Ling 566
Nov 5, 2013

Passive Construction

Overview

- Passive

  - Arguments for lexicalist account

  - Details of our analysis

- Questions

- Ch 11 preview

The Passive in Transformational Grammar

- Passive was the paradigmatic transformation in early TG.
- Motivations
  - Near paraphrase of active/passive pairs.
  - Simplified statement of cooccurrence restrictions.
    - E.g. *devour* must be followed by an NP, *put* by NP-PP
    - Such restrictions refer to pre-transformational ("deep") structure.
  - Intuition that active forms were more basic, in some sense.
- Its formulation was complex:
  - Promote object
  - Demote subject, inserting *by*
  - Insert appropriate form of *be*, changing main verb to a participle.

But transforming whole sentences is overkill

- Passive sentences look an awful lot like some actives:

  The cat was chased by the dog   vs

  The cat was lying by the door

- Passives occur without *be* and without the *by* phrase:

  Cats chased by dogs usually get away.

  My cat was attacked.

So a lexical analysis seems called for

- What really changes are the verb's form and its cooccurrence restrictions (that is, its valence).

- There are lexical exceptions
  - Negative:

    Pat resembles Bo but **Bo is resembled by Pat*

    That look suits you but **You are suited by that look*
  - Positive

    Chris is rumored to be a spy but

    *They rumor Chris to be a spy

We posit a lexical rule

- Why not just list passive participles individually?
  - To avoid redundancy
  - To capture productivity (for example?)

- We make it a derivational (lexeme-to-lexeme) rule. Why?
  - Our constraints on lexeme-to-word rules wouldn't allow us to make Passive one.
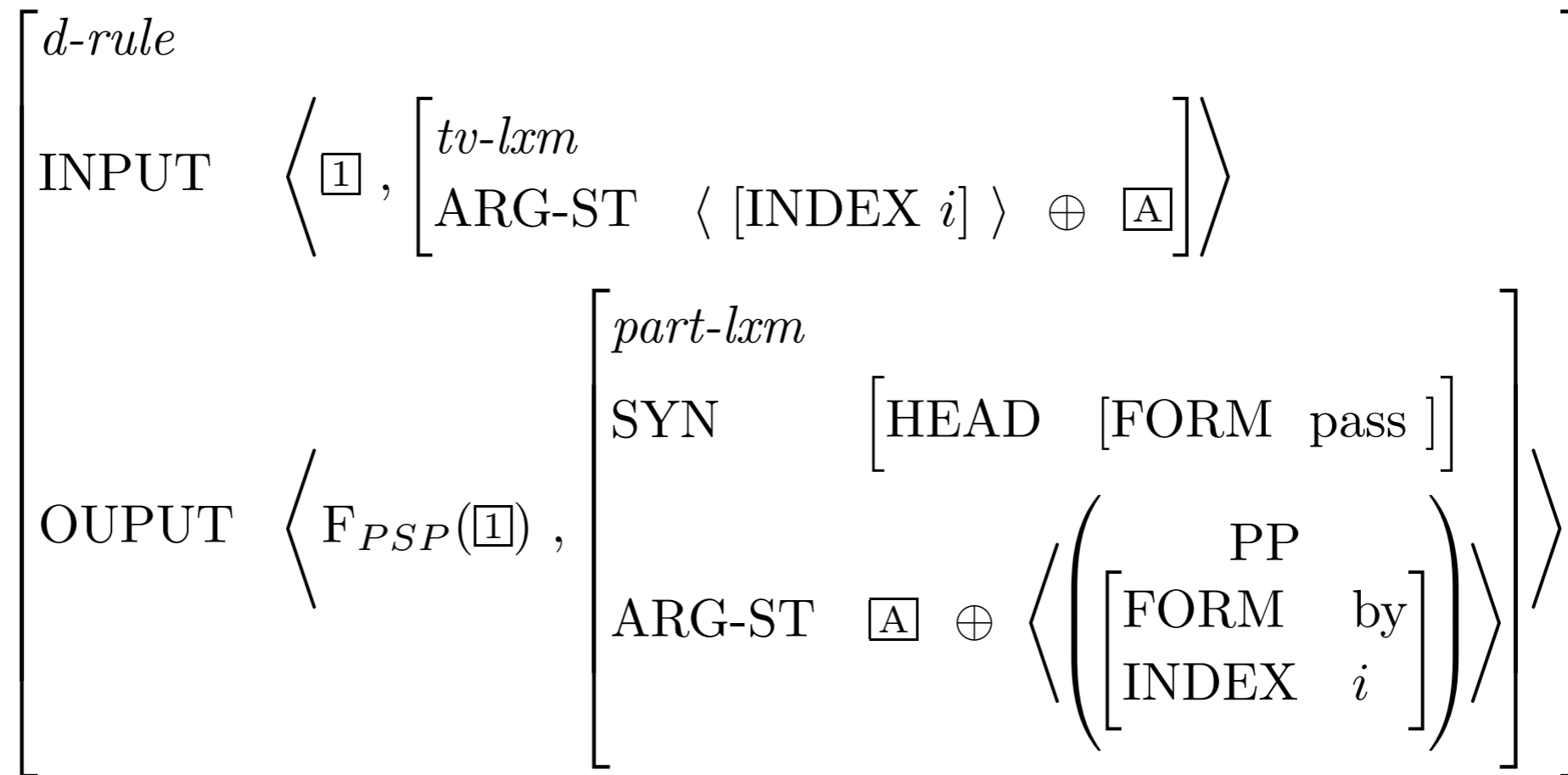
The Passive Lexical Rule

$$
\begin{bmatrix}
\textit{d-rule} \\[2ex]
\text{INPUT} \quad \left\langle \boxed{1} \;,\; \begin{bmatrix} \textit{tv-lxm} \\ \text{ARG-ST} \quad \langle\, [\text{INDEX } i]\, \rangle \;\oplus\; \boxed{A} \end{bmatrix} \right\rangle \\[4ex]
\text{OUPUT} \quad \left\langle \text{F}_{PSP}(\boxed{1}) \;,\; \begin{bmatrix} \textit{part-lxm} \\[1ex] \text{SYN} \quad\quad \begin{bmatrix} \text{HEAD} \quad [\text{FORM} \;\; \text{pass }] \end{bmatrix} \\[3ex] \text{ARG-ST} \quad \boxed{A} \;\oplus\; \left\langle \begin{pmatrix} \text{PP} \\ \begin{bmatrix} \text{FORM} \quad \text{by} \\ \text{INDEX} \quad i \end{bmatrix} \end{pmatrix} \right\rangle \end{bmatrix} \right\rangle
\end{bmatrix}
$$

Questions About the Passive Rule

$$
\begin{bmatrix}
\textit{d-rule} \\[4pt]
\text{INPUT} \quad \left\langle \boxed{1} \, , \begin{bmatrix} \textit{tv-lxm} \\ \text{ARG-ST} \quad \langle\, [\text{INDEX } i]\, \rangle \;\oplus\; \boxed{A} \end{bmatrix} \right\rangle \\[30pt]
\text{OUPUT} \quad \left\langle \mathrm{F}_{PSP}(\boxed{1}) \, , \begin{bmatrix} \textit{part-lxm} \\ \text{SYN} \qquad \begin{bmatrix} \text{HEAD} \quad [\text{FORM} \;\; \text{pass}\,] \end{bmatrix} \\[12pt] \text{ARG-ST} \quad \boxed{A} \;\oplus\; \left\langle \left(\begin{bmatrix} \text{PP} \\ \text{FORM} \quad \text{by} \\ \text{INDEX} \quad i \end{bmatrix} \right) \right\rangle \end{bmatrix} \right\rangle
\end{bmatrix}
$$

- Why is the morphological function F_{PSP}?

- Why do we have a separate FORM value pass? Why not say the output is [FORM psp]?

- What kind of a PP is the *by*-phrase (that is, argument-marking or predicational)?

More Questions

$$
\begin{bmatrix}
\textit{d-rule} \\[4pt]
\text{INPUT} \quad \left\langle \boxed{1} \; , \; \begin{bmatrix} \textit{tv-lxm} \\ \text{ARG-ST} \quad \langle\, [\text{INDEX } i] \,\rangle \;\oplus\; \boxed{A} \end{bmatrix} \right\rangle \\[20pt]
\text{OUPUT} \quad \left\langle \text{F}_{PSP}(\boxed{1}) \; , \; \begin{bmatrix} \textit{part-lxm} \\ \text{SYN} \quad \begin{bmatrix} \text{HEAD} \quad [\text{FORM } \text{pass}] \end{bmatrix} \\[10pt] \text{ARG-ST} \quad \boxed{A} \;\oplus\; \left\langle \begin{pmatrix} \text{PP} \\ \begin{bmatrix} \text{FORM} \quad \text{by} \\ \text{INDEX} \quad i \end{bmatrix} \end{pmatrix} \right\rangle \end{bmatrix} \right\rangle
\end{bmatrix}
$$

- What makes the object turn into the subject?
- Why is the type of the input *tv-lxm*?
- What would happen if it were just *verb-lxm*?

Intransitives have passives in German
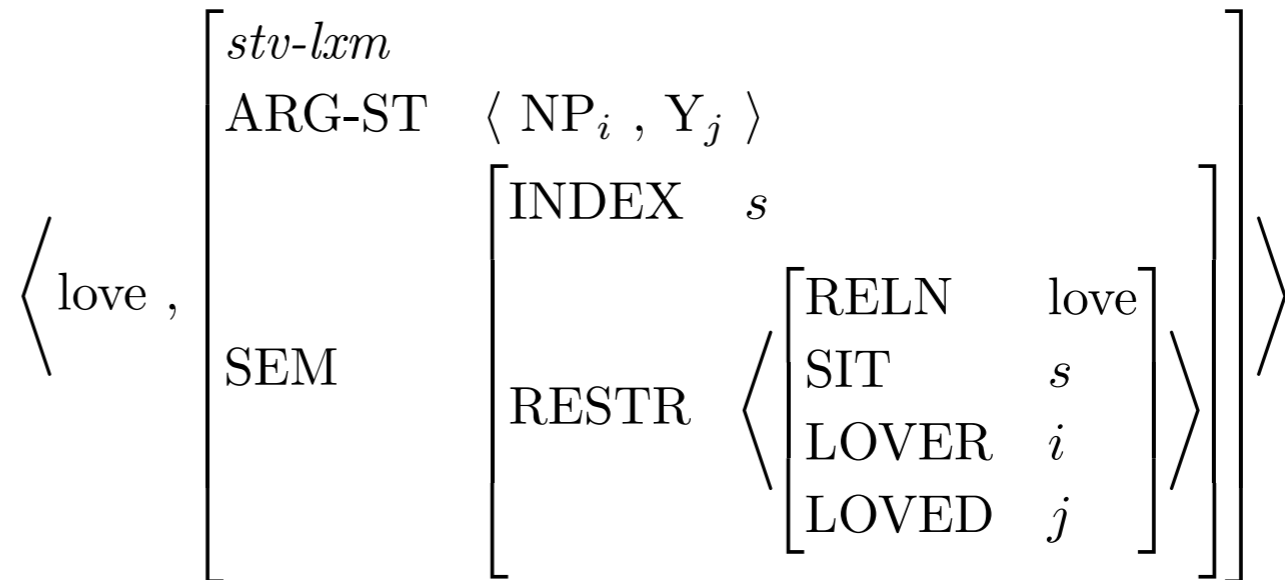
In der Küche wird nicht getanzt.
in the kitchen   is   not   danced
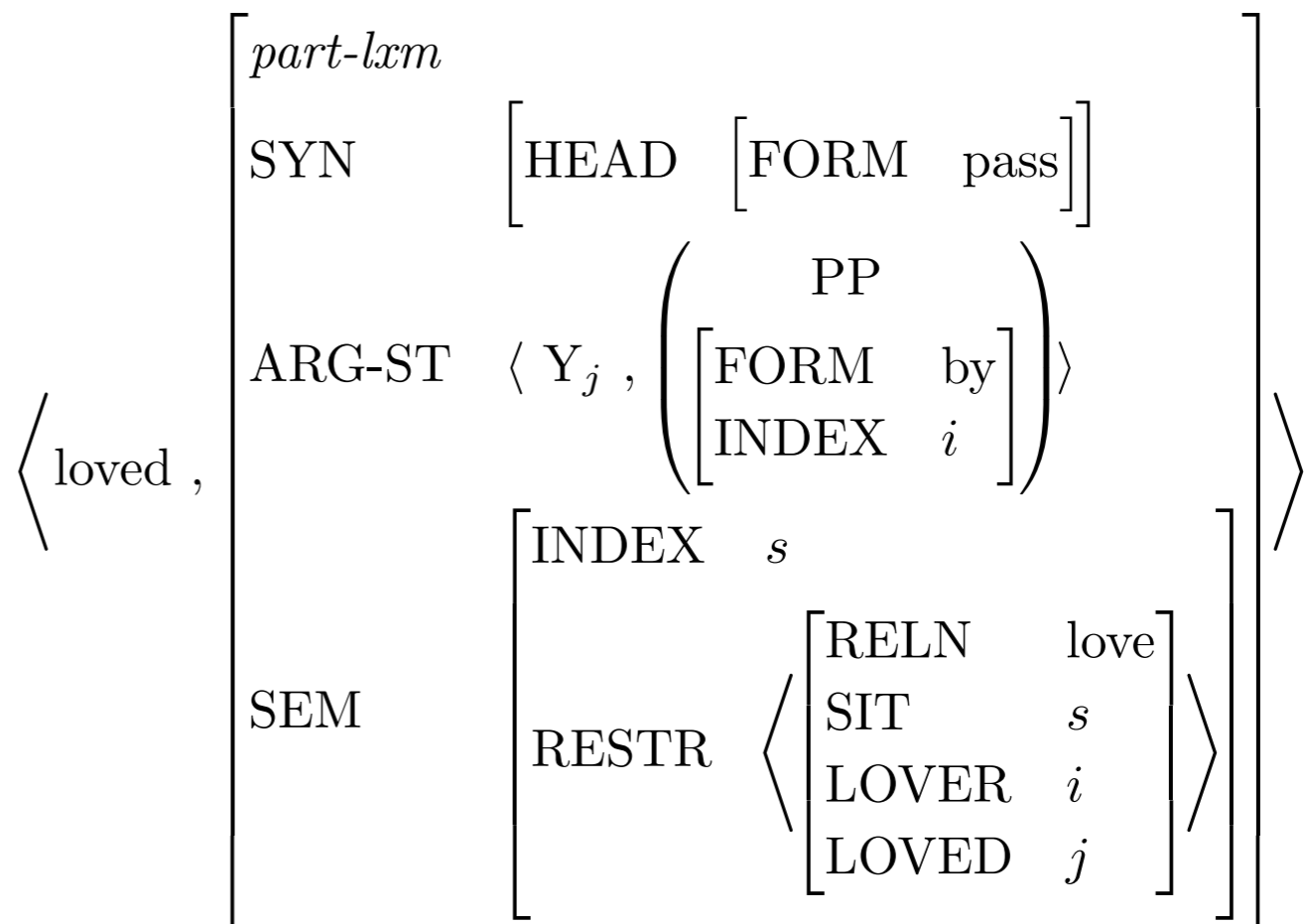 'There is no dancing in the kitchen.'

NB: The exact analysis for such examples
is debatable, but German, like many other
languages, allows passives of intransitives,
as would be allowed by our analysis if the
input type in the Passive LR is *verb-lxm*.

Passive Input & Output

If you have one of these....

$$\left\langle \text{love} , \begin{bmatrix} \textit{stv-lxm} \\ \text{ARG-ST} & \langle \text{NP}_i , \text{Y}_j \rangle \\ \text{SEM} & \begin{bmatrix} \text{INDEX} & s \\ \text{RESTR} & \left\langle \begin{bmatrix} \text{RELN} & \text{love} \\ \text{SIT} & s \\ \text{LOVER} & i \\ \text{LOVED} & j \end{bmatrix} \right\rangle \end{bmatrix} \end{bmatrix} \right\rangle$$

Then you also get one of these....

$$\left\langle \text{loved} , \begin{bmatrix} \textit{part-lxm} \\ \text{SYN} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{FORM} & \text{pass} \end{bmatrix} \end{bmatrix} \\ \text{ARG-ST} & \left\langle \text{Y}_j , \begin{pmatrix} \text{PP} \\ \begin{bmatrix} \text{FORM} & \text{by} \\ \text{INDEX} & i \end{bmatrix} \end{pmatrix} \right\rangle \\ \text{SEM} & \begin{bmatrix} \text{INDEX} & s \\ \text{RESTR} & \left\langle \begin{bmatrix} \text{RELN} & \text{love} \\ \text{SIT} & s \\ \text{LOVER} & i \\ \text{LOVED} & j \end{bmatrix} \right\rangle \end{bmatrix} \end{bmatrix} \right\rangle$$

Actually...

$$
\left\langle \text{loved} \ , \
\begin{bmatrix}
\textit{part-lxm} \\[4pt]
\text{SYN} \quad
\begin{bmatrix}
\text{HEAD} \quad
\begin{bmatrix}
\textit{verb} \\
\text{FORM} \quad \text{pass}
\end{bmatrix}
\end{bmatrix} \\[20pt]
\text{ARG-ST} \quad \left\langle \ \text{NP}_j \ , \
\begin{pmatrix}
\text{PP} \\
\begin{bmatrix}
\text{FORM} \quad \text{by} \\
\text{INDEX} \quad i
\end{bmatrix}
\end{pmatrix} \right\rangle \\[30pt]
\text{SEM} \quad
\begin{bmatrix}
\text{MODE} \quad \text{prop} \\
\text{INDEX} \quad s \\[6pt]
\text{RESTR} \quad \left\langle
\begin{bmatrix}
\text{RELN} \quad \text{love} \\
\text{SIT} \quad s \\
\text{LOVER} \quad i \\
\text{LOVED} \quad j
\end{bmatrix}
\right\rangle
\end{bmatrix}
\end{bmatrix}
\right\rangle
$$

The *be* that Occurs with Most Passives

$$
\left\langle \text{be} \, , \,
\begin{bmatrix}
\textit{be-lxm} \\[4pt]
\text{ARG-ST} \quad \left\langle \boxed{1} \, , \,
\begin{bmatrix}
\text{SYN} \quad
\begin{bmatrix}
\text{HEAD} \quad
\begin{bmatrix}
\textit{verb} \\
\text{FORM} \quad \text{pass}
\end{bmatrix} \\[8pt]
\text{VAL} \quad
\begin{bmatrix}
\text{SPR} \quad \langle \boxed{1} \rangle \\
\text{COMPS} \quad \langle \, \rangle
\end{bmatrix}
\end{bmatrix} \\[8pt]
\text{SEM} \quad \begin{bmatrix} \text{INDEX} \quad s \end{bmatrix}
\end{bmatrix}
\right\rangle \\[12pt]
\text{SEM} \quad
\begin{bmatrix}
\text{INDEX} \quad s \\
\text{RESTR} \quad \langle \, \rangle
\end{bmatrix}
\end{bmatrix}
\right\rangle
$$
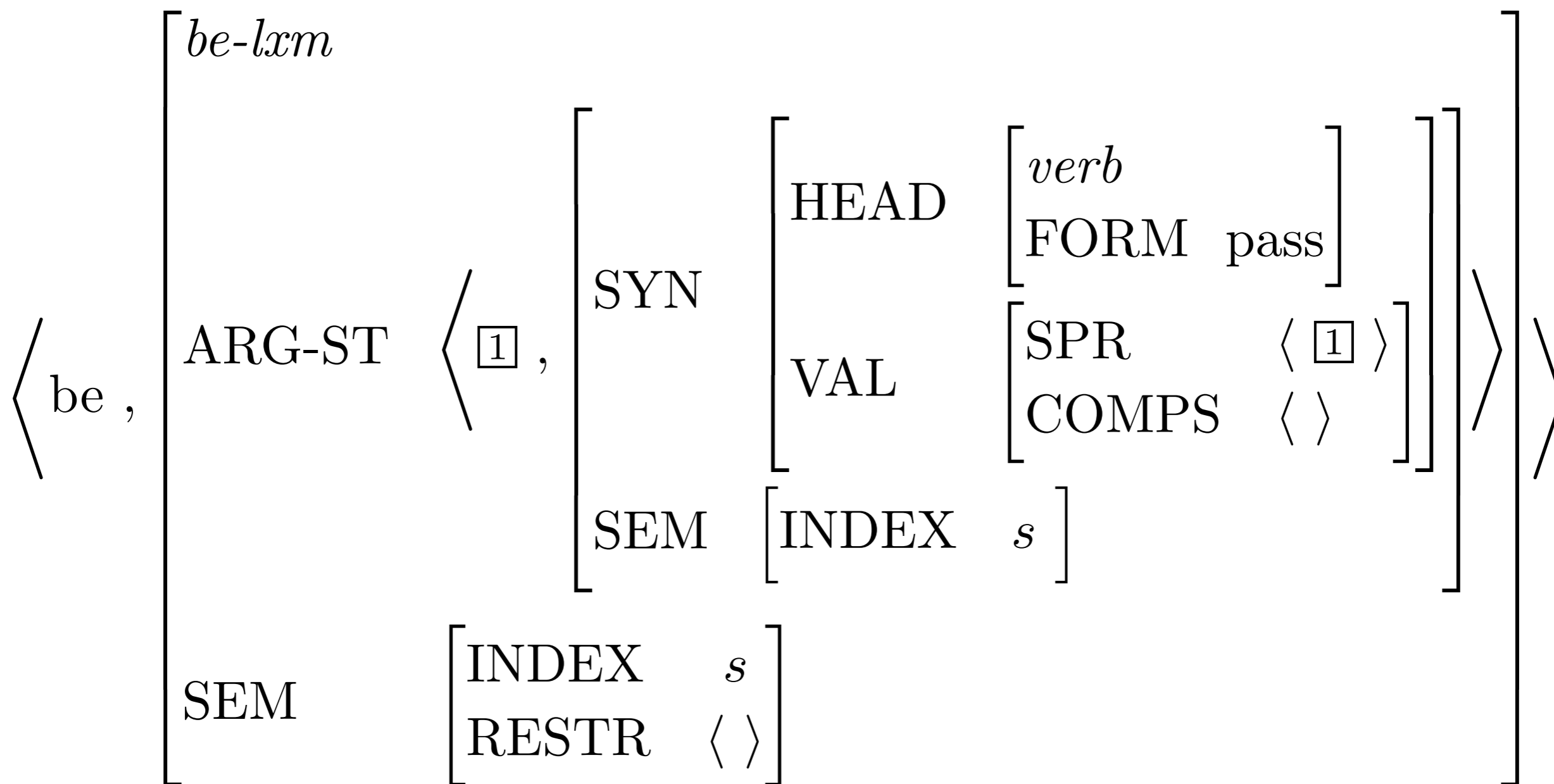
Questions About the Entry for *be*

$$
\left\langle \text{be} \, , \quad
\begin{bmatrix}
\textit{be-lxm} \\[4pt]
\text{ARG-ST} \quad
\left\langle \boxed{1} \, , \quad
\begin{bmatrix}
\text{SYN} &
\begin{bmatrix}
\text{HEAD} &
\begin{bmatrix}
\textit{verb} \\
\text{FORM} \quad \text{pass}
\end{bmatrix} \\[12pt]
\text{VAL} &
\begin{bmatrix}
\text{SPR} & \langle \boxed{1} \, \rangle \\
\text{COMPS} & \langle \, \rangle
\end{bmatrix}
\end{bmatrix} \\[18pt]
\text{SEM} &
\begin{bmatrix}
\text{INDEX} & s
\end{bmatrix}
\end{bmatrix}
\right\rangle \\[24pt]
\text{SEM} \quad
\begin{bmatrix}
\text{INDEX} & s \\
\text{RESTR} & \langle \, \rangle
\end{bmatrix}
\end{bmatrix}
\right\rangle
$$
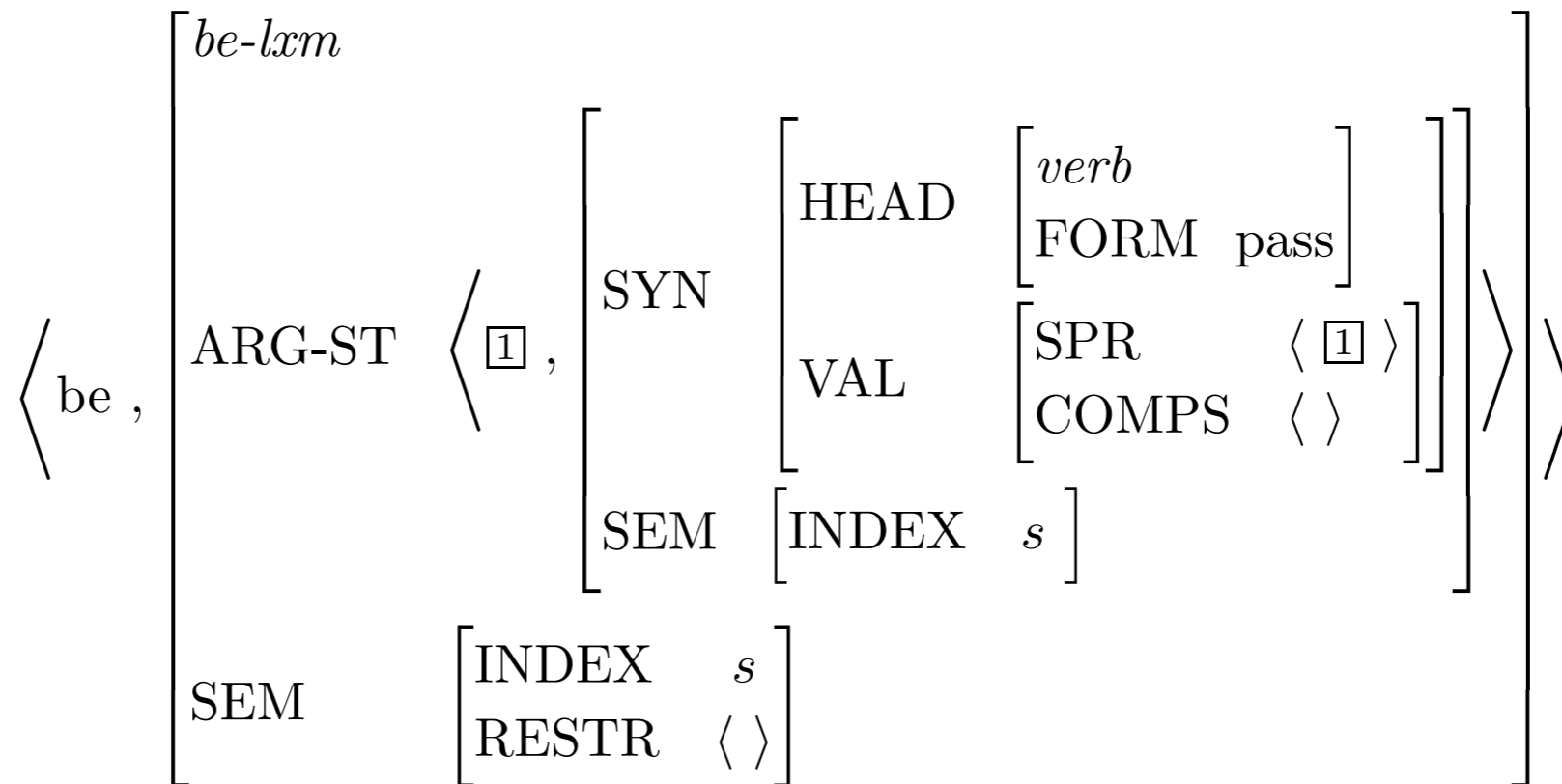
- Why doesn't it include valence features?
- What is the category of its complement (i.e. its 2nd argument)?
- What is its contribution to the semantics of the sentences it appears in?
- Why is the first argument tagged as identical to the second argument's SPR value?

Passive tree

Which rule licenses each node?

What is the SPR value of the upper VP?

What is the SPR value of the lower VP?

What is the SPR value of *is*?

Any questions?
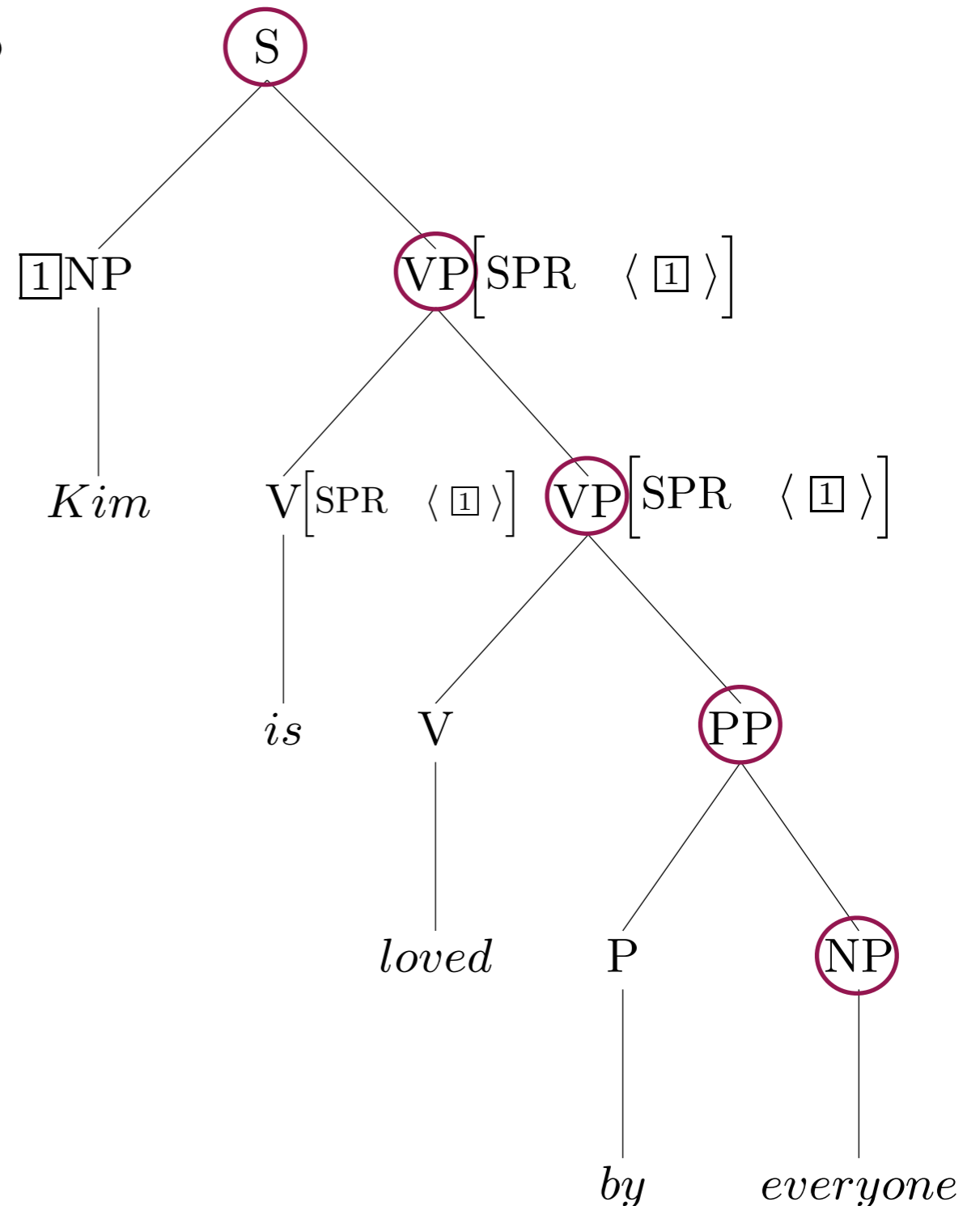
More Questions

- Why do we get

  They are noticed by everyone

  and not

  *Them are noticed by everyone?

- Why don't we get

  *They is noticed by everyone?

- What would facts like these entail for a transformational analysis?

Overview

- Passive

  - Arguments for lexicalist account

  - Details of our analysis

- Questions

- Ch 11 preview

Reading Questions

- Is *gone* a passive verb in *Kim is gone*.?

- Ex 1: *A cat was a cat bitten by the dog*.

  - ARG-ST < NP, NP, VP >

  - ARG-ST < NP, S >

  - ARG-ST < NP, VP >

- *The cat was a cat bitten by the dog*.

Reading Questions

- Why do passive verbs have AGR values?

- How does our passive lexical rule get the semantics right?

- When does the Binding Theory apply in the construction of passive sentences?

- How about the case constraint?

The Passive Lexical Rule

$$
\begin{bmatrix}
\textit{d-rule} \\
\text{INPUT} \quad \left\langle \boxed{1} \,,\, \begin{bmatrix} \textit{tv-lxm} \\ \text{ARG-ST} \quad \langle\, [\text{INDEX } i] \,\rangle \;\oplus\; \boxed{A} \end{bmatrix} \right\rangle \\[2em]
\text{OUPUT} \quad \left\langle \text{F}_{PSP}(\boxed{1}) \,,\, \begin{bmatrix} \textit{part-lxm} \\ \text{SYN} \qquad \begin{bmatrix} \text{HEAD} \quad [\text{FORM} \;\; \text{pass}\,] \end{bmatrix} \\[1em] \text{ARG-ST} \quad \boxed{A} \;\oplus\; \left\langle \begin{pmatrix} \text{PP} \\ \begin{bmatrix} \text{FORM} & \text{by} \\ \text{INDEX} & i \end{bmatrix} \end{pmatrix} \right\rangle \end{bmatrix} \right\rangle
\end{bmatrix}
$$

Reading Questions

- If we made the ARP a constraint on the type lexeme as well as the type word, how would our Passive LR have to change?

- Does our grammar license *The cat bitten by the dog* as an S?

- In testing whether a sentence in passive form is valid or not, could we convert it to its active form, and ask if our grammar license it? If yes, we have a valid sentence in passive form, no otherwise?

Reading Questions

- Does this rule restrict INPUTS to only two elements in the ARG-ST?

- If not, does that still hold that we should always transform the first element of ARG-ST of INPUT to the last element (PP) of ARG-ST of OUTPUT?

Reading Questions

- What is it that is "formy" about *by* vs. *of*?

- Is it possible to optionality using notation for defeasible constraints i.e. '/' instead of the notation for optional constraints '()'? For example, in (9), could we say that the output of the rule defeasibly (or by default) contains a third element in the ARG-ST list?

- [ARG-ST < NPj, PP[to], /PP[by]i>]

Reading Questions

- When do we use X_i rather than NP_i in the ARG-ST value?

- Why is ARG-ST written as

  - ARG-ST <[INDEX i]> ⊕ [A]

  - not: ARG-ST <[INDEX i] ⊕ [A]>

  - not: ARG-ST <<[INDEX i]> ⊕ [A]>

- I just realized that in this and previous chapters, [A] ⊕ [B] ⊕ [C] aren't written inside the usual list brackets < >. Why is this? In this case, why is [INDEX i] written as a list unto itself?

Reading Questions

- Why do we make both types of prepositions lexemes, but not have a single preposition lexeme type which give rise the two types of prepositions via two lexical rules?