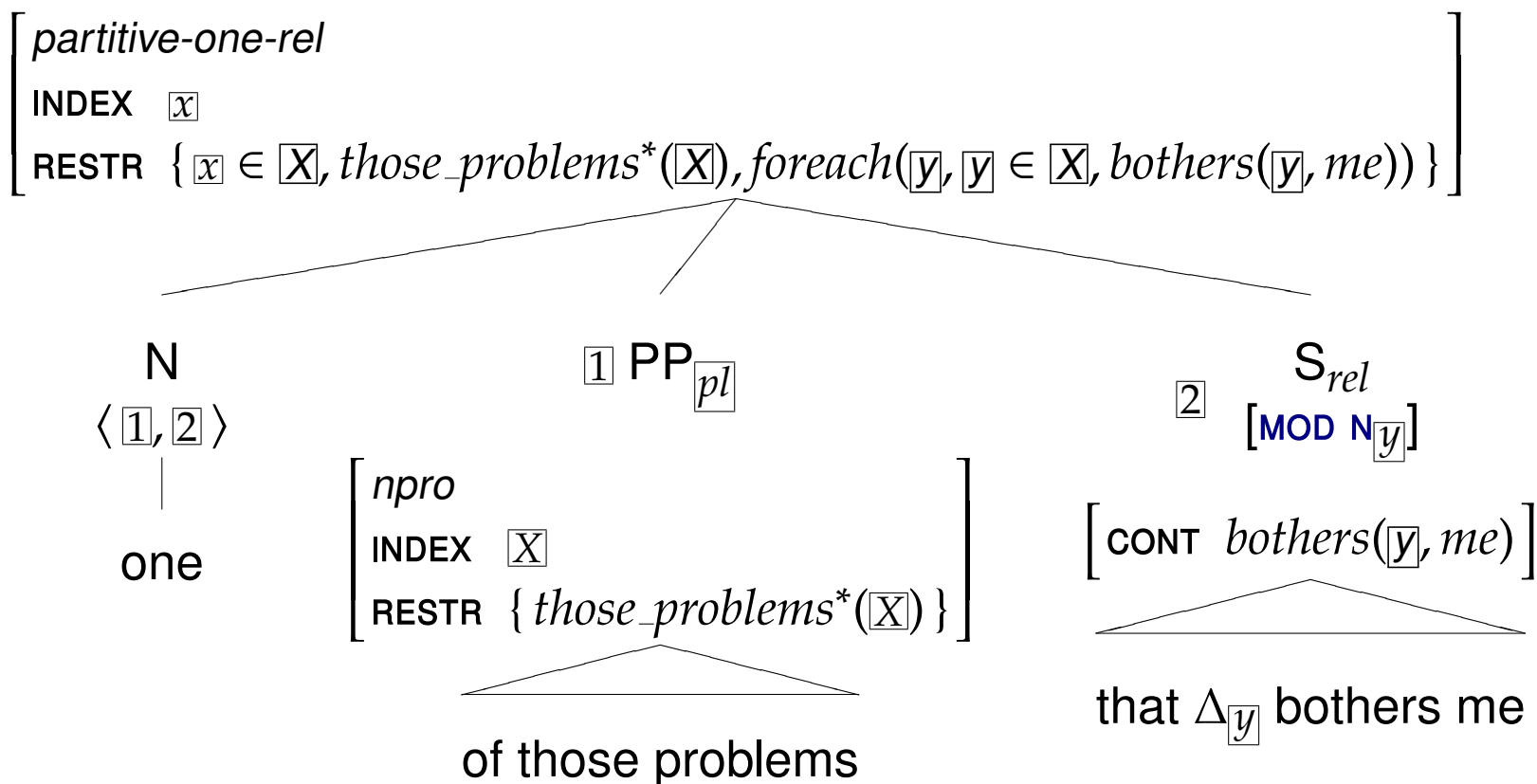
(49)

$$
NP
$$

$$
\begin{bmatrix}
\textit{partitive-one-rel} \\
\text{INDEX} \quad \boxed{x} \\
\text{RESTR} \quad \{\, \boxed{x} \in \boxed{X}, \textit{those\_problems}^*(\boxed{X}), \textit{foreach}(\boxed{y}, \boxed{y} \in \boxed{X}, \textit{bothers}(\boxed{y}, me)) \,\}
\end{bmatrix}
$$

$$
\begin{array}{ccc}
N & \boxed{1}\ PP_{pl} & \boxed{2}\ S_{rel} \\
\langle \boxed{1}, \boxed{2} \rangle & & [\text{MOD } N_{\boxed{y}}]
\end{array}
$$

one

$$
\begin{bmatrix}
\textit{npro} \\
\text{INDEX} \quad \boxed{X} \\
\text{RESTR} \quad \{\, \textit{those\_problems}^*(\boxed{X}) \,\}
\end{bmatrix}
$$

$$
\begin{bmatrix}
\text{CONT} \quad \textit{bothers}(\boxed{y}, me)
\end{bmatrix}
$$

of those problems

that $\Delta_{\boxed{y}}$ bothers me

(50)

$$
\left[\text{SS}\,|\,\text{LOC} \left[\begin{array}{l}
\text{CONT} \left[\begin{array}{l}
\textit{partitive-one-rel} \\
\text{INDEX} \quad \boxed{x}\left[\text{NUM} \;\; sg \right] \\
\text{RESTR}\; \left\{ \boxed{x} \in \boxed{X} \right\} \cup \boxed{R} \;\; \cup \left\{ \left[\begin{array}{l} \text{QUANTS}\; \left\langle \left[\begin{array}{l} \textit{foreach} \\ \text{INDEX} \;\; \boxed{y} \\ \text{RESTR}\; \left\{ \textit{partof}(\boxed{y},\boxed{X}),\; \textit{atomic}(\boxed{y}) \right\} \end{array} \right] \right\rangle \\ \text{NUCLEUS}\; \boxed{p} \end{array} \right] \right\}
\end{array} \right] \\[3em]
\text{ARG-ST}\; \left\langle \begin{array}{cc} PP_{of} & Relc \\ \left[\text{LOC}\,|\,\text{CONT} \left[\begin{array}{l} \textit{npro} \\ \text{INDEX}\;\; \boxed{X} \\ \text{RESTR}\;\; \boxed{R} \end{array} \right] \right], & \left[\begin{array}{l} \text{REL}\; \left\{ \boxed{y} \right\} \\ \text{LOC}\; \left[\text{CONT}\;\; \boxed{p} \right] \end{array} \right] \end{array} \right\rangle
\end{array} \right]
$$

- In words: partitive *one* takes a plural PP and (optionally) a singular relative clause; it combines the restrictions on the PP with the condition that every atomic element in the PPs denotation must satisfy the proposition expressed by the relative clause.

■ This treats the Relative as completely singular throughout, and gets the right interpretation:

(51) a. This is one of those problems that really bothers me.
      b. This is one of a set (plurality) of problems, each of which bothers me.

(52) This is one of those problems that really bothers me. I wish I could ignore
      them.   (*them*='the problems each of which bothers me')

An Equivalent Alternative

■ An alternative implementation of these ideas might involve some kind of covert head the projects a phrase with the right semantic properties (say, a 'kind' head, projecting a 'KindP')

■ This would be observationally equivalent, and not obviously more attractive (e.g. one would still need a way to make sure *one* licenses this phrase, and other items do not).

4   Problems

4.1   Other Words/Constructions

Not just *one*

■   Some other words are similar to *one*, at least for some speakers (from the BNC):

(53)   a.   *another* of those volcanoes which was thought to be extinct until something nasty happened.   [ASR/837]

   b.   *another* of those chores which is easier to carry out during post-production editing. . .   [CBP/901]

   c.   an individual programme fitted for *each* of those who is going on. [ASY/1463]

■ There are also a number of constructions that include partitive *one*:

(54) a. At least one of the problems that bothers me has been solved.
   b. More than one of the problems that bothers me has been solved.
   c. Every one of the problems that bothers me has been solved.
   d. Not one of the problems that bothers me has been solved.
   e. Not a single one of the problems that bothers me has been solved.

■ Why are the following not permitted?

(55) a. *Fewer than one of the problems that bothers me has been solved.
   b. *Less than one of the problems that bothers me has been solved.

■ (I confess I am not entirely sure about the data here).

■ More work needed.

4.2   'Selected Relatives'

■ A potential objection to the analysis is that it involves treating a Relative Clause as a complement (Relatives are prototypically Adjuncts)

■ There are other cases of heads selecting complements that are normally Adjuncts:

(56) a. I worded the letter *(carefully).
b. The management has treated Sandy *(contemptuously).
c. This book reads *(easily).

■ Cleft constructions are often analysed as involving a kind of Relative, which might be selected by *be*, in the case of *it*-clefts:

(57) It was the president [(that) they were talking about].

■   Relative clauses associated with superlative adjectives are complements of the superlative:

(58) a. This is the best [(that) we could hope for].
      b. *This is the [(that) we could hope for].

(59) a. This group of students is the most intelligent [(that) we have taught].
      b. *This group of students is the intelligent [(that) we have taught].

(60) a. *Those came.

      b. Those [who had something useful to say] came.

(61) a. The/*Those poor will not be able to take advantage of this proposal.

      b. The/Those poor [who live locally] will not be able to take advantage of this proposal.

4.3   A Refinement

■ Notice that this analysis does not treat the Relative as a real modifier inside the partitive PP.

■ But this means don't really account for the possibility of NPIs in the Relative – recall:

(62) a. one of the most impressive goals that has *ever* been seen here
     b. one of the most impressive goals that have *ever* been seen here
     c. *one of the goals that have *ever* been seen here

■ We need a way of getting the Relative into the scope of the superlative, most likely as a complement of *-est*, or similar, cf.

(63) a. This suggestion is the *most* interesting [*that we could ever hope for*].
     b. *This suggestion is the interesting [that we could ever hope for].

■ We have to allow for Relatives that have been *extraposed*.

■ Of course, we need this for normal relatives as well (see (64));

■ Standard HPSG accounts use an 'EXTRAP' list which is passed around (Pollard and Sag (1994:p386), Keller (1995), Van Eynde (1996), Kay and Sag (2012), Crysmann (2013)).

■ Elements of the EXTRA list are passed down the tree to a point where they can be interpreted as complements or adjuncts;

■ Instead of being realised locally, a complement or adjunct can be placed on the EXTRA list, and passed up the tree, to be realised later.

A Superlative with a Normal Plural Relative

(64)

$$\text{NP}$$

NP
EXTRAP$\langle \boxed{3} \rangle$

$\boxed{3}$ S$_{rel}$
[MOD N$_{\boxed{pl}}$]

N
$\langle \boxed{1} \rangle$

|
one

$\boxed{1}$ PP$_{of}$
EXTRAP$\langle \boxed{3} \rangle$

P
|
of

NP$_{\boxed{i}}$
EXTRAP$\langle \boxed{3} \rangle$

DET
|
the

Nom$_{\boxed{i}}$
EXTRAP$\langle \boxed{3} \rangle$

AP
EXTRAP$\langle \boxed{3} \rangle$

Nom$_{\boxed{i}}$
|
goals

Deg$_{\langle \boxed{3} \rangle}$
EXTRAP$\langle \boxed{3} \rangle$
|
most

A
|
interesting

that $\Delta_{\boxed{pl}}$ have$_{\boxed{pl}}$ ever been scored at Wembley

(65)

$$
\begin{array}{l}
\text{NP} \\
\quad \text{N} \quad \boxed{1}\,\text{PP}_{of} \quad\quad \boxed{2}\ \text{S}_{rel} \\
\langle\boxed{1},\boxed{2}\rangle \quad \text{EXTRAP}\langle\boxed{3}\rangle \quad [\text{MOD N}_{\overline{sg}}] \\
\quad\quad | \\
\quad \text{one} \quad \text{P} \quad \text{NP}_{\boxed{i}} \quad\quad \text{that}\ \Delta_{\overline{sg}}\ \text{has}_{\overline{sg}}\ \text{ever been scored at Wembley} \\
\quad\quad | \quad \text{EXTRAP}\langle\boxed{3}\rangle \\
\quad\quad \text{of} \\
\quad\quad\quad \text{DET} \quad\quad \text{Nom}_{\boxed{i}} \\
\quad\quad\quad\quad | \quad\quad \text{EXTRAP}\langle\boxed{3}\rangle \\
\quad\quad\quad \text{the} \\
\quad\quad\quad\quad\quad \text{AP} \quad\quad \text{Nom}_{\boxed{i}} \\
\quad\quad\quad\quad \text{EXTRAP}\langle\boxed{3}\rangle \quad | \\
\quad\quad\quad\quad\quad\quad\quad\quad\quad \text{goals} \\
\quad\quad\quad\quad \text{Deg}_{\langle\boxed{3}\rangle} \quad \text{A} \\
\quad\quad\quad\quad \text{EXTRAP}\langle\boxed{3}\rangle \quad | \\
\quad\quad\quad\quad\quad | \quad\quad \text{interesting} \\
\quad\quad\quad\quad\quad \text{most}
\end{array}
$$

Where $\boxed{3}$ is the 'pluralised' version of $\boxed{2}$.

(66)

$$\begin{bmatrix} \text{SS}\,|\,\text{LOC} & \begin{bmatrix} \text{CONT} & \begin{bmatrix} \textit{one-part-rel} \\ \text{INDEX} & \boxed{x}\begin{bmatrix}\text{NUM} & sg\end{bmatrix} \\ \text{RESTR} & \{\boxed{x}\in\boxed{X}\}\cup\boxed{R} \end{bmatrix} \end{bmatrix} \\[2em] \text{ARG-ST} & \left\langle \begin{bmatrix} & PP \\ \text{LOC}\,|\,\text{CONT} & \begin{bmatrix} \text{INDEX} & \boxed{X} \\ \text{RESTR} & \boxed{R} \end{bmatrix} \\ \text{EXTRA} & \left\langle\begin{bmatrix} \text{MOD} & N:\begin{bmatrix}\text{INDEX} & \boxed{X} \\ \text{RESTR} & \boxed{R}\end{bmatrix} \\ \text{CONT} & \begin{bmatrix}\text{QUANTS} & \left\langle\begin{bmatrix}\textit{foreach} \\ \text{INDEX} & \boxed{y} \\ \text{RESTR} & \{\textit{partof}(\boxed{y},\boxed{X}),\ \textit{atomic}(\boxed{y})\}\end{bmatrix}\right\rangle \\ \text{NUCL} & \boxed{p_{sg}}\end{bmatrix} \end{bmatrix}\right\rangle \end{bmatrix}, \begin{bmatrix} \textit{Relc}_{\boxed{y}} \\ \begin{bmatrix}\text{CONT} & \boxed{p_{sg}}\end{bmatrix} \end{bmatrix} \right\rangle \end{bmatrix}$$

- In words: partitive *one* permits a singular relative clause to be interpreted as a plural relative that has been extraposed from the partitive PP.

(67) a. one of the most interesting goals that has ever been scored here
  b. one of the most 'that-have-ever-been-scored-here' interesting goals

4.4   Non-distributives

■ The quantity word *one* allows a singular adjunct to be interpreted distributively over the elements of the plural in the partitive NP.

■ The construction should be impossible with relative clauses involving predicates that can only be applied to pluralities (not ordinary singular individuals):

(68) a. *He sleeps in separate beds.   (vs. They sleep in separate beds.)
   b. ???one of those people who sleeps in separate beds

(68b) is bad, but not as bad as it should be, and consider:

(69) a. *She is numerous.   (vs. They are numerous.)
   b. one of those crazy people who is so numerous on demonstrations these days

(70) a. *He meets every week.   (vs. They meet every week.)
   b. one of the people who meets every week to discuss semantics

5   Conclusion

- A little studied, but relatively common, construction of English (and other languages) where a singular relative is interpreted as plural;

- It poses a challenge to any theory of agreement that takes morphosyntactic and semantic aspects of agreement seriously.

- An initially plausible analysis can be developed using existing apparatus (complement selection and extraposition).

- But formalising it reveals some serious puzzles.

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