Ling 566
Oct 14, 2021

Semantics

Announcements

- Midterm survey — see Canvas announcement

Overview

- Some notes on the linguist's stance
- Which aspects of semantics we'll tackle
- Our formalization; Semantics Principles
- Building semantics of phrases
- Modification, coordination
- Structural ambiguity
- Reading questions

The Linguist's Stance: Building a precise model

- Some of our statements are statements about how the model works:

  "[*prep*] and [AGR *3sing*] can't be combined because AGR is not a feature of the type *prep*."

- Some of our statements are statements about how (we think) English or language in general works.

  "The determiners *a* and *many* only occur with count nouns, the determiner *much* only occurs with mass nouns, and the determiner *the* occurs with either."

- Some are statements about how we code a particular linguistic fact within the model.

  "All count nouns are [SPR < [COUNT +]>]."

Semantics: Where's the Beef?

So far, our grammar has no semantic representations. We have, however, been relying on semantic intuitions in our argumentation, and discussing semantic contrasts where they line up (or don't) with syntactic ones.

Examples?

- structural ambiguity
- S/NP parallelism
- count/mass distinction
- complements vs. modifiers

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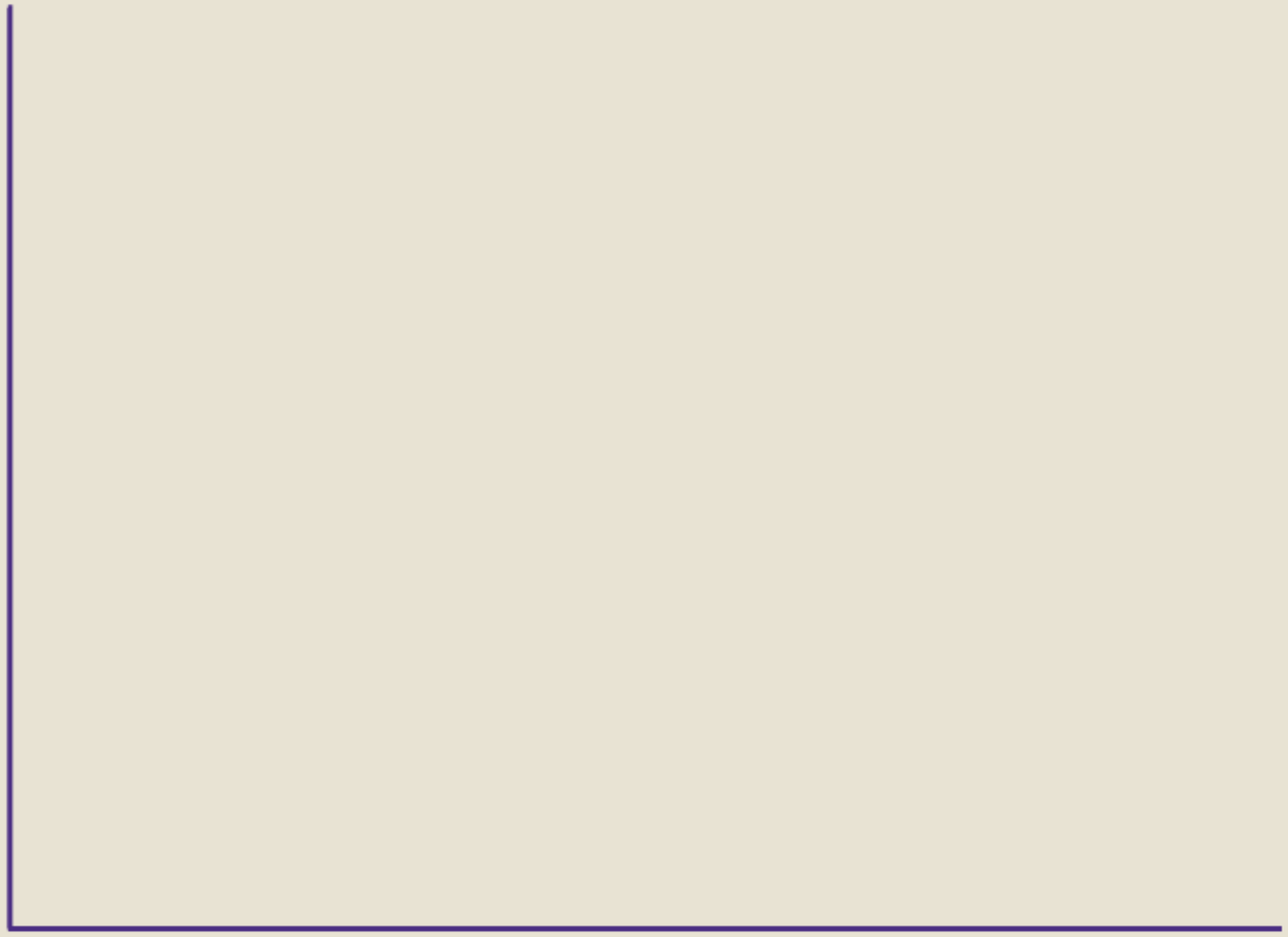
"Where's the Beef"?

Completely unfamiliar

That's a thing people say

I remember those commercials



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Our Slice of a World of Meanings

Aspects of meaning we won't account for

- Pragmatics
- Fine-grained lexical semantics:

The meaning of *life* is *life'*, or, in our case,

$$\begin{bmatrix} \text{RELN} & \text{life} \\ \text{INST} & i \end{bmatrix}$$

Our Slice of a World of Meanings

$$\begin{bmatrix} \text{MODE} & \text{prop} \\ \text{INDEX} & s \\ \text{RESTR} & \left\langle \begin{bmatrix} \text{RELN} & \text{save} \\ \text{SIT} & s \\ \text{SAVER} & i \\ \text{SAVED} & j \end{bmatrix}, \begin{bmatrix} \text{RELN} & \text{name} \\ \text{NAME} & \text{Chris} \\ \text{NAMED} & i \end{bmatrix}, \begin{bmatrix} \text{RELN} & \text{name} \\ \text{NAME} & \text{Pat} \\ \text{NAMED} & j \end{bmatrix} \right\rangle \end{bmatrix}$$

"... the linguistic meaning of *Chris saved Pat* is a proposition that will be true just in case there is an actual situation that involves the saving of someone named Pat by someone named Chris." (p. 140)

Reading Questions

- Why is this useful for NLP?

Our Slice of a World of Meanings

What we are accounting for is the compositionality of sentence meaning.

- How the pieces fit together

  Semantic arguments and indices

- How the meanings of the parts add up to the meaning of the whole.

  Appending RESTR lists up the tree

Semantics in Constraint-Based Grammar

- Constraints as (generalized) truth conditions
  - proposition: what must be the case for a proposition to be true
  - directive: what must happen for a directive to be fulfilled
  - question: the kind of situation the asker is asking about
  - reference: the kind of entity the speaker is referring to

- Syntax/semantics interface: Constraints on how syntactic arguments are related to semantic ones, and on how semantic information is compiled from different parts of the sentence.

Feature Geometry

$$\begin{bmatrix} \text{SYN} & \begin{bmatrix} \text{HEAD} & pos \\ \text{VAL} & \begin{bmatrix} \text{SPR} & list(expression) \\ \text{COMPS} & list(expression) \end{bmatrix} \end{bmatrix} \\ \text{SEM} & \begin{bmatrix} \text{MODE} \{ \text{prop} , \text{ques} , \text{dir} , \text{ref}, \text{none} \} \\ \text{INDEX} \{ i , j , k , \ldots s_1 , s_2 , \ldots \} \\ \text{RESTR} \quad list(pred) \end{bmatrix} \end{bmatrix}$$

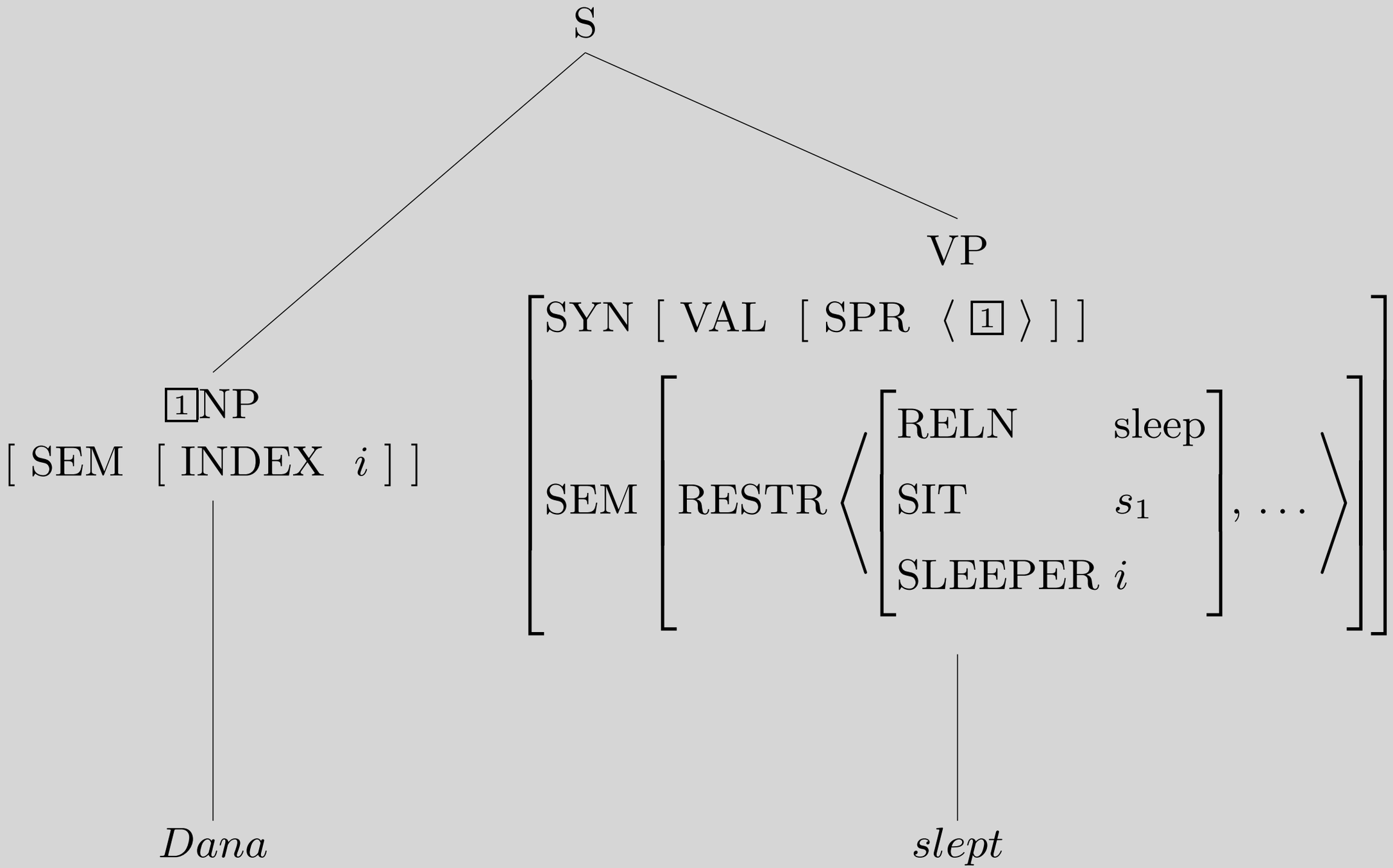
How the Pieces Fit Together

$$\left\langle \text{Dana} , \left[\begin{array}{ll} \textit{word} & \\ \text{SYN} & \left[\begin{array}{ll} \text{HEAD} & \left[\begin{array}{ll} \textit{noun} & \\ \text{AGR} & \textit{3sing} \end{array} \right] \\ \text{VAL} & \left[\begin{array}{ll} \text{SPR} & \langle\ \rangle \\ \text{COMPS} & \langle\ \rangle \end{array} \right] \end{array} \right] \\ \text{SEM} & \left[\begin{array}{ll} \text{INDEX} & i \\ \text{MODE} & \text{ref} \\ \text{RESTR} & \left\langle \left[\begin{array}{ll} \text{RELN} & \text{name} \\ \text{NAME} & \text{Dana} \\ \text{NAMED} & i \end{array} \right] \right\rangle \end{array} \right] \end{array} \right] \right\rangle$$

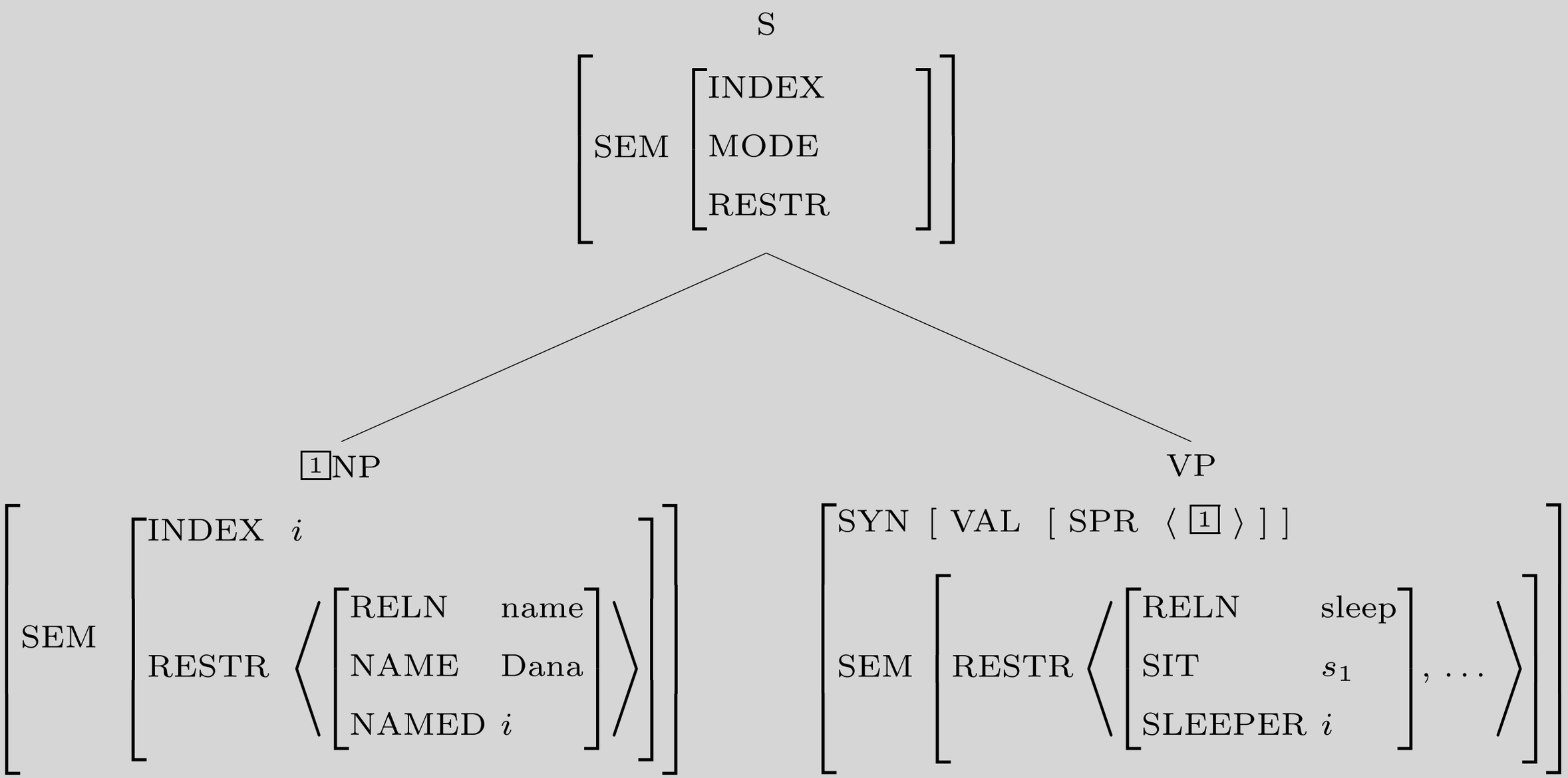
How the Pieces Fit Together

$$\left\langle \text{slept}, \left[\begin{array}{ll} \textit{word} & \\ \text{SYN} & \left[\begin{array}{ll} \text{HEAD} & \textit{verb} \\ \text{VAL} & \left[\begin{array}{ll} \text{SPR} & \langle\ \text{NP}\textcircled{\textit{j}}\ \rangle \\ \text{COMPS} & \langle\ \rangle \end{array}\right] \end{array}\right] \\ \text{SEM} & \left[\begin{array}{ll} \text{INDEX} & s_1 \\ \text{MODE} & \text{prop} \\ \text{RESTR} & \left\langle \left[\begin{array}{ll} \text{RELN} & \text{sleep} \\ \text{SIT} & s_1 \\ \text{SLEEPER} & \textcircled{\textit{j}} \end{array}\right], \ldots \right\rangle \end{array}\right] \end{array}\right] \right\rangle$$

The Pieces Together



A More Detailed View of the Same Tree



To Fill in Semantics for the S-node

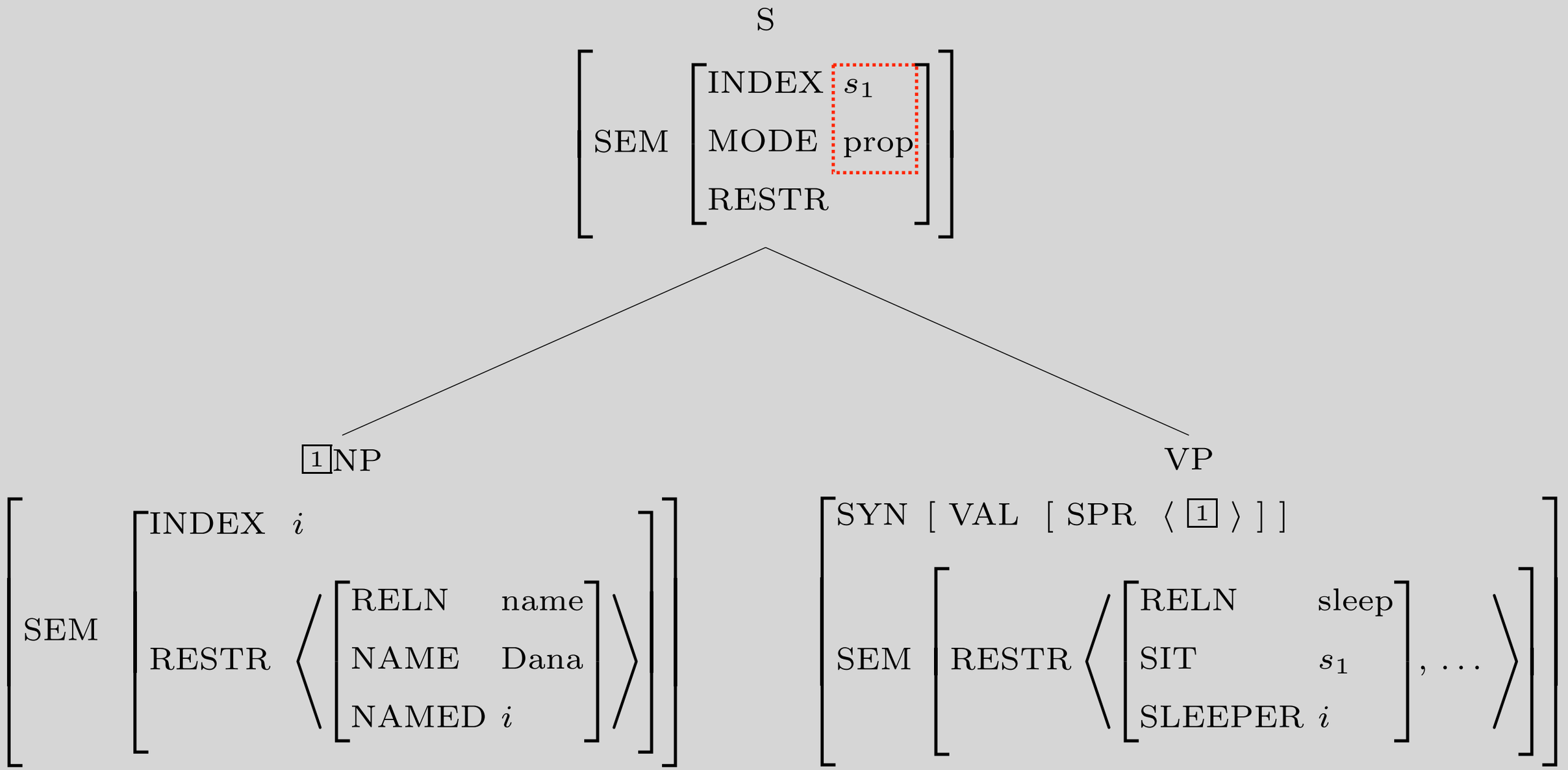
We need the Semantics Principles

- The Semantic Inheritance Principle:

In any headed phrase, the mother's MODE and INDEX are identical to those of the head daughter.

- The Semantic Compositionality Principle:

Semantic Inheritance Illustrated



To Fill in Semantics for the S-node

We need the Semantics Principles

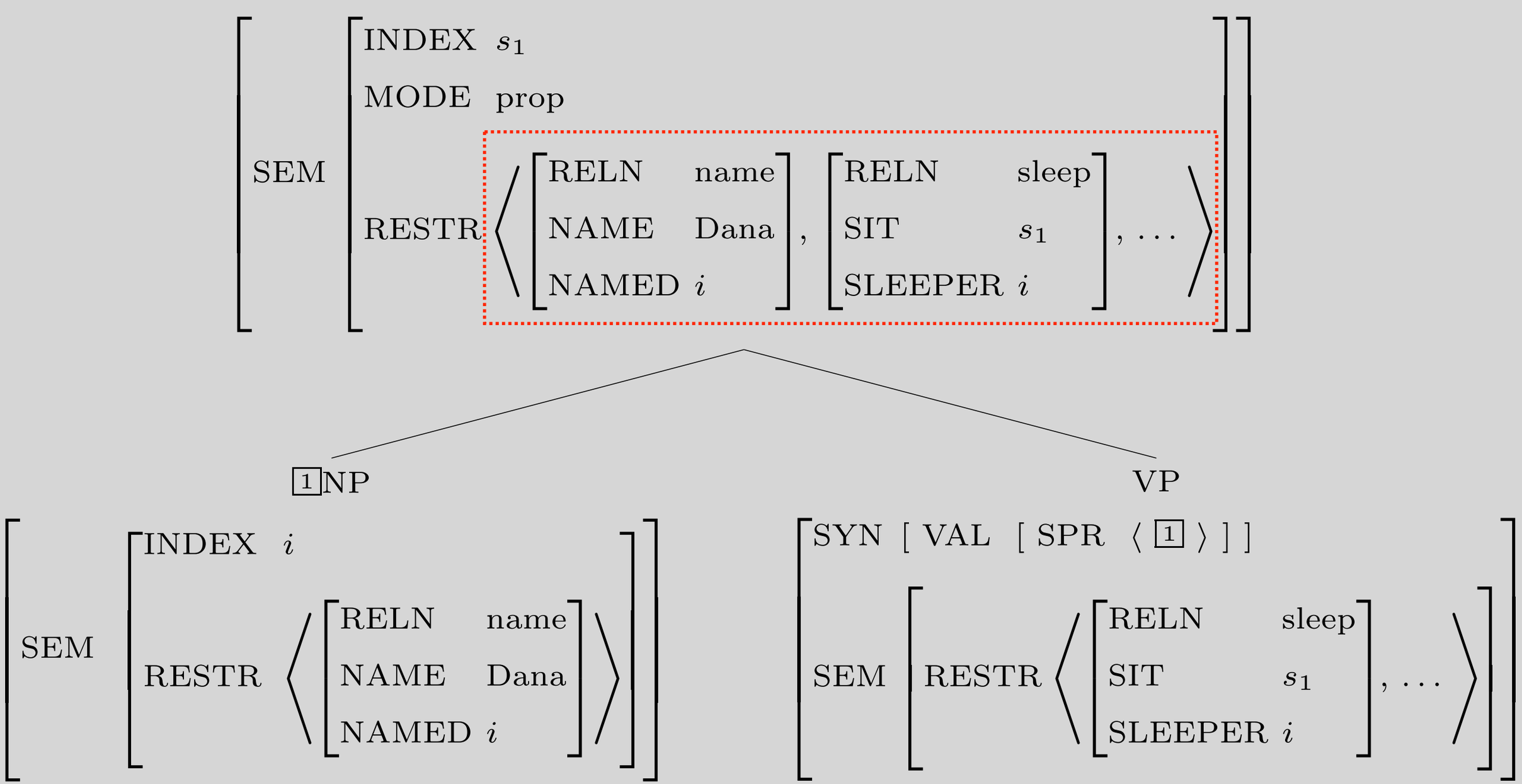
- The Semantic Inheritance Principle:

  In any headed phrase, the mother's MODE and INDEX are identical to those of the head daughter.

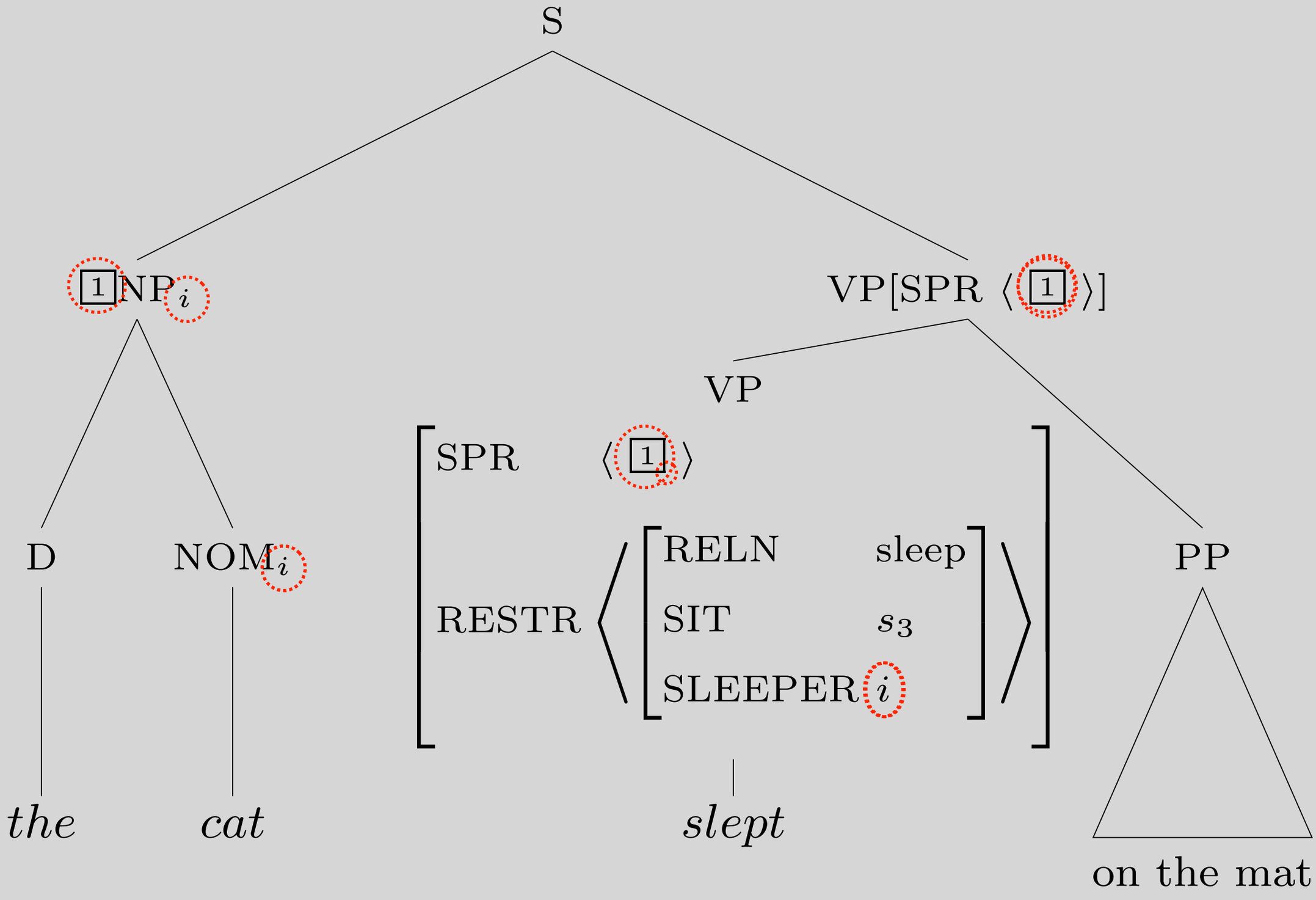
- The Semantic Compositionality Principle:

  In any well-formed phrase structure, the mother's RESTR value is the sum of the RESTR values of the daughters.

Semantic Compositionality Illustrated



What Identifies Indices?



Summary: Words ...

- contribute predications
- 'expose' one index in those predications, for use by words or phrases
- relate syntactic arguments to semantic arguments

$$\left\langle \text{slept}, \left[\begin{array}{ll} \textit{word} & \\ \text{SYN} & \left[\begin{array}{ll} \text{HEAD} & \textit{verb} \\ \text{VAL} & \left[\begin{array}{ll} \text{SPR} & \langle\ \text{NP}_{\textcircled{j}}\ \rangle \\ \text{COMPS} & \langle\ \rangle \end{array} \right] \end{array} \right] \\ \text{SEM} & \left[\begin{array}{ll} \text{INDEX} & \textcircled{s_1} \\ \text{MODE} & \text{prop} \\ \text{RESTR} & \left\langle \left[\begin{array}{ll} \text{RELN} & \text{sleep} \\ \text{SIT} & \textcircled{s_1} \\ \text{SLEEPER} & \textcircled{j} \end{array} \right], \ldots \right\rangle \end{array} \right] \end{array} \right] \right\rangle$$

Summary: Grammar Rules ...

- identify feature structures (including the INDEX value) across daughters

Head Specifier Rule

$$\begin{bmatrix} \textit{phrase} \\ \text{SYN}\begin{bmatrix}\text{VAL}\begin{bmatrix}\text{SPR} & \langle\ \rangle\end{bmatrix}\end{bmatrix}\end{bmatrix} \rightarrow \boxed{1}\ \ \mathbf{H}\begin{bmatrix}\text{SYN}\begin{bmatrix}\text{VAL}\begin{bmatrix}\text{SPR} & \langle \boxed{1} \rangle \\ \text{COMPS} & \langle\ \rangle\end{bmatrix}\end{bmatrix}\end{bmatrix}$$

Head Complement Rule

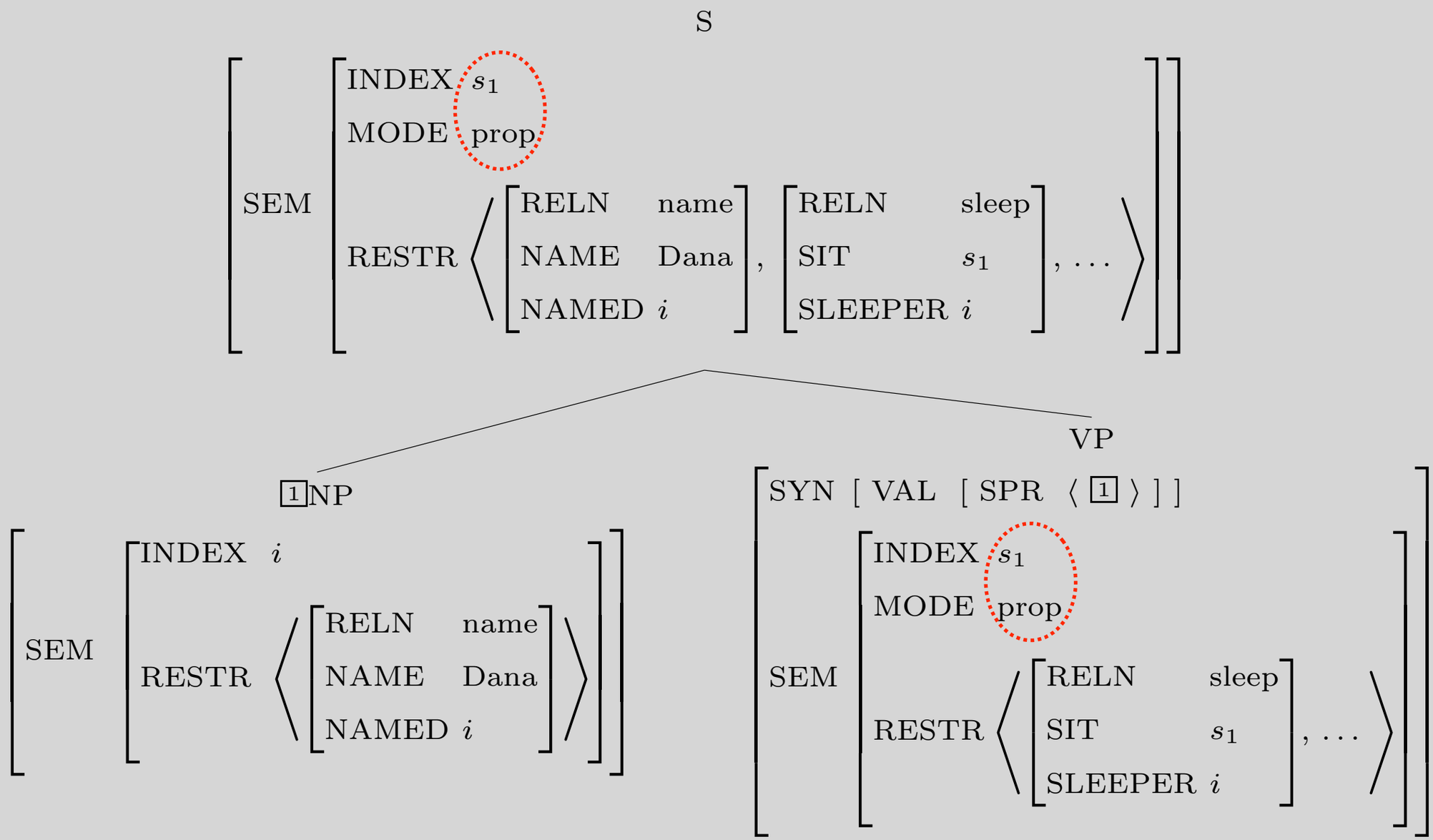
$$\begin{bmatrix} \textit{phrase} \\ \text{SYN}\begin{bmatrix}\text{VAL}\begin{bmatrix}\text{COMPS} & \langle\ \rangle\end{bmatrix}\end{bmatrix}\end{bmatrix} \rightarrow \mathbf{H}\begin{bmatrix} \textit{word} \\ \text{SYN}\begin{bmatrix}\text{VAL}\begin{bmatrix}\text{COMPS} & \langle \boxed{1}, \ldots, \boxed{n} \rangle\end{bmatrix}\end{bmatrix}\end{bmatrix}\ \boxed{1}\ \ldots\ \boxed{n}$$

Head Modifier Rule

$$[\textit{phrase}] \rightarrow \mathbf{H}\ \boxed{1}\begin{bmatrix}\text{SYN}\begin{bmatrix}\text{COMPS}\ \langle\ \rangle\end{bmatrix}\end{bmatrix}\ \begin{bmatrix}\text{SYN}\begin{bmatrix}\text{VAL}\begin{bmatrix}\text{COMPS} & \langle\ \rangle \\ \text{MOD} & \langle \boxed{1} \rangle\end{bmatrix}\end{bmatrix}\end{bmatrix}$$

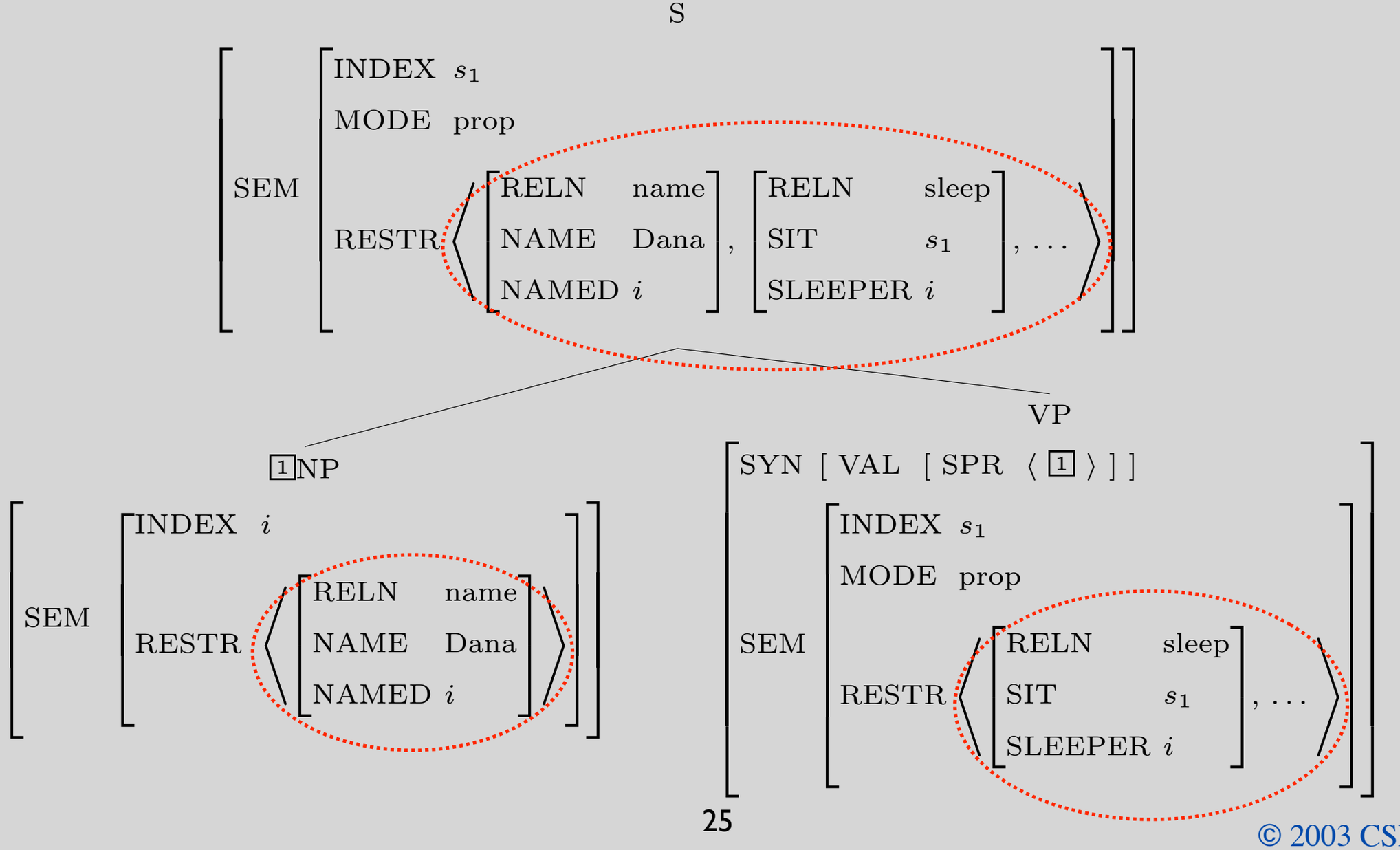
Summary: Grammar Rules ...

- identify feature structures (including the INDEX value) across daughters
- license trees which are subject to the semantic principles
  - SIP 'passes up' MODE and INDEX from head daughter



Summary: Grammar Rules ...

- identify feature structures (including the INDEX value) across daughters
- license trees which are subject to the semantic principles
  - SIP 'passes up' MODE and INDEX from head daughter
  - SCP: 'gathers up' predications (RESTR list) from all daughters



Other Aspects of Semantics

- Tense, Quantification (only touched on here)
- Modification
- Coordination
- Structural Ambiguity

Evolution of a Phrase Structure Rule

Ch. 2: NOM --> NOM PP

VP --> VP PP

Ch. 3: $$\begin{bmatrix} phrase \\ \text{VAL} \quad \begin{bmatrix} \text{COMPS} & \text{itr} \\ \text{SPR} & - \end{bmatrix} \end{bmatrix} \rightarrow \mathbf{H} \begin{bmatrix} phrase \\ \text{VAL} \quad \begin{bmatrix} \text{SPR} & - \end{bmatrix} \end{bmatrix} \text{PP}$$

Ch. 4: $$[phrase] \rightarrow \mathbf{H} \left[\text{VAL} \quad \left[\text{COMPS} \quad \langle\ \rangle \right] \right] \text{PP}$$

Ch. 5: $$[phrase] \rightarrow \mathbf{H}\boxed{1} \left[\text{SYN} \left[\text{VAL} \left[\text{COMPS} \langle\ \rangle \right] \right] \right] \left[\text{SYN} \left[\text{VAL} \begin{bmatrix} \text{COMPS} & \langle\ \rangle \\ \text{MOD} & \langle\ \boxed{1}\ \rangle \end{bmatrix} \right] \right]$$

Ch. 5 (abbreviated): $$[phrase] \rightarrow \mathbf{H}\boxed{1} \left[\text{COMPS} \langle\ \rangle \right] \begin{bmatrix} \text{COMPS} & \langle\ \rangle \\ \text{MOD} & \langle\ \boxed{1}\ \rangle \end{bmatrix}$$

Evolution of Another Phrase Structure Rule

Ch. 2: X --> X^{+} CONJ X

Ch. 3: $\boxed{1} \rightarrow \boxed{1}^{+} \begin{bmatrix} word \\ \text{HEAD} \quad conj \end{bmatrix} \boxed{1}$

Ch. 4: $\begin{bmatrix} \text{VAL } \boxed{1} \end{bmatrix} \rightarrow \begin{bmatrix} \text{VAL } \boxed{1} \end{bmatrix}^{+} \begin{bmatrix} word \\ \text{HEAD} \quad conj \end{bmatrix} \begin{bmatrix} \text{VAL } \boxed{1} \end{bmatrix}$

Ch. 5: $\begin{bmatrix} \text{SYN} & [\text{VAL } \boxed{0}] \\ \text{SEM} & [\text{IND} \quad s_0] \end{bmatrix} \rightarrow$

$$\begin{bmatrix} \text{SYN} & [\text{VAL } \boxed{0}] \\ \text{SEM} & [\text{IND} \quad s_1] \end{bmatrix} \ldots \begin{bmatrix} \text{SYN} & [\text{VAL } \boxed{0}] \\ \text{SEM} & [\text{IND} \quad s_{n-1}] \end{bmatrix} \begin{bmatrix} \text{SYN} & \begin{bmatrix} \text{HEAD} & conj \end{bmatrix} \\ \text{SEM} & \begin{bmatrix} \text{IND} & s_0 \\ \text{RESTR} & \langle \begin{bmatrix} \text{ARGS } \langle s_1 \ldots s_n \rangle \end{bmatrix} \rangle \end{bmatrix} \end{bmatrix} \begin{bmatrix} \text{SYN} & [\text{VAL } \boxed{0}] \\ \text{SEM} & [\text{IND} \quad s_n] \end{bmatrix}$$

Ch. 5 (abbreviated):

$$\begin{bmatrix} \text{VAL} & \boxed{0} \\ \text{IND} & s_0 \end{bmatrix} \rightarrow \begin{bmatrix} \text{VAL} & \boxed{0} \\ \text{IND} & s_1 \end{bmatrix} \ldots \begin{bmatrix} \text{VAL} & \boxed{0} \\ \text{IND} & s_{n-1} \end{bmatrix} \begin{bmatrix} \text{HEAD} & conj \\ \text{IND} & s_0 \\ \text{RESTR} & \langle \begin{bmatrix} \text{ARGS } \langle s_1 \ldots s_n \rangle \end{bmatrix} \rangle \end{bmatrix} \begin{bmatrix} \text{VAL} & \boxed{0} \\ \text{IND} & s_n \end{bmatrix}$$

Combining Constraints and Coordination

Coordination Rule

$$\begin{bmatrix}\text{VAL} & \boxed{0} \\ \text{IND} & s_0\end{bmatrix} \rightarrow \begin{bmatrix}\text{VAL} & \boxed{0} \\ \text{IND} & s_1\end{bmatrix} \ldots \begin{bmatrix}\text{VAL} & \boxed{0} \\ \text{IND} & s_{n-1}\end{bmatrix} \begin{bmatrix}\text{HEAD} & \textit{conj} \\ \text{IND} & s_0 \\ \text{RESTR} & \left\langle \begin{bmatrix}\text{ARGS} & \langle s_1 \ldots s_n \rangle\end{bmatrix} \right\rangle\end{bmatrix} \begin{bmatrix}\text{VAL} & \boxed{0} \\ \text{IND} & s_n\end{bmatrix}$$

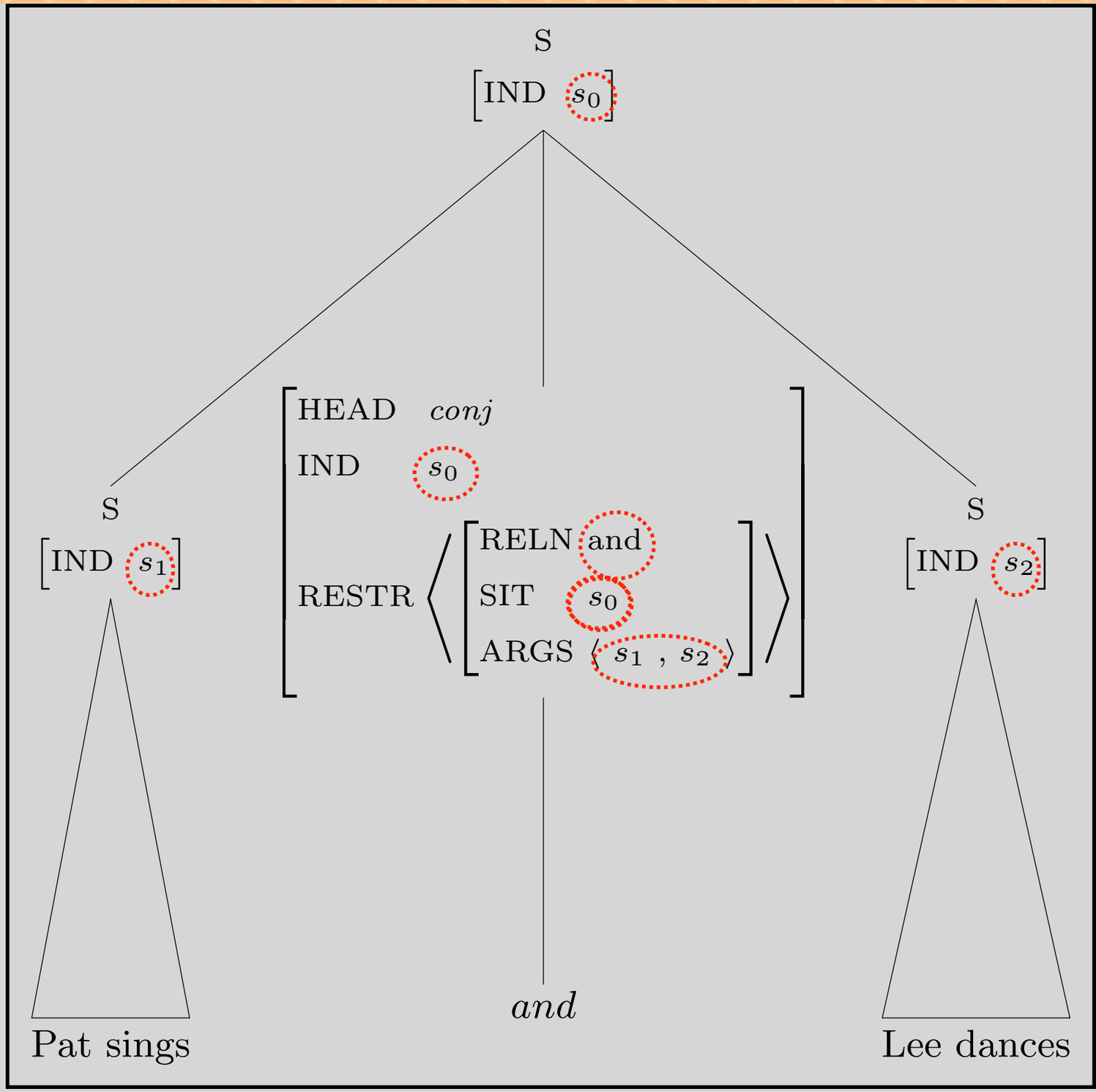
Lexical Entry for a Conjunction

$$\left\langle \text{and} , \begin{bmatrix}\text{SYN} & \begin{bmatrix}\text{HEAD} & \textit{conj}\end{bmatrix} \\ \text{SEM} & \begin{bmatrix}\text{INDEX} & s \\ \text{MODE} & \text{none} \\ \text{RESTR} & \left\langle \begin{bmatrix}\text{RELN} & \text{and} \\ \text{SIT} & s\end{bmatrix} \right\rangle\end{bmatrix}\end{bmatrix} \right\rangle$$

Combining Constraints and Coordination

Lexical Entry for *and*

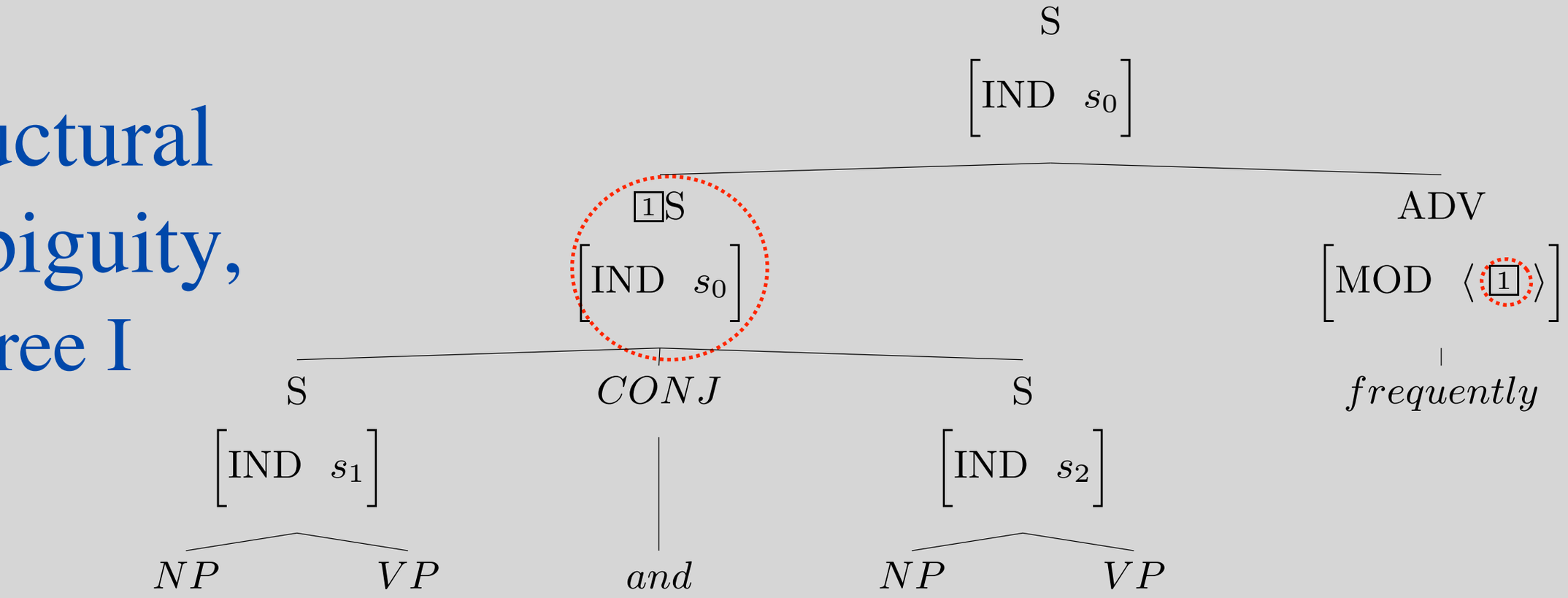
$$\left\langle \text{and} , \begin{bmatrix} \text{SYN} & \begin{bmatrix} \text{HEAD} & \textit{conj} \end{bmatrix} \\ \text{SEM} & \begin{bmatrix} \text{INDEX} & s \\ \text{MODE} & \text{none} \\ \text{RESTR} & \left\langle \begin{bmatrix} \text{RELN} & \text{and} \\ \text{SIT} & s \end{bmatrix} \right\rangle \end{bmatrix} \end{bmatrix} \right\rangle$$



Coordination Rule

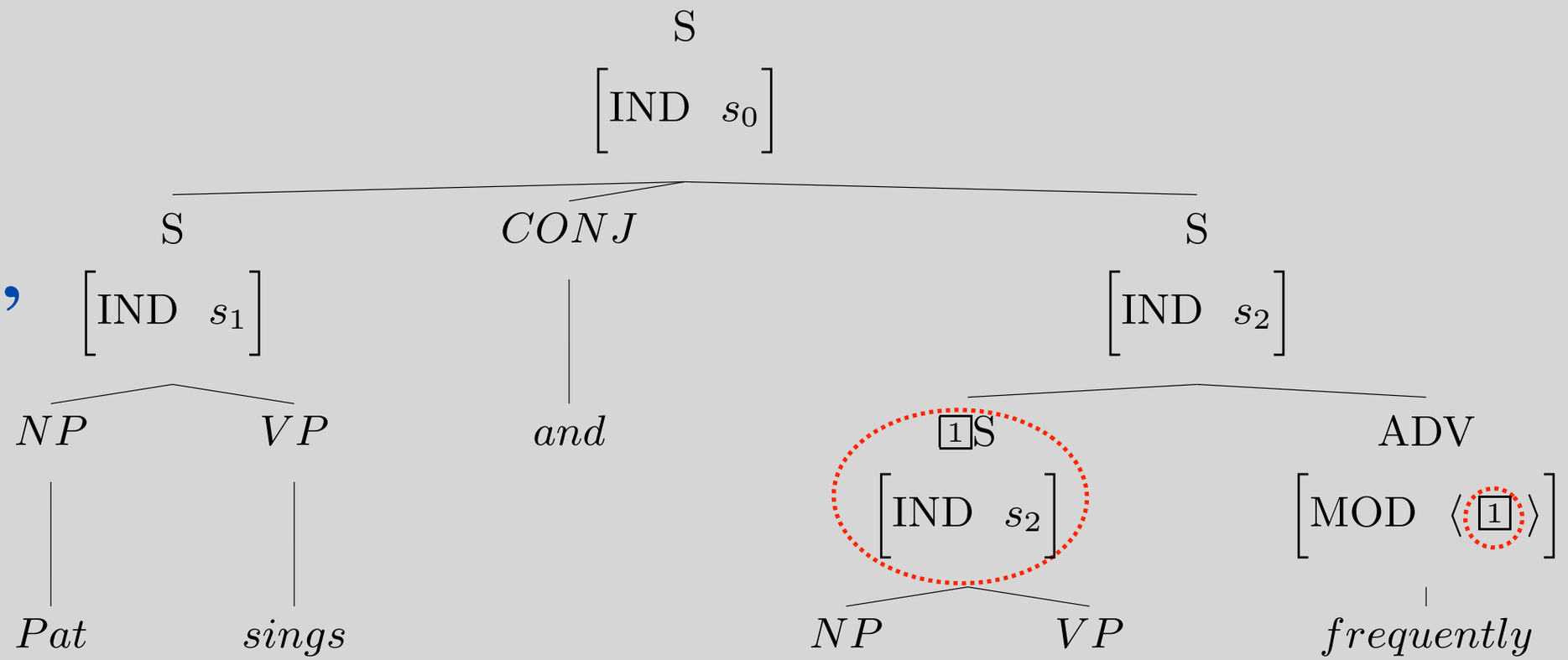
$$\begin{bmatrix} \text{VAL} & \boxed{0} \\ \text{IND} & s_0 \end{bmatrix} \rightarrow \begin{bmatrix} \text{VAL} & \boxed{0} \\ \text{IND} & s_1 \end{bmatrix} \ldots \begin{bmatrix} \text{VAL} & \boxed{0} \\ \text{IND} & s_{n-1} \end{bmatrix} \begin{bmatrix} \text{HEAD} & \textit{conj} \\ \text{IND} & s_0 \\ \text{RESTR} & \left\langle \begin{bmatrix} \text{ARGS} & \langle s_1 \ldots s_n \rangle \end{bmatrix} \right\rangle \end{bmatrix} \begin{bmatrix} \text{VAL} & \boxed{0} \\ \text{IND} & s_n \end{bmatrix}$$

Structural Ambiguity, Tree I



$$\begin{bmatrix} \text{IND} & s_0 \\ \text{MODE} & \text{prop} \\ \text{RESTR} & \left\langle \begin{bmatrix} \text{RELN} & \text{name} \\ \text{NAME} & \text{Pat} \\ \text{NAMED} & \text{k} \end{bmatrix}, \begin{bmatrix} \text{RELN} & \text{sing} \\ \text{SIT} & s_1 \\ \text{SINGER} & \text{k} \end{bmatrix}, \begin{bmatrix} \text{RELN} & \text{and} \\ \text{SIT} & s_0 \\ \text{ARGS} & \langle\, s_1 \,,\, s_2 \,\rangle \end{bmatrix}, \right. \\ & \left. \begin{bmatrix} \text{RELN} & \text{name} \\ \text{NAME} & \text{Lee} \\ \text{NAMED} & \text{j} \end{bmatrix}, \begin{bmatrix} \text{RELN} & \text{dance} \\ \text{SIT} & s_2 \\ \text{DANCER} & \text{j} \end{bmatrix}, \begin{bmatrix} \text{RELN} & \text{frequently} \\ \text{ARG} & s_0 \end{bmatrix} \right\rangle \end{bmatrix}$$

Structural Ambiguity, Tree II



$$\begin{bmatrix}
\text{IND} & s_0 \\
\text{MODE} & \text{prop} \\
\text{RESTR} & \left\langle \begin{bmatrix} \text{RELN} & \text{name} \\ \text{NAME} & \text{Pat} \\ \text{NAMED} & \text{k} \end{bmatrix}, \begin{bmatrix} \text{RELN} & \text{sing} \\ \text{SIT} & s_1 \\ \text{SINGER} & \text{k} \end{bmatrix}, \begin{bmatrix} \text{RELN} & \text{and} \\ \text{SIT} & s_0 \\ \text{ARGS} & \langle\, s_1 \,,\, s_2 \,\rangle \end{bmatrix}, \right. \\
 & \left. \begin{bmatrix} \text{RELN} & \text{name} \\ \text{NAME} & \text{Lee} \\ \text{NAMED} & \text{j} \end{bmatrix}, \begin{bmatrix} \text{RELN} & \text{dance} \\ \text{SIT} & s_2 \\ \text{DANCER} & \text{j} \end{bmatrix}, \begin{bmatrix} \text{RELN} & \text{frequently} \\ \text{ARG} & s_2 \end{bmatrix} \right\rangle
\end{bmatrix}$$

Question About Structural Ambiguity

Why isn't this a possible semantic representation for the string *Pat sings and Lee dances frequently*?

$$\begin{bmatrix}
\text{IND} & s_0 \\
\text{MODE} & \text{prop} \\
\text{RESTR} & \left\langle \begin{bmatrix} \text{RELN} & \text{name} \\ \text{NAME} & \text{Pat} \\ \text{NAMED} & \text{k} \end{bmatrix}, \begin{bmatrix} \text{RELN} & \text{sing} \\ \text{SIT} & s_1 \\ \text{SINGER} & \text{k} \end{bmatrix}, \begin{bmatrix} \text{RELN} & \text{and} \\ \text{SIT} & s_0 \\ \text{ARGS} & \langle\, s_1 \,,\, s_2 \,\rangle \end{bmatrix}, \right. \\
& \left. \begin{bmatrix} \text{RELN} & \text{name} \\ \text{NAME} & \text{Lee} \\ \text{NAMED} & \text{j} \end{bmatrix}, \begin{bmatrix} \text{RELN} & \text{dance} \\ \text{SIT} & s_2 \\ \text{DANCER} & \text{j} \end{bmatrix}, \begin{bmatrix} \text{RELN} & \text{frequently} \\ \text{ARG} & s_1 \end{bmatrix} \right\rangle
\end{bmatrix}$$

Semantic Compositionality

$$\begin{bmatrix}
\text{IND} & s_0 \\
\text{MODE} & \text{prop} \\
\text{RESTR} & \left\langle \begin{bmatrix} \text{RELN} & \text{name} \\ \text{NAME} & \text{Pat} \\ \text{NAMED} & \text{k} \end{bmatrix}, \begin{bmatrix} \text{RELN} & \text{sing} \\ \text{SIT} & s_1 \\ \text{SINGER} & \text{k} \end{bmatrix}, \begin{bmatrix} \text{RELN} & \text{and} \\ \text{SIT} & s_0 \\ \text{ARGS} & \langle\, s_1 \,,\, s_2 \,\rangle \end{bmatrix}, \right. \\
 & \left. \begin{bmatrix} \text{RELN} & \text{name} \\ \text{NAME} & \text{Lee} \\ \text{NAMED} & \text{j} \end{bmatrix}, \begin{bmatrix} \text{RELN} & \text{dance} \\ \text{SIT} & s_2 \\ \text{DANCER} & \text{j} \end{bmatrix}, \begin{bmatrix} \text{RELN} & \text{frequently} \\ \text{ARG} & s_0 \end{bmatrix} \right\rangle
\end{bmatrix}$$

$$\begin{bmatrix}
\text{IND} & s_0 \\
\text{MODE} & \text{prop} \\
\text{RESTR} & \left\langle \begin{bmatrix} \text{RELN} & \text{name} \\ \text{NAME} & \text{Pat} \\ \text{NAMED} & \text{k} \end{bmatrix}, \begin{bmatrix} \text{RELN} & \text{sing} \\ \text{SIT} & s_1 \\ \text{SINGER} & \text{k} \end{bmatrix}, \begin{bmatrix} \text{RELN} & \text{and} \\ \text{SIT} & s_0 \\ \text{ARGS} & \langle\, s_1 \,,\, s_2 \,\rangle \end{bmatrix}, \right. \\
 & \left. \begin{bmatrix} \text{RELN} & \text{name} \\ \text{NAME} & \text{Lee} \\ \text{NAMED} & \text{j} \end{bmatrix}, \begin{bmatrix} \text{RELN} & \text{dance} \\ \text{SIT} & s_2 \\ \text{DANCER} & \text{j} \end{bmatrix}, \begin{bmatrix} \text{RELN} & \text{frequently} \\ \text{ARG} & s_2 \end{bmatrix} \right\rangle
\end{bmatrix}$$

Overview

- Some notes on the linguist's stance
- Which aspects of semantics we'll tackle
- Our formalization; Semantics Principles
- Building semantics of phrases
- Modification, coordination
- Structural ambiguity
- Next time: How the grammar works

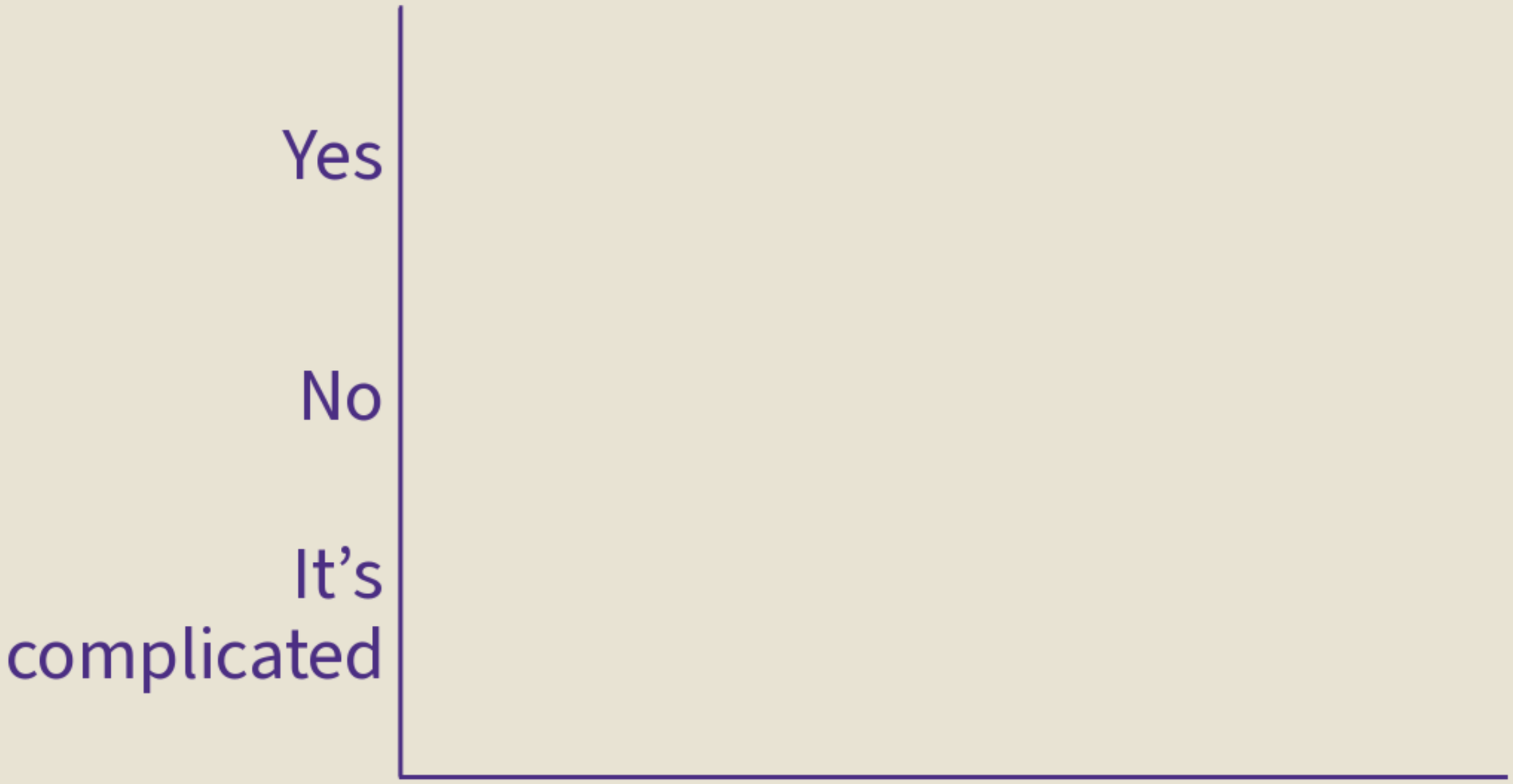
But first!

- More polls :)

When poll is active, respond at **pollev.com/emb**

Text **EMB** to **22333** once to join

Have you joined a study group?



What has your study group helped with?

Reading Questions

- RESTR/MODE/INDEX seem to be about truth conditions, not grammaticality. Why are they in the grammar?
- It's interesting to see how compositionality plays a role. Given this, does it mean that HPSG considers compositionality as a methodological principle, instead of an empirical assumption? I think by incorporating compositionality directly into the grammar, it is already regarded as a principle guiding the development of the grammar (instead of a claim), but I'd like to ask to make sure.

Reading Questions

- On page 138, we have some examples of predication. Would that lose certain generalization when we put LOVER and LOVED for love, WALKER for walk, etc. since they are word-dependent? Why not using something like subject and object as feature names?

Reading Questions

- Is there a more automated way of creating RELN values? Or (with the theory we've explored in the book so far) do these need to be hand-crafted?
- Why is the RELN for Kim etc name (& the role NAMED)?

Reading Questions

- Apparently s stands for situations and i for individuals - but in the semantics of Kim is running, why is the INDEX value s and not i? The question has been asked about individual Kim here, right?
- Is it reasonable to assume that situation is correlated to the VP of a sentence - for example, s is a situation where i loves j, s is a situation where i is happy - the situation is about the action, and the individuals are the subjects (so can individual correlate to NP)?

Reading Questions

- What is the difference between indices and situations?
- Is the SIT value in the RESTR list not really required until there are multiple clauses being coordinated? My line of reasoning being that there's always a situation being communicated

Reading Questions

- Why are RESTR values lists? When would the order ever matter?

Reading Questions

- How can we decide if the MODE is a "ref" or a "none"; it does sound that "ref" can pick out all kinds of entities and "none" is when the statement can't be expressed as any other mode, but how would you choose one over the other?
- Are there any other MODE values?

Reading Questions

- Are Kim is running and Is Kim running underlyingly the same sentence, realized differently on the surface (like allophones)?

Reading Questions

- Quantity Principle
  - If X is weaker than Y, then asserting X implies the denial of Y.
    - A to B: *I am taking two classes*.
    - B assumes that A also meant to communicate: "It is not the case that I am taking three classes."
- Why is 'two' weaker than 'three'?