



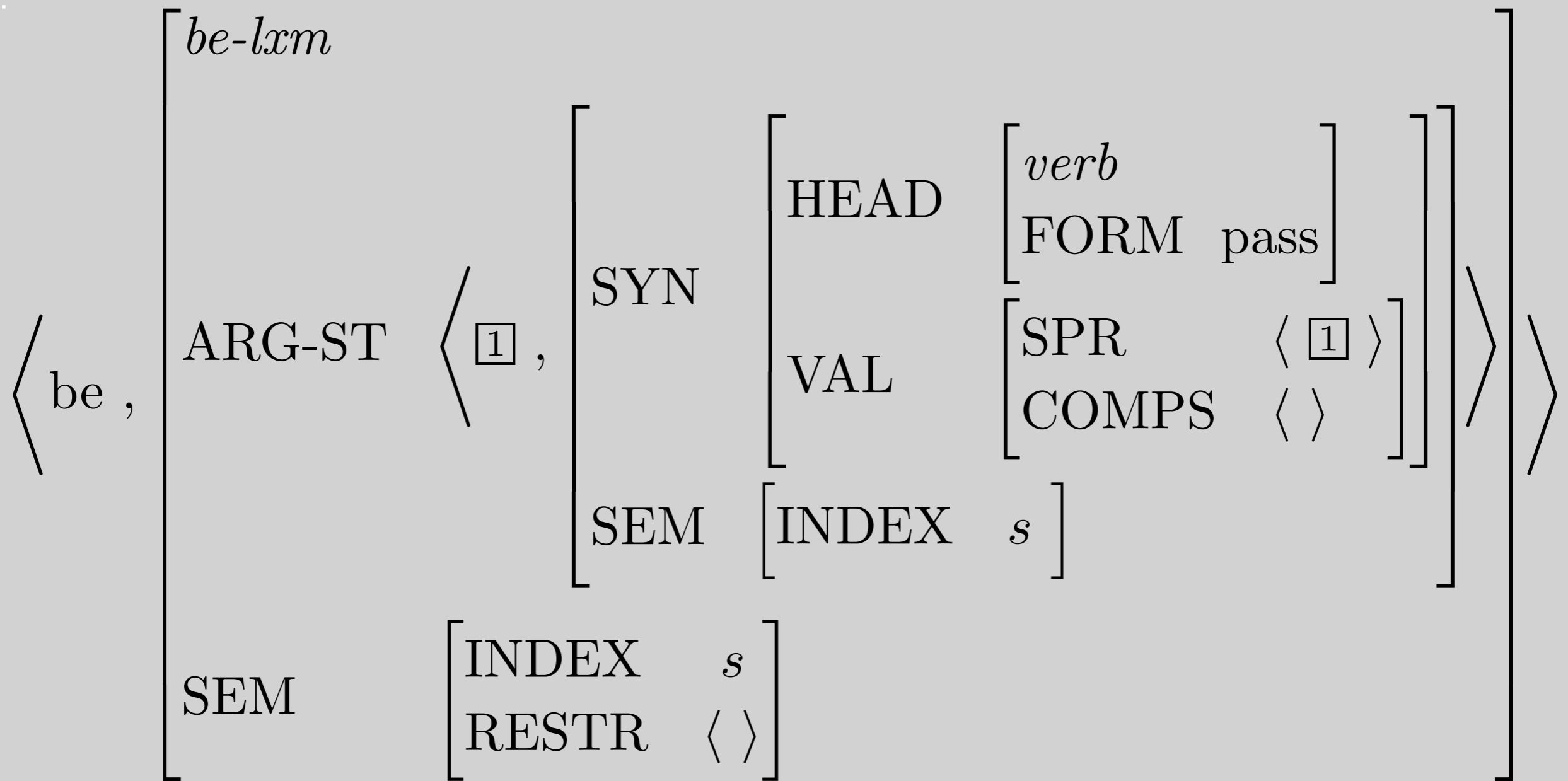
Chapter 11

Non-Referential NPs,  
Existentials, and  
Extraposition

# Where We Are, and Where We're Going

- Last time, we met the passive *be*.
- We also saw that passive *be* is just a special case -- that *be* generally introduces [PRED +] constituents.
- Today, we'll start with another *be*, which occurs in existential sentences starting with *there*, e.g. *There is a monster in Loch Ness*.
- Then we'll look at this use of *there*.
- Which will lead us to a more general examination of NPs that don't refer, including some uses of *it* and certain idiomatic uses of NPs.

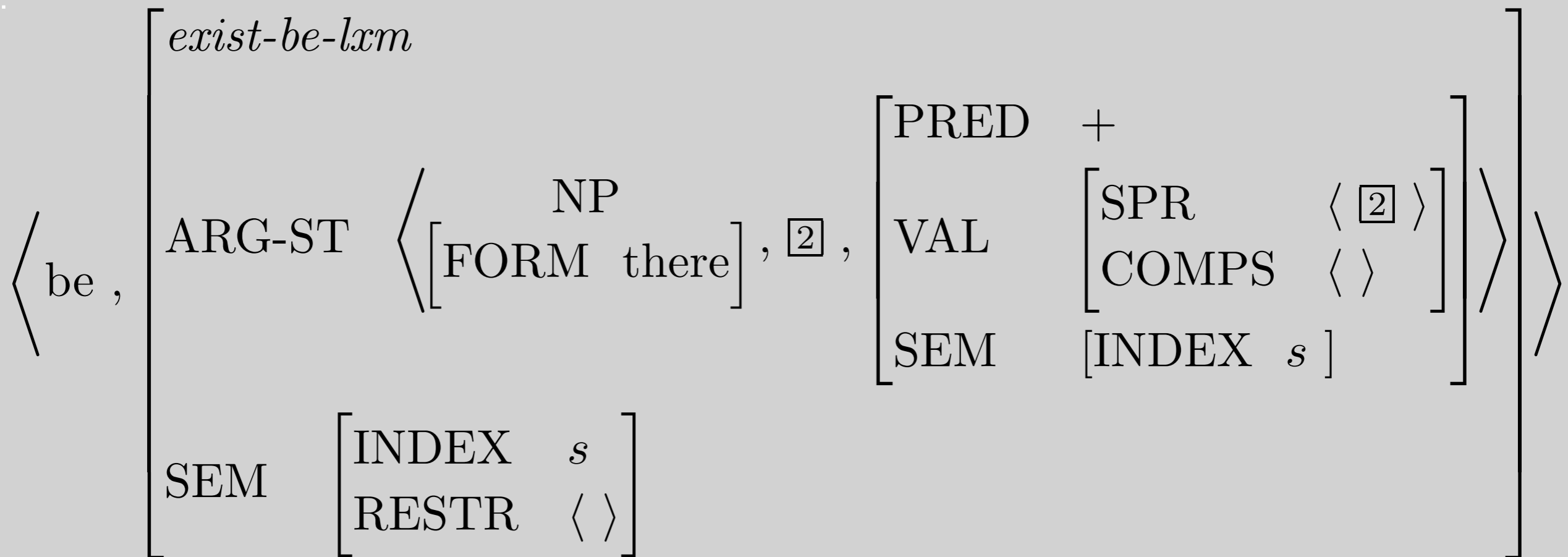
# The Entry for *be* from Last Time



# Existentials

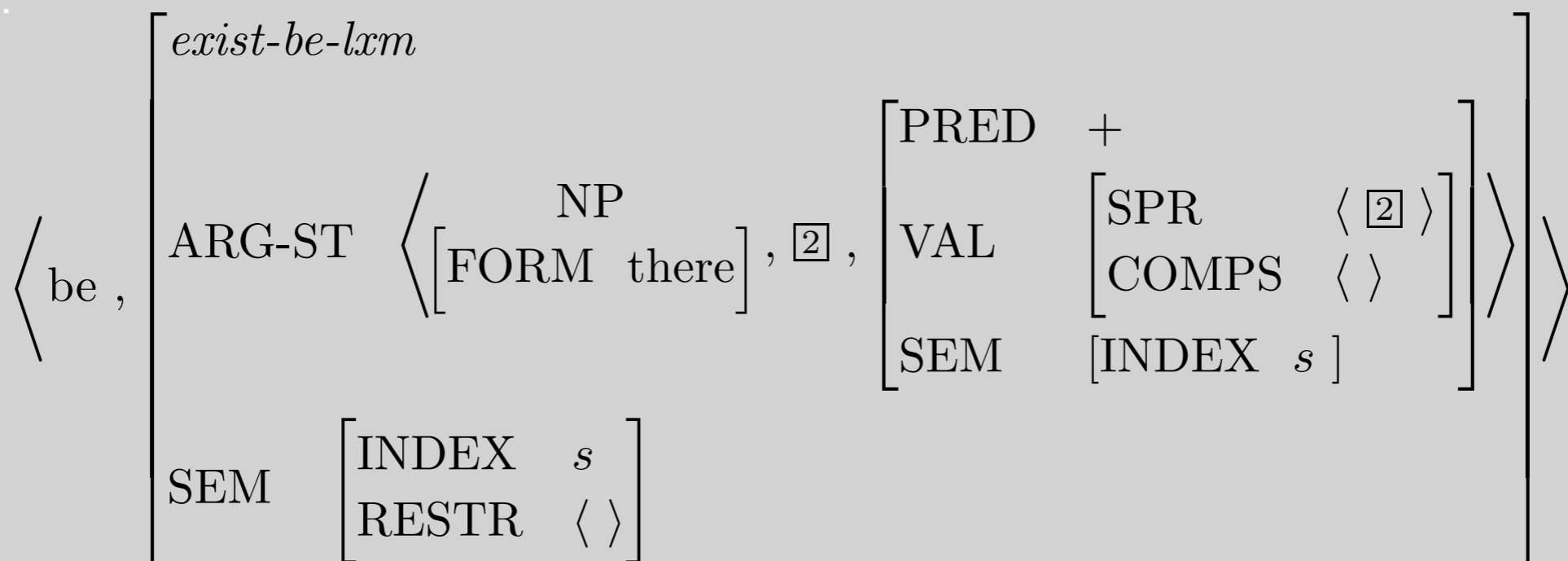
- The *be* in *There is a page missing* cannot be the same *be* that occurs in sentences like *Pat is tall* or *A cat was chased by a dog*. Why not?
- So we need a separate lexical entry for this *be*, stipulating:
  - Its SPR must be *there*
  - It takes two complements, the first an NP and the second an AP, PP, or (certain kind of) VP.
  - The semantics should capture the relation between, e.g. *There is a page missing* and *A page is missing*.

# Lexical Entry for the Existential *be*



# Questions About the Existential *be*

- What type of constituent is the third argument?
- Why is the third argument [PRED +]?
- Why is the second argument tagged as identical to the SPR of the third argument?
- What is the contribution of this *be* to the semantics of the sentences it occurs in?
- Can all [PRED +] predicates appear as the third argument in existentials?
- How do we rule out *\*There was a greyhound a good runner*?



# The Entry for Existential *there*

$\langle$ there ,	$\left[ \begin{array}{l} \text{pron-}lxm \\ \\ \text{SYN} \end{array} \right]$	$\left[ \begin{array}{l} \text{HEAD} \\ \\ \text{AGR} \end{array} \right]$	$\left[ \begin{array}{l} \text{FORM} \quad \text{there} \\ \\ \left[ \text{PER} \quad 3rd \right] \end{array} \right]$	$\rangle$
	$\left[ \begin{array}{l} \text{SEM} \\ \\ \text{MODE} \quad \text{none} \\ \text{INDEX} \quad \text{none} \\ \text{RESTR} \quad \langle \rangle \end{array} \right]$			

# Questions About Existential *there*

- Why do we call it a pronoun?
- Why don't we give it a value for NUM?
- What does this entry claim is *there*'s contribution to the semantics of the sentences it appears in?

Is this a correct claim?

$\langle$	there ,	<i>pron-lxm</i>	$\rangle$
		$\left[ \begin{array}{l} \text{HEAD} \left[ \begin{array}{l} \text{FORM} \quad \text{there} \\ \text{AGR} \quad \left[ \text{PER} \quad 3\text{rd} \right] \end{array} \right] \\ \text{MODE} \quad \text{none} \\ \text{INDEX} \quad \text{none} \\ \text{RESTR} \quad \langle \rangle \end{array} \right]$	



# Other NPs that don't seem to refer

- *It sucks that the Giants lost the series.*
- *It is raining.*
- *Andy took **advantage** of the opportunity.*
- *Lou kicked **the bucket**.*

# What we need to deal with examples like *It follows that you are wrong*

- A lexical entry for this dummy *it*
- An analysis of this use of *that*
- Entries for verbs that take clausal subjects  
(as in *That you are wrong follows*)
- A rule to account for the relationship  
between pairs like *That you are wrong  
follows* and *It follows that you are wrong*

# The Entry for Dummy *it*

$\langle$ <i>it,</i> $\rangle$	$\left[ \begin{array}{l} \textit{pron-lxm} \\ \\ \text{SYN} \end{array} \right.$	$\left[ \begin{array}{l} \text{HEAD} \\ \\ \text{MODE} \\ \text{INDEX} \\ \text{RESTR} \end{array} \right.$	$\left[ \begin{array}{l} \left[ \begin{array}{l} \text{FORM} \quad \textit{it} \\ \text{AGR} \quad \textit{3sing} \end{array} \right] \\ \\ \text{none} \\ \text{none} \\ \langle \rangle \end{array} \right.$	$\rangle$
	$\left[ \begin{array}{l} \\ \\ \text{SEM} \end{array} \right.$			

# Questions About Dummy *it*

- How does it differ from the entry for dummy *there*? Why do they differ in this way?
- Is this the only entry for *it*?

$\langle$ it, $\rangle$	$\left[ \begin{array}{l} \text{SYN} \\ \text{SEM} \end{array} \right.$	$\left[ \begin{array}{l} \text{HEAD} \\ \text{MODE} \\ \text{INDEX} \\ \text{RESTR} \end{array} \right.$	$\left[ \begin{array}{l} \text{FORM} \\ \text{AGR} \\ \text{none} \\ \text{none} \\ \langle \rangle \end{array} \right.$	$\left[ \begin{array}{l} \text{it} \\ 3sing \end{array} \right]$	$\rangle$
	<i>pron-lxm</i>				

# A New Type of Lexeme: Complementizers

*comp-lxm* :

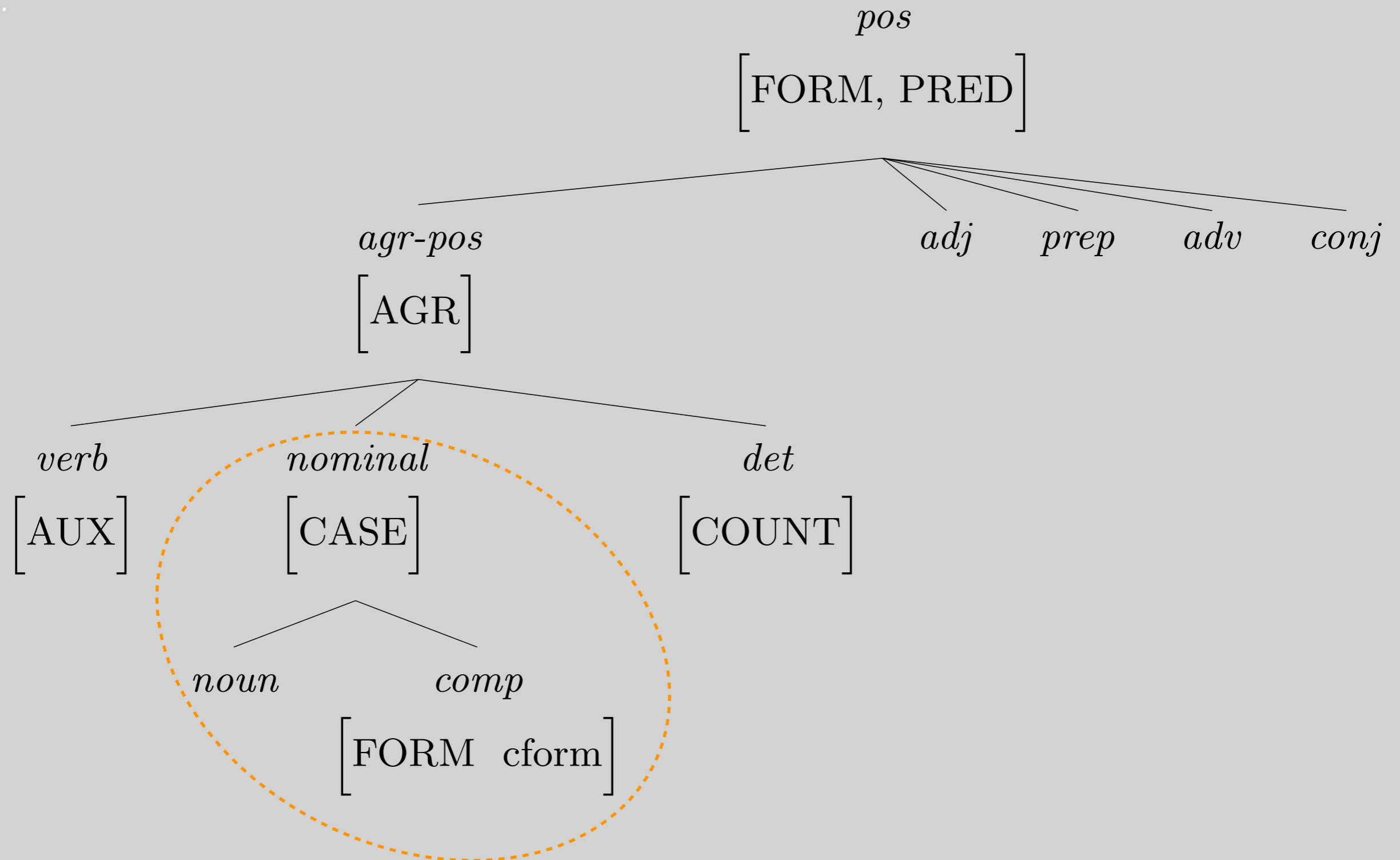
SYN	<table border="0"> <tr> <td style="vertical-align: middle;">HEAD</td> <td style="vertical-align: middle;"> <table border="0"> <tr> <td style="vertical-align: middle;"><i>comp</i></td> <td></td> </tr> <tr> <td style="vertical-align: middle;">AGR</td> <td style="vertical-align: middle;"><i>3sing</i></td> </tr> </table> </td> </tr> <tr> <td style="vertical-align: middle;">VAL</td> <td style="vertical-align: middle;"> <table border="0"> <tr> <td style="vertical-align: middle;">SPR</td> <td style="vertical-align: middle;">⟨ ⟩</td> </tr> </table> </td> </tr> </table>	HEAD	<table border="0"> <tr> <td style="vertical-align: middle;"><i>comp</i></td> <td></td> </tr> <tr> <td style="vertical-align: middle;">AGR</td> <td style="vertical-align: middle;"><i>3sing</i></td> </tr> </table>	<i>comp</i>		AGR	<i>3sing</i>	VAL	<table border="0"> <tr> <td style="vertical-align: middle;">SPR</td> <td style="vertical-align: middle;">⟨ ⟩</td> </tr> </table>	SPR	⟨ ⟩
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INDEX	<i>s</i>										
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# Questions About the Type *comp-lxm*

- Why does it stipulate values for both SPR and ARG-ST?
- Why is its INDEX value the same as its argument's?
- What is its semantic contribution?

$$\text{comp-lxm} : \left[ \begin{array}{l} \text{SYN} \\ \text{ARG-ST} \\ \text{SEM} \end{array} \left[ \begin{array}{l} \text{HEAD} \left[ \begin{array}{l} \text{comp} \\ \text{AGR} \quad 3sing \end{array} \right] \\ \text{VAL} \left[ \begin{array}{l} \text{SPR} \quad \langle \rangle \end{array} \right] \\ \left\langle \begin{array}{l} \text{S} \\ \left[ \begin{array}{l} \text{INDEX} \quad s \end{array} \right] \end{array} \right\rangle \\ \left[ \begin{array}{l} \text{INDEX} \quad s \\ \text{RESTR} \quad \langle \rangle \end{array} \right] \end{array} \right] \right]$$

# The Type *comp*

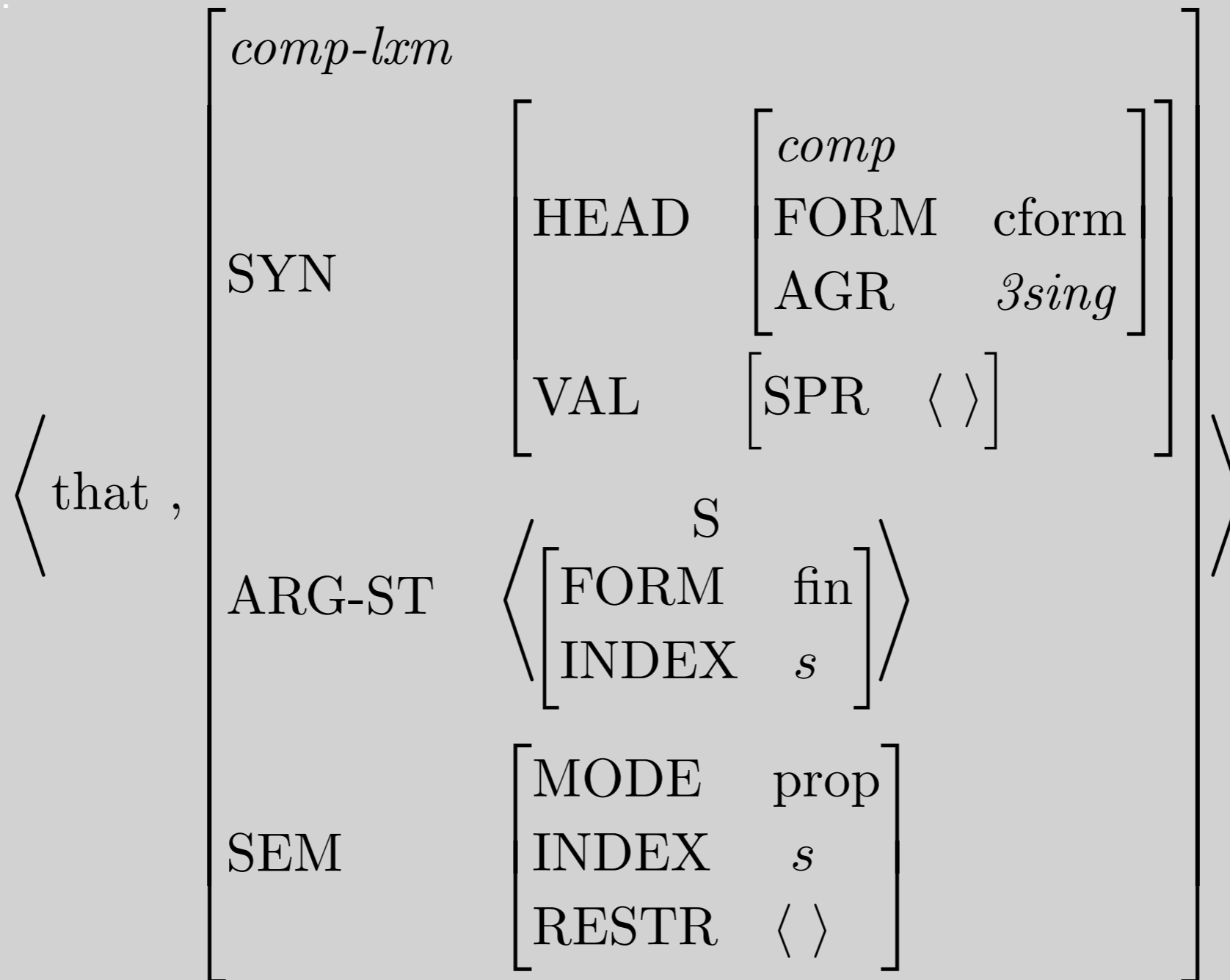


# The Lexical Entry for Complementizer *that*

$$\left\langle \text{that} , \begin{bmatrix} \textit{comp-lxm} \\ \text{ARG-ST} \langle [\text{FORM fin}] \rangle \\ \text{SEM} \begin{bmatrix} \text{MODE prop} \end{bmatrix} \end{bmatrix} \right\rangle$$

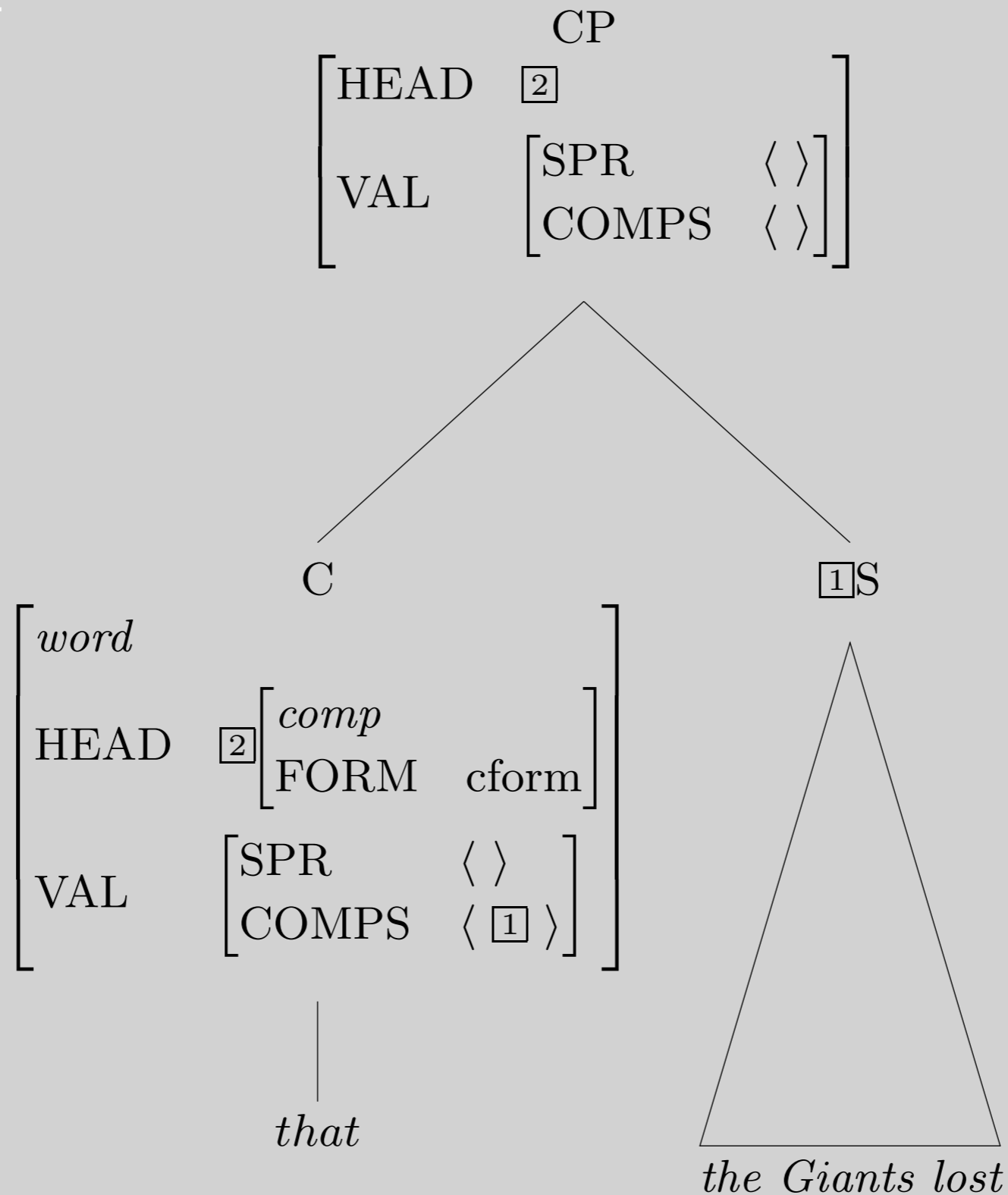


...and with inherited information filled in

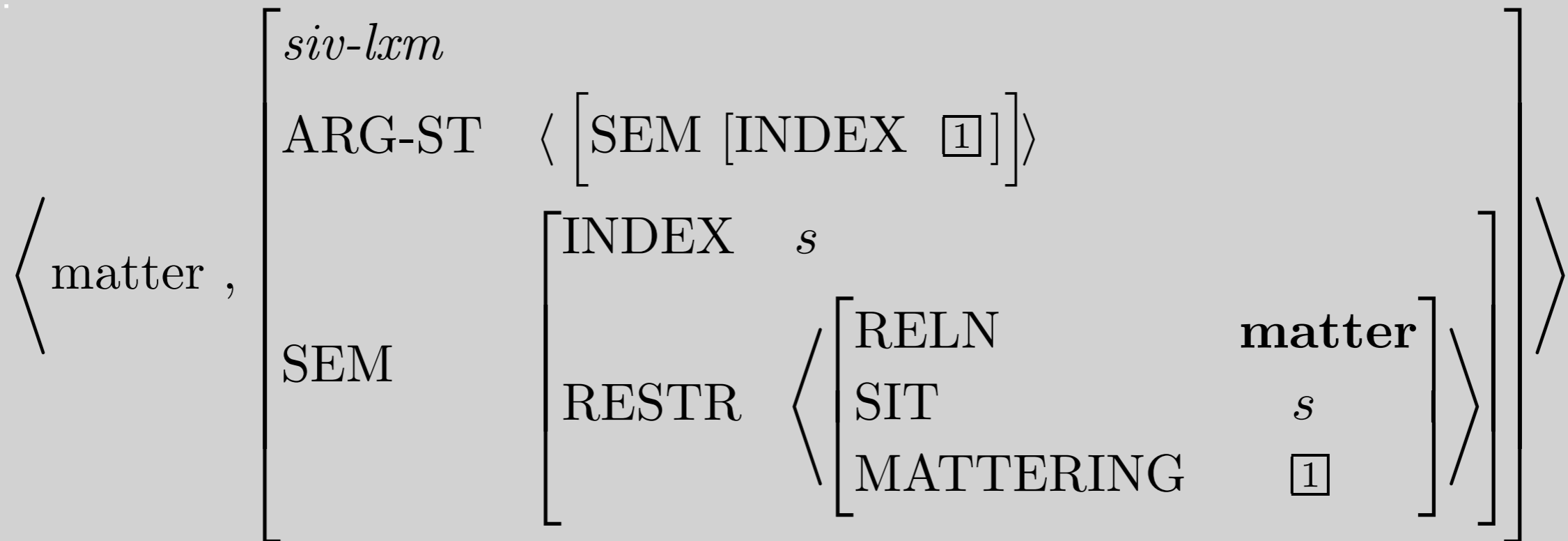


Question: Where did [FORM cform] come from?

# Structure of a Complementizer Phrase



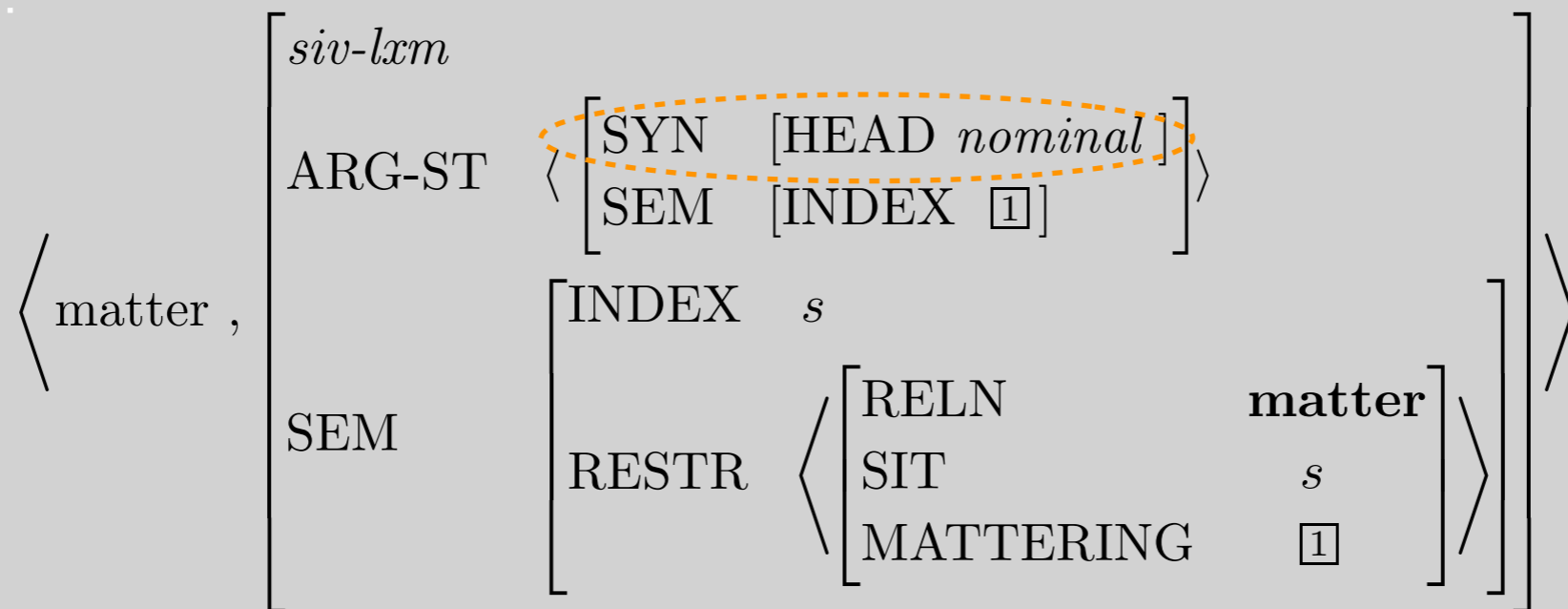
# Sample Verb with a CP Subject



Note: the only constraint on the first argument is semantic

# A Problem

- We constrained the subject of *matter* only semantically. However...
  - CP and S are semantically identical, but we get:  
*That Bush won matters* vs. \**Bush won matters*
  - Argument-marking PPs are semantically identical to their object NPs, but we get:  
*The election mattered* vs. \**Of the election mattered*
- So we need to add a syntactic constraint.



- S and PP subjects are generally impossible, so this constraint should probably be on *verb-lxm*.

# The Extraposition Lexical Rule

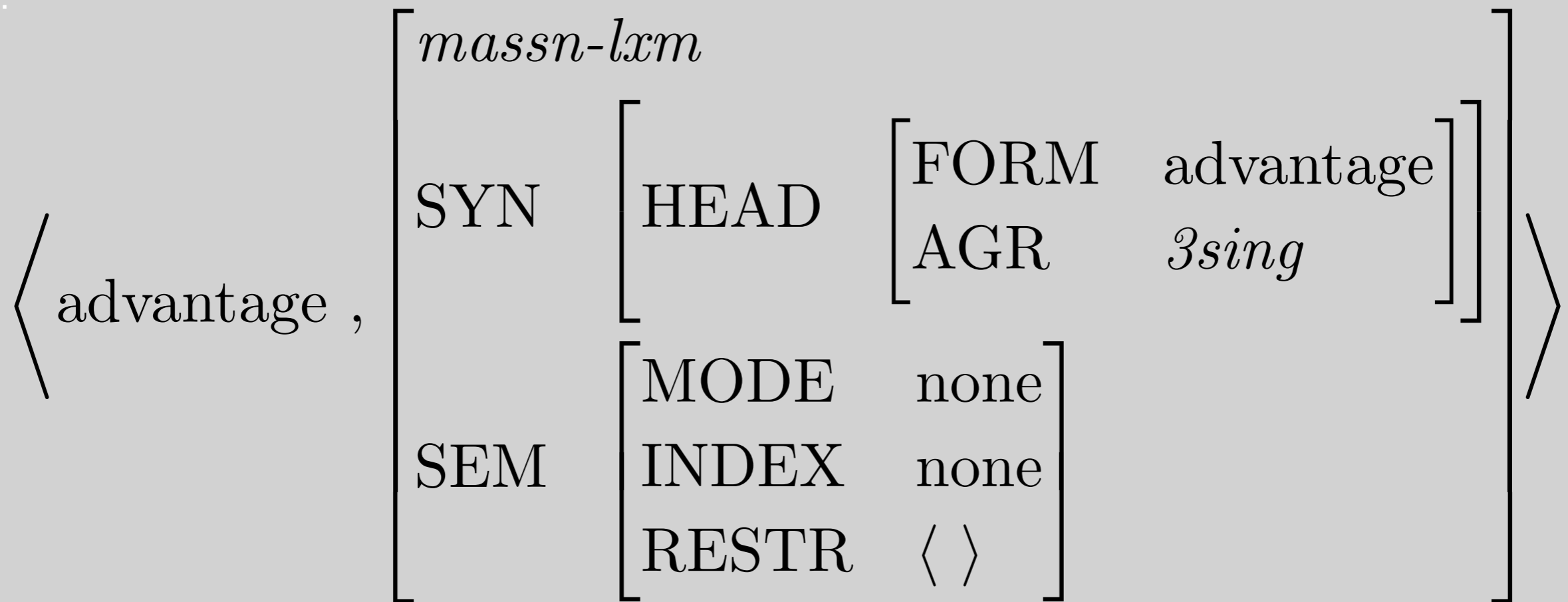
<i>pi-rule</i>	
INPUT	$\left\langle X, \left[ \text{SYN} \left[ \text{VAL} \left[ \text{SPR} \quad \langle \boxed{2} \text{CP} \rangle \right] \right] \right] \right\rangle$ $\left[ \text{COMPS} \quad \boxed{A} \right]$
OUTPUT	$\left\langle Y, \left[ \text{SYN} \left[ \text{VAL} \left[ \text{SPR} \quad \langle \text{NP}[\text{FORM } \textit{it}] \rangle \right] \right] \right] \right\rangle$ $\left[ \text{COMPS} \quad \boxed{A} \oplus \langle \boxed{2} \rangle \right]$

- Why is the type *pi-rule*?
- Why doesn't it say anything about the semantics?
- Why is the COMPS value  $\boxed{A}$ , not  $\langle \ \ \rangle$ ?

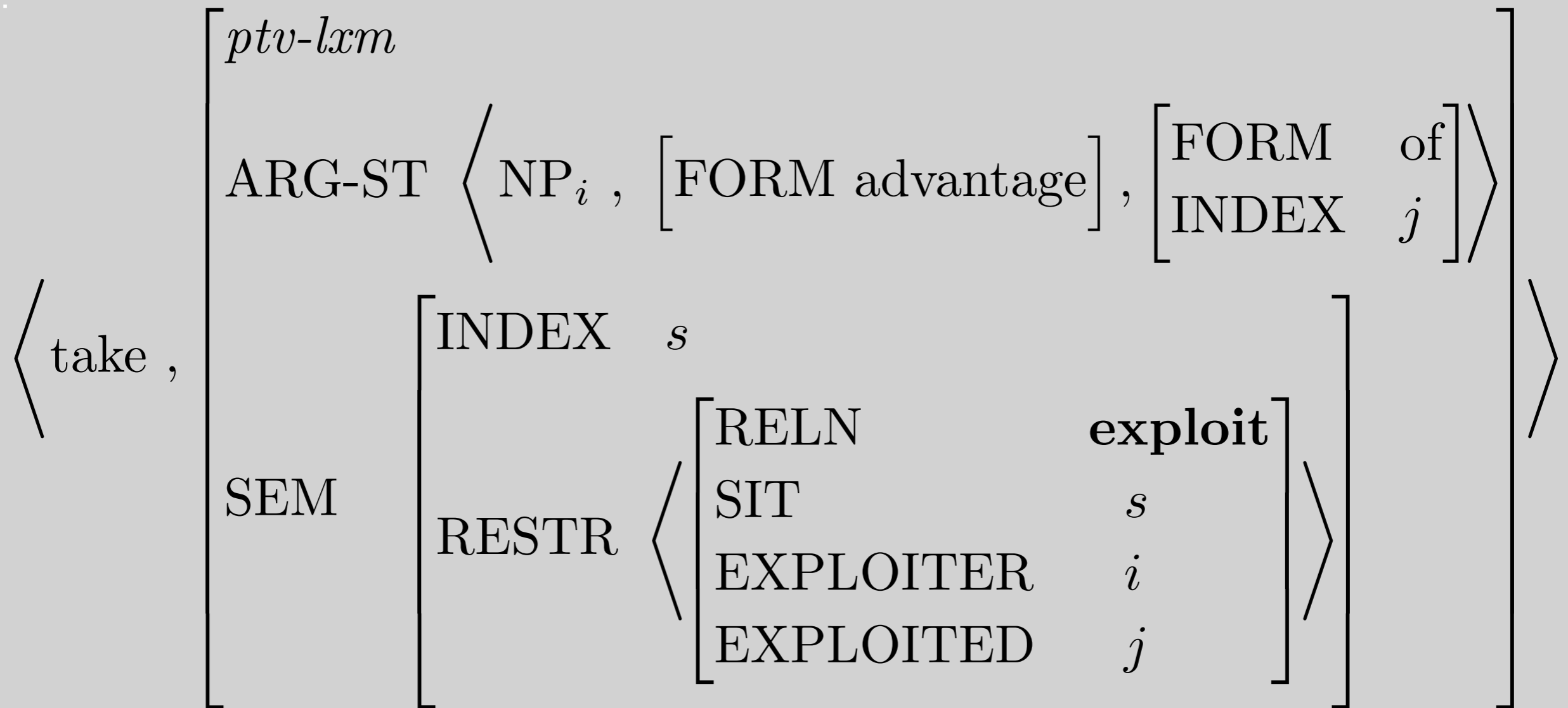
# Extraposition with Verbs whose COMPS Lists are Nonempty

- *It worries me that war is immanent.*
- *It occurred to Pat that Chris knew the answer.*
- *It endeared you to Andy that you wore a funny hat.*

# Another Nonreferential Noun



# The Verb that Selects *advantage*





# Our analyses of idioms and passives interact...

- We generate  
*Advantage was taken of the situation by many people.*  
*Tabs are kept on foreign students.*
- But not:  
*Many people were taken advantage of.*
- That would require another lexical entry, in which *take advantage of* is a transitive verb (with spaces in its written form).