

# **HG4041 Theories of Grammar**

## **Non-referential NPs, Expletives, and Extraposition**

Francis Bond

**Division of Linguistics and Multilingual Studies**

`http://www3.ntu.edu.sg/home/fcbond/  
bond@ieee.org`

Lecture 9

Location: HSS SR3

HG4041 (2013)

# Schedule

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Lec.	Topic		Reading	Problems
1	Introduction (HPSG)		SWB 1–2	1:1
2	Feature Structures		SWB 3	3:1, 3
3	Complex Feature Values		SWB 4	4:1, 5, 6
4	Semantics		SWB 5–6	5:1; 6:1, 3, 4, 5
5	Binding		SWB 7	7:1, 2
6	The Structure of the Lexicon	<b>Mid-term</b>	SWB 8	8:1, 2, 6
7	Realistic Grammar		SWB 9	9:1
8	Passive		SWB 10	10: 1, 3
9	Dummies and Idioms		SWB 11	11:1, 3, 4
10	Raising and Control		SWB 12	12:1, 2, 4, 6
11	Long Distance Dependencies	<b>Final</b>	SWB 14	14: 1, 2, 3
12	Wrap-up	<b>Project Presentations</b>	SWB 16	
	<b>Research Paper</b>			
	due two weeks after presentations			

# Overview

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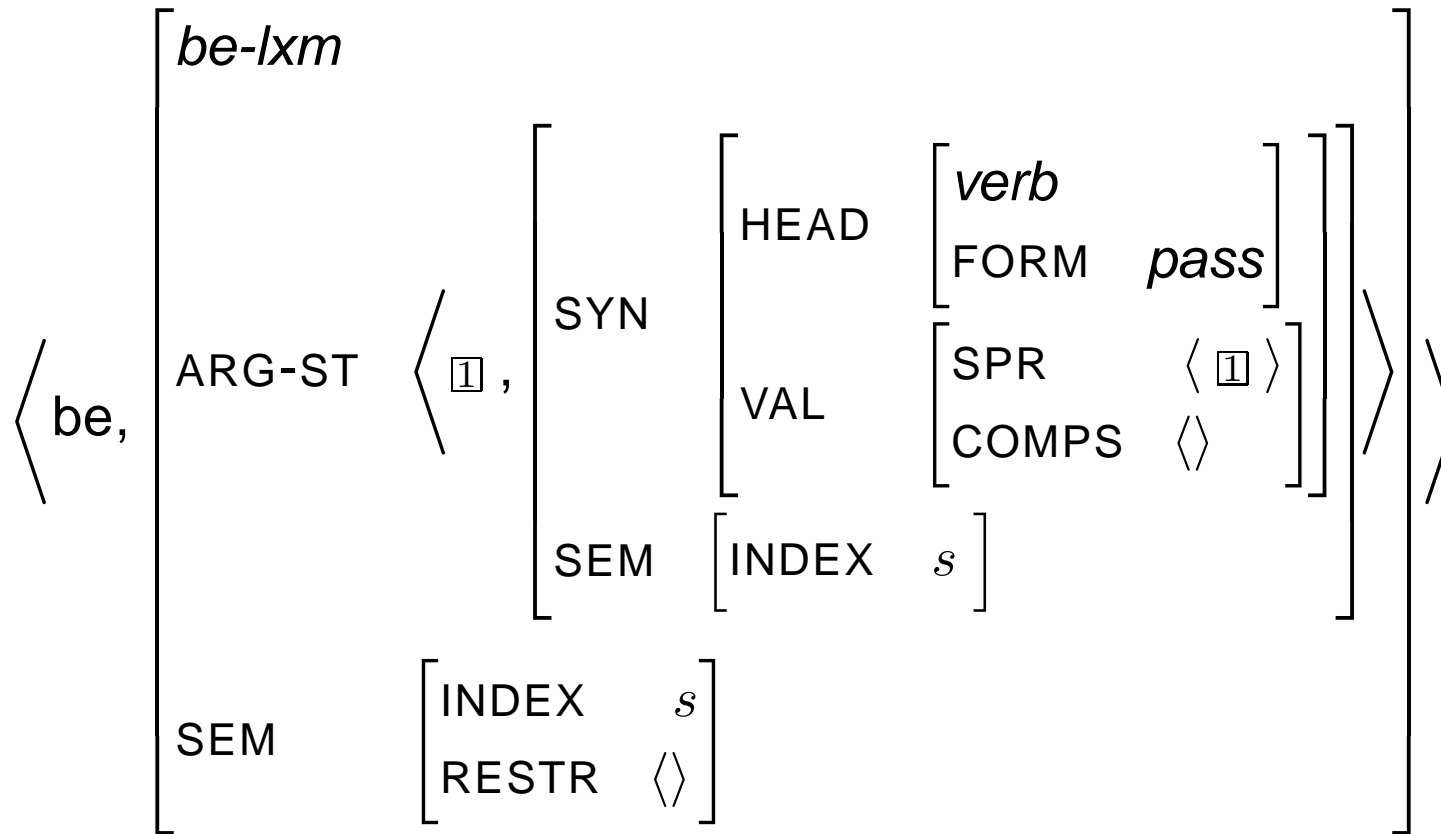
- Existentials (*There is an X, ...*)
- Extraposition (*It worries me that X, ...*)
- Idioms (*X takes advantage of Y, ...*)

## Where We Are, and Where We're Going

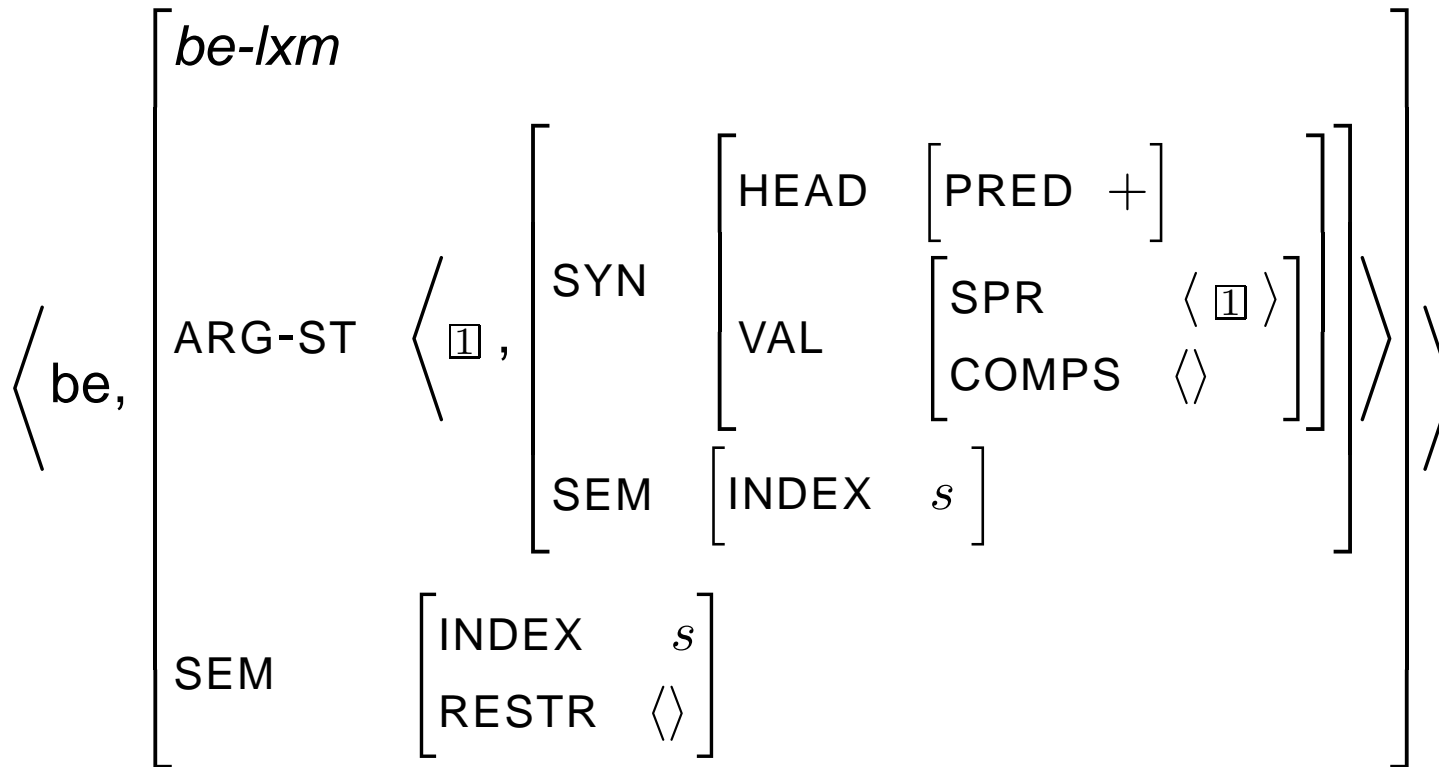
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- Last time, we met the passive *be*.
- Passive *be* is just a special case – that *be* generally introduces [PRED +] constituents
- Today, we'll start with another *be*, which occurs in existential sentences starting with *there*, e.g. *There is a 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.

# Chapter 10 entry for be



# Copula (generalized)

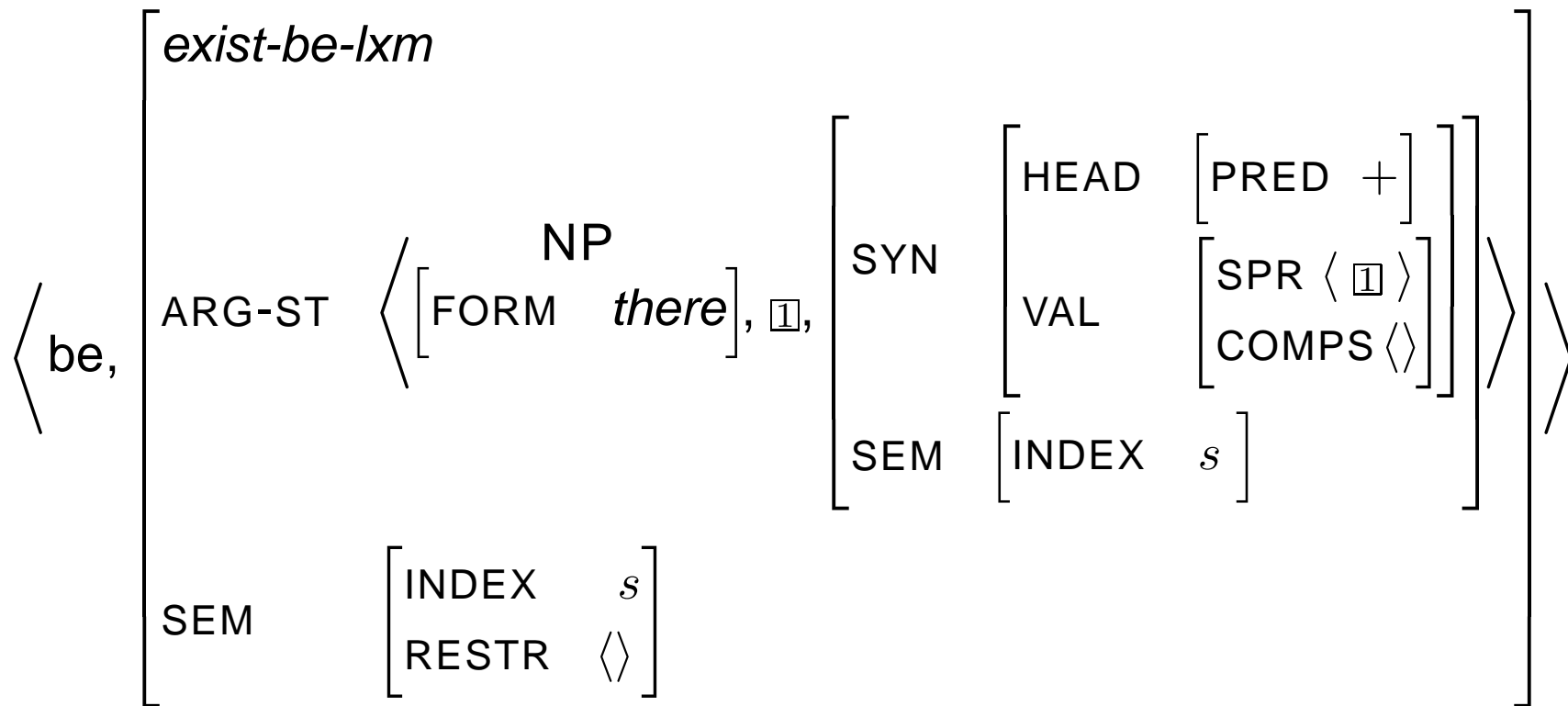


# Existentials

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- 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*

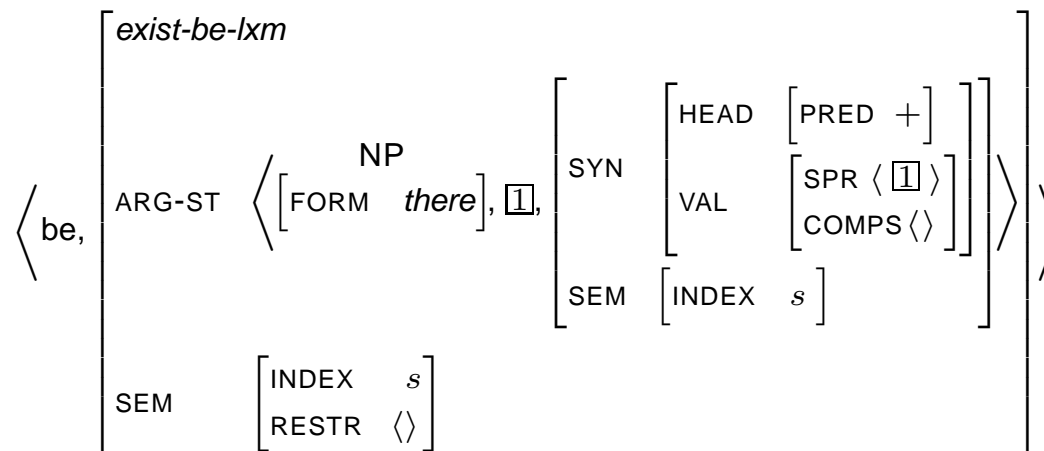




## Questions About the Existential *be*

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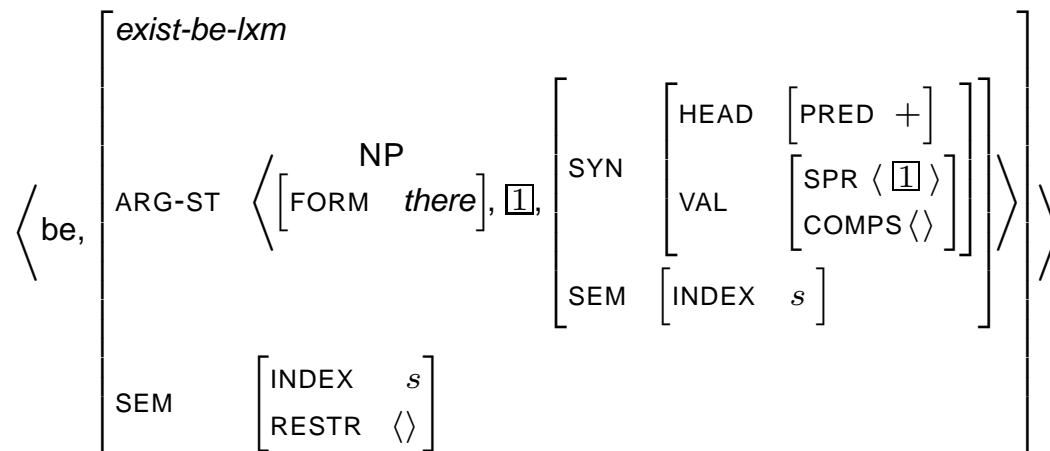
- What type of constituent is the third argument?
- Why is the third argument [PRED +]?
- Why is the second argument tagged as identical to the SPR of the third argument?



## There are questions left

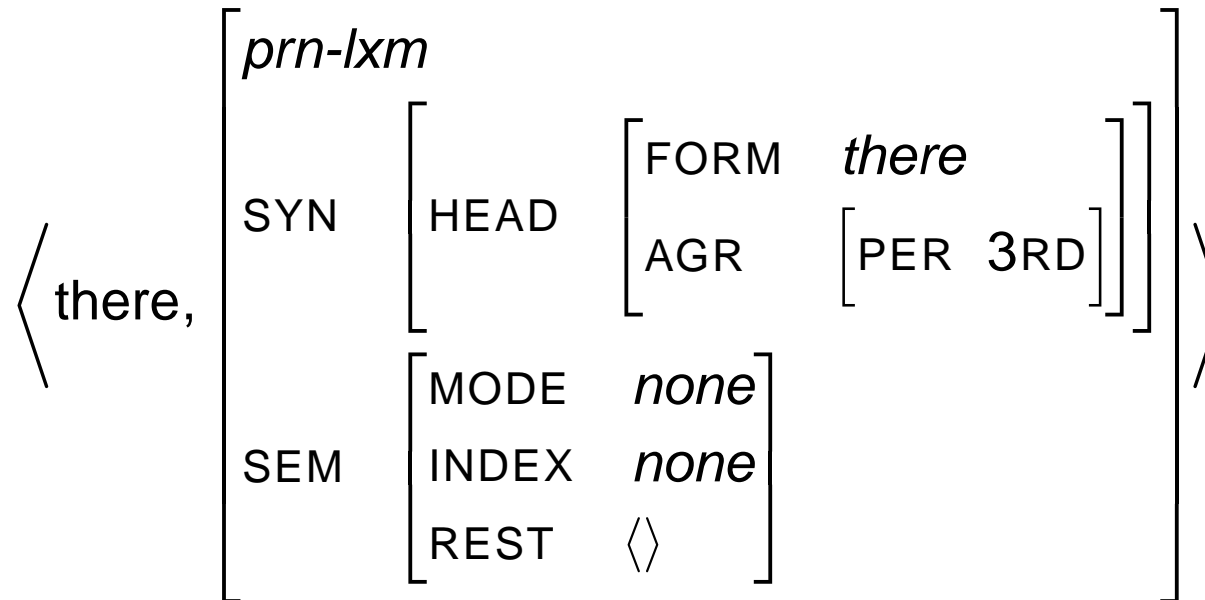
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- What is the contribution of this *be* to the semantics of the sentences it occurs in?
- Can all [PRED +] predicates appear as the third argument in existentials?
- How do we rule out \**There was a greyhound a good runner*?



## The Entry for Existential *there*

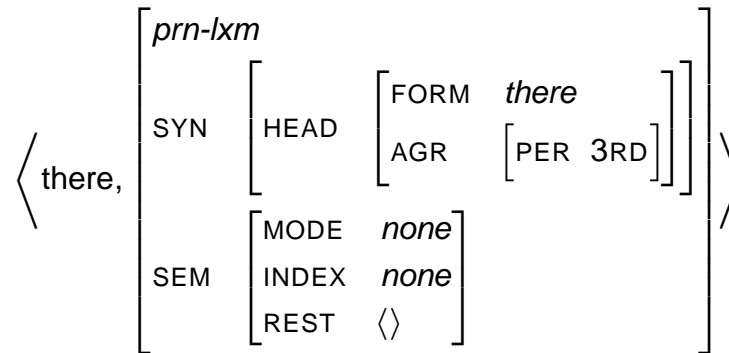
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# Questions About Existential there

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- 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?



## Other NPs that don't seem to refer

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- (1) *It sucks that the Rockies lost the series.*
- (2) *It is raining.*
- (3) *Andy took advantage of the opportunity.*
- (4) *Lou kicked the bucket.*

## What about *It follows that you are wrong*?

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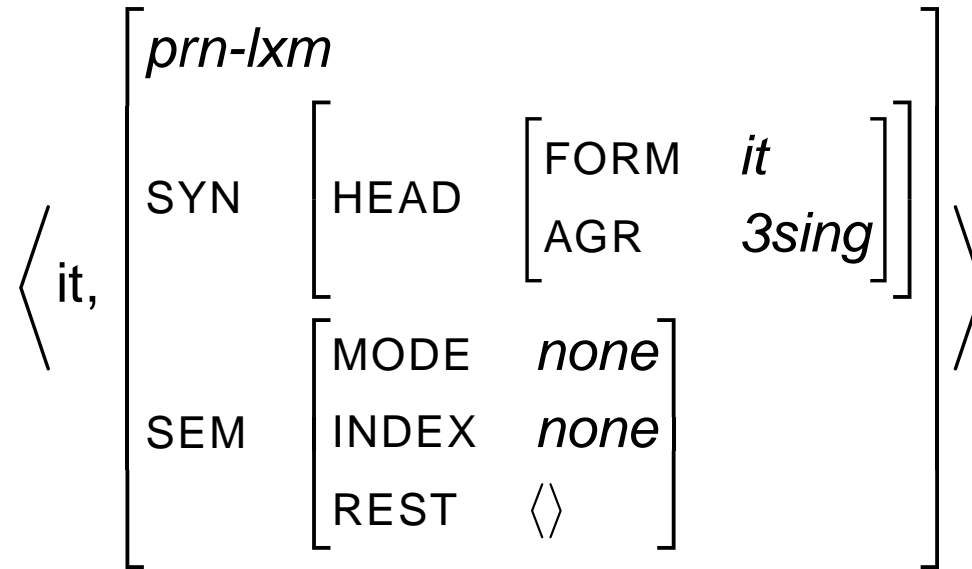
- This is an example of **extraposition**
- To analyze it we need:
  - An analysis of this use of *that*\*
  - Entries for verbs that take clausal subjects \*
  - (5) *That you are wrong follows*
  - A lexical entry for dummy *it*
  - A rule to account for the relationship between pairs like (5) and (6)
  - (6) *It follows that you are wrong.*

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\*We need these anyway (independently motivated)

## The Entry for Dummy *it*

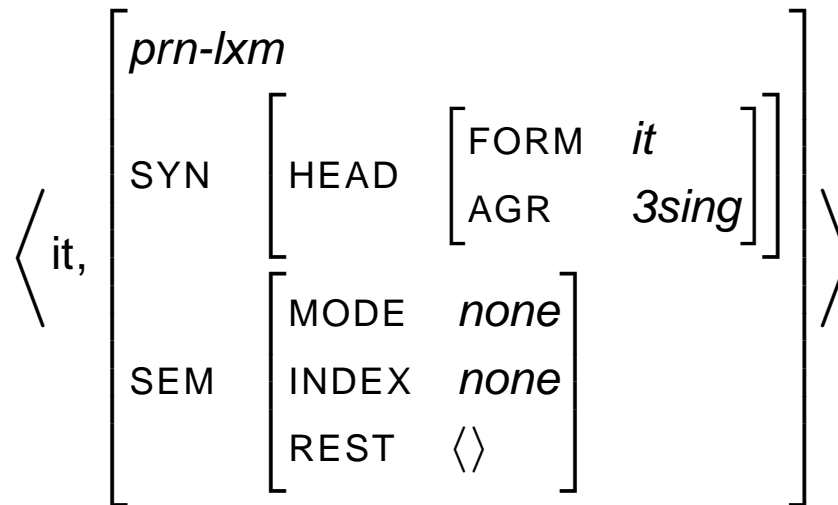
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## Questions About Dummy *it*

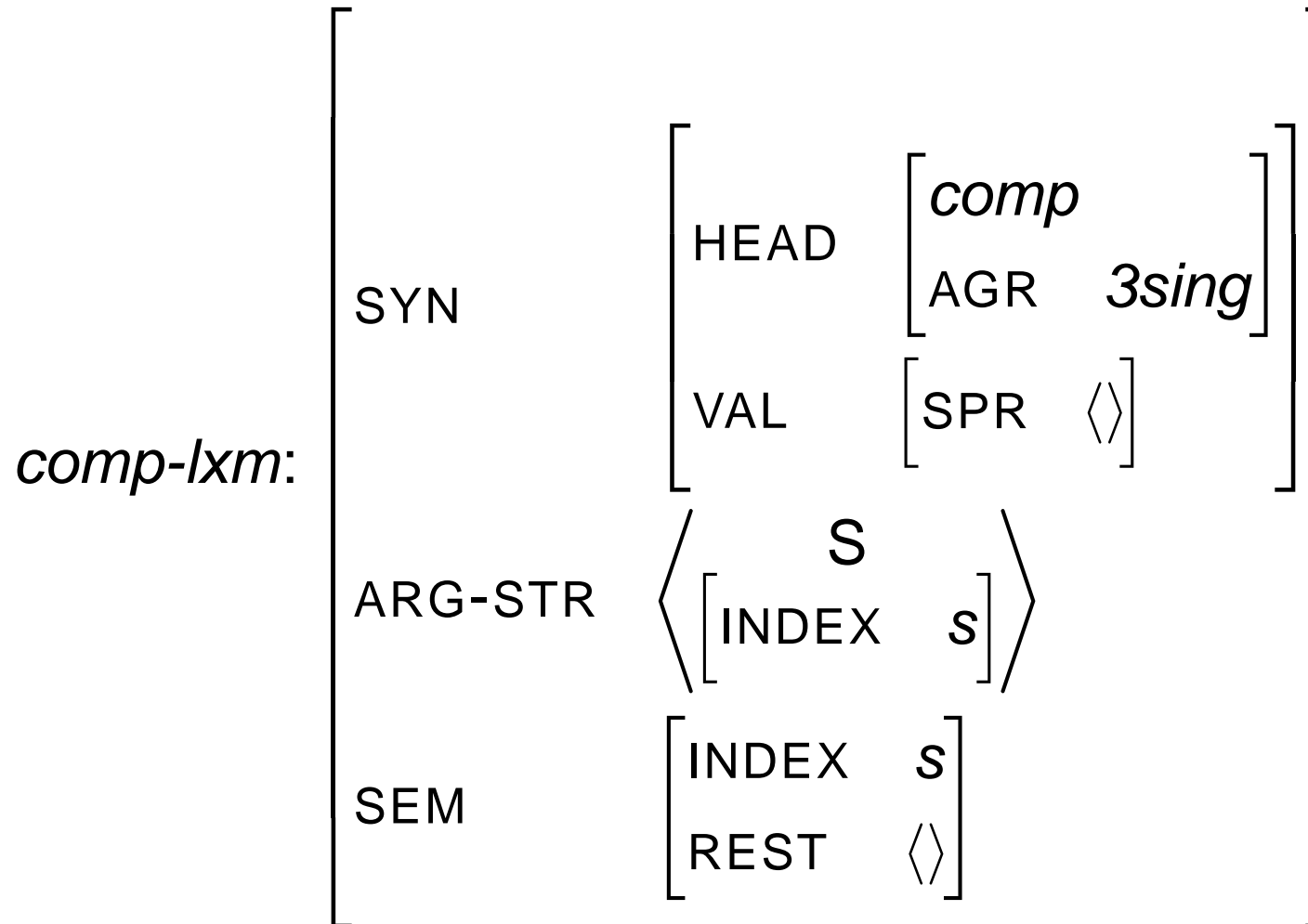
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- How does it differ from the entry for dummy *there*? Why do they differ in this way?
- Is this the only entry for *it*?





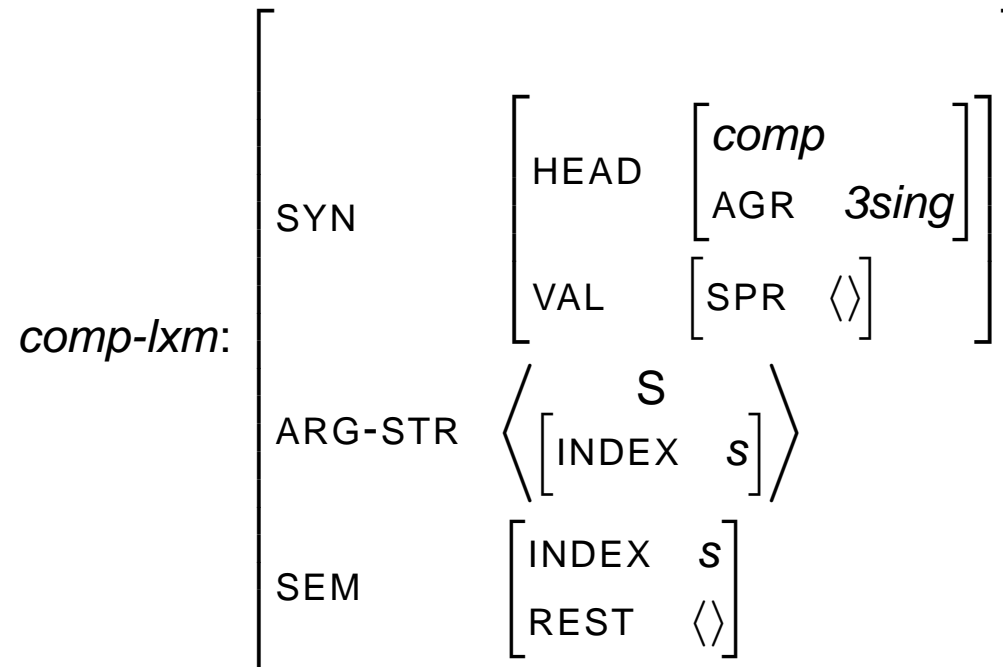
## A New Type of Lexeme: Complementizers



## Questions About the Type *comp-lxm*

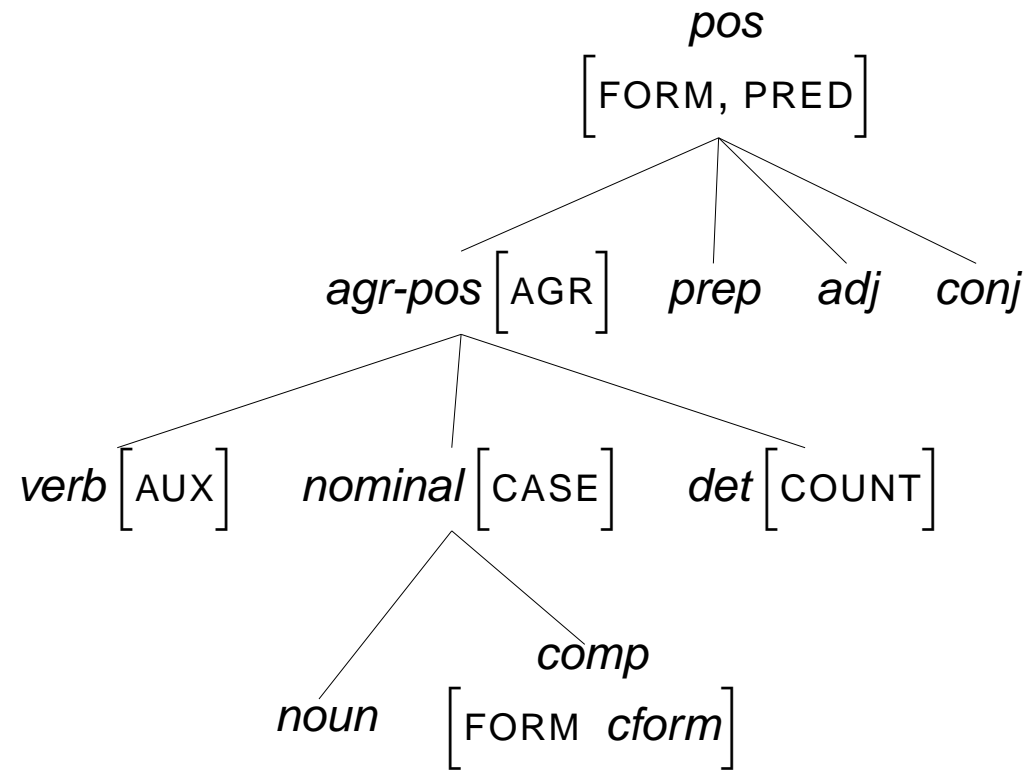
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- Why does it stipulate values for both SPR and ARG-ST?
- Why is its INDEX value the same as its argument's?
- What is its semantic contribution?



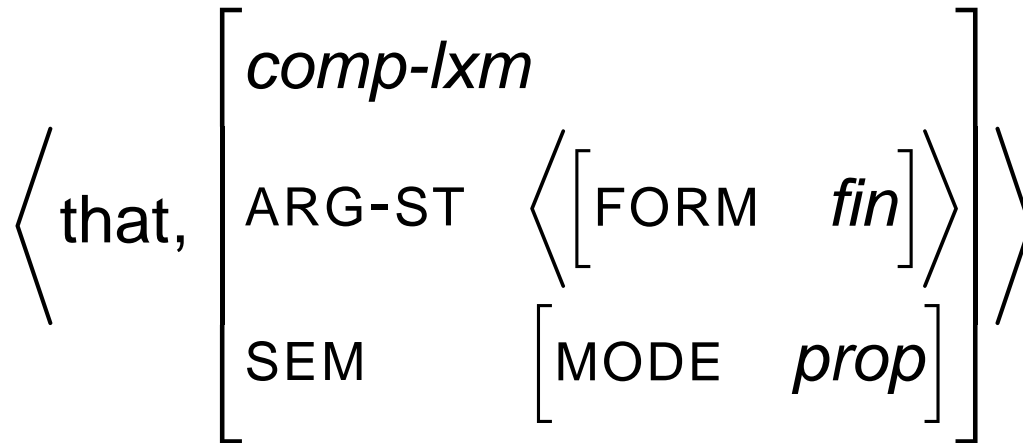
# The Type comp

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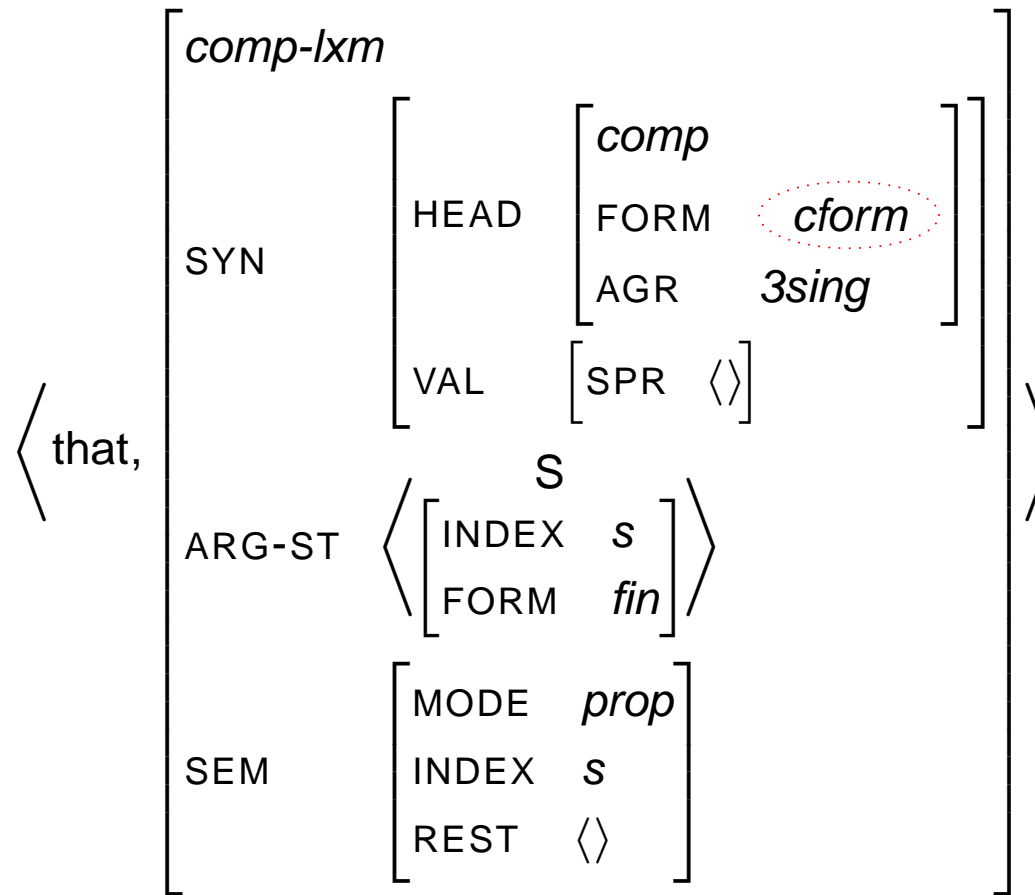


## The Lexical Entry for Complementizer *that*

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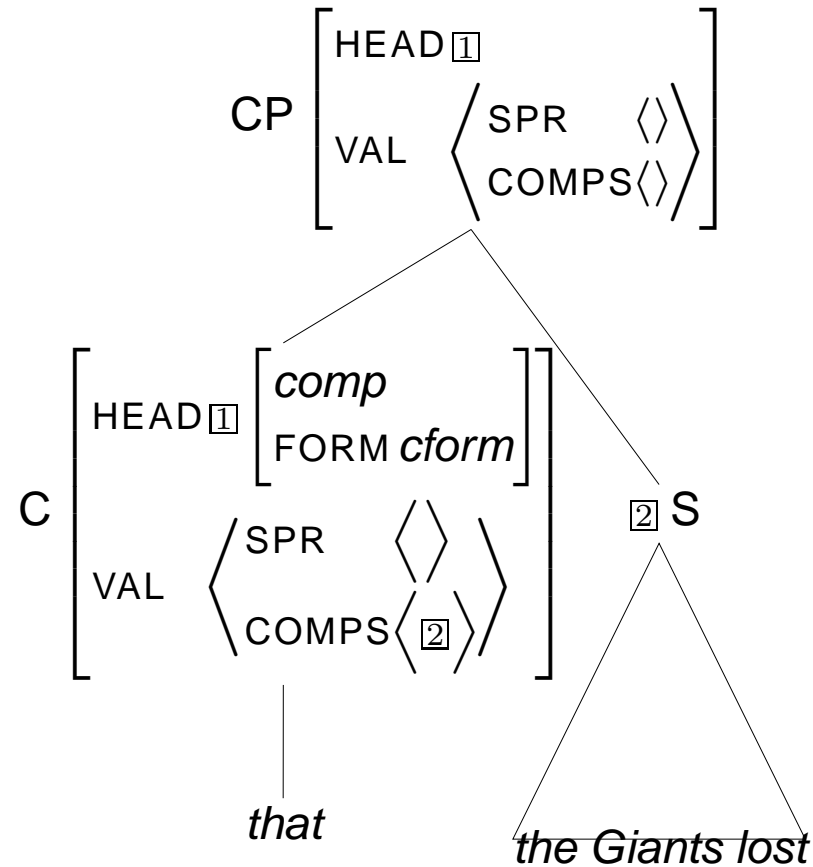
## ... with inherited information filled in



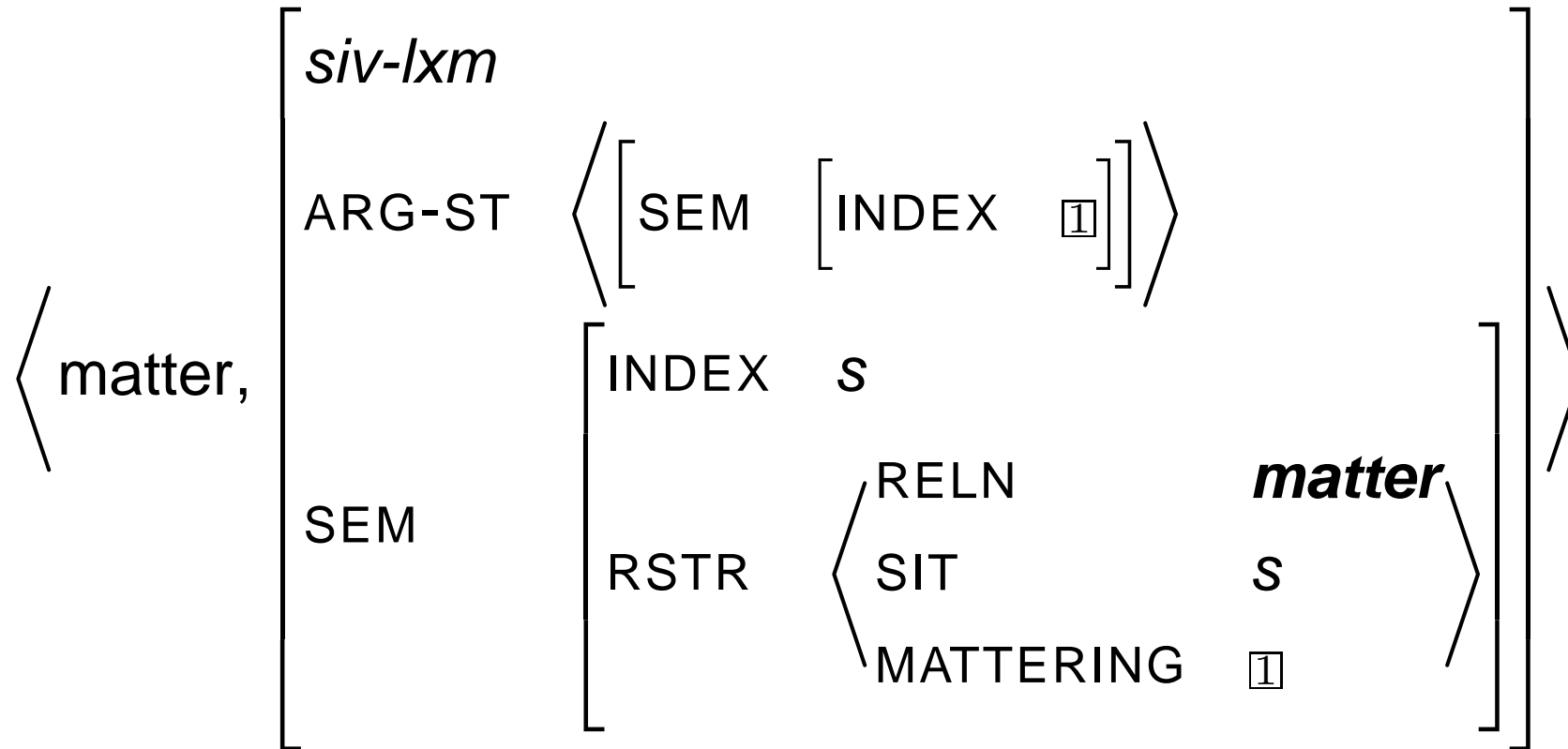
➤ Question: Where did [FORM *cform*] come from?

# Structure of a Complementizer Phrase

(7) *that the Giants lost*



## Sample Verb with a CP Subject



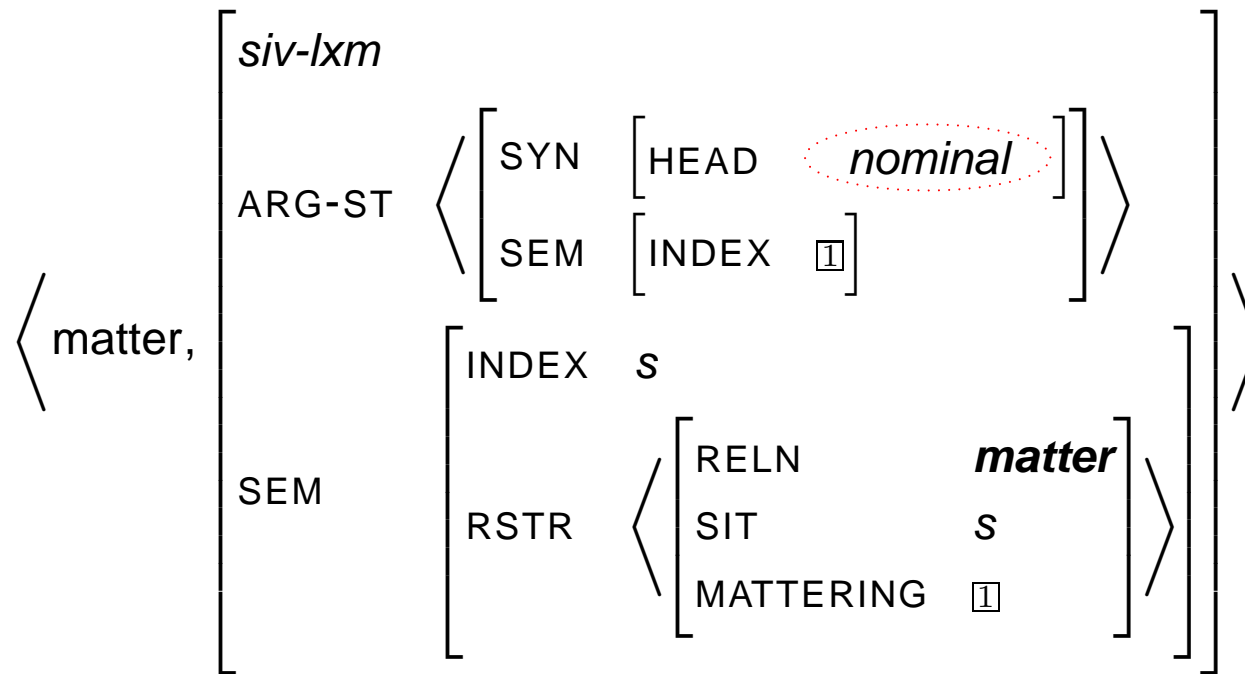
Note: the only constraint on the first argument is semantic

## A Problem

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- We constrained the subject of matter only semantically. However. . .
- CP and S are semantically identical, but we get:
  - (8) *That Bush won matters* vs. *\*Bush won matters*
- Argument-marking PPs are semantically identical to their object NPs, but we get:
  - (9) *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*.

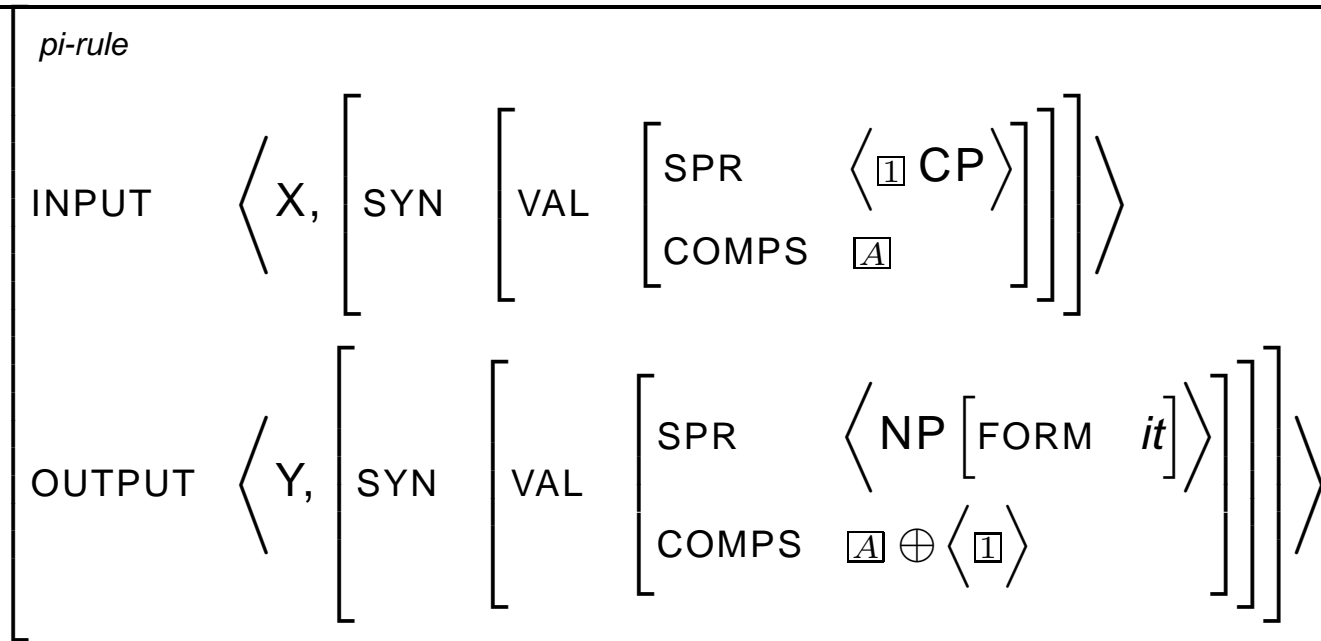
## Extraposition (at last)

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- Extraposition alters word order so that a relatively "heavy" constituent appears to the right of its canonical position.

- (10) a. That you were wrong follows.  
b. It follows that you were wrong.
- (11) a. That I mistyped it was frustrating.  
b. It was frustrating that I mistyped it.
- (12) a. Did that this happened surprise you?  
b. Did it surprise you that this happened?

## The Extraposition Lexical Rule



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

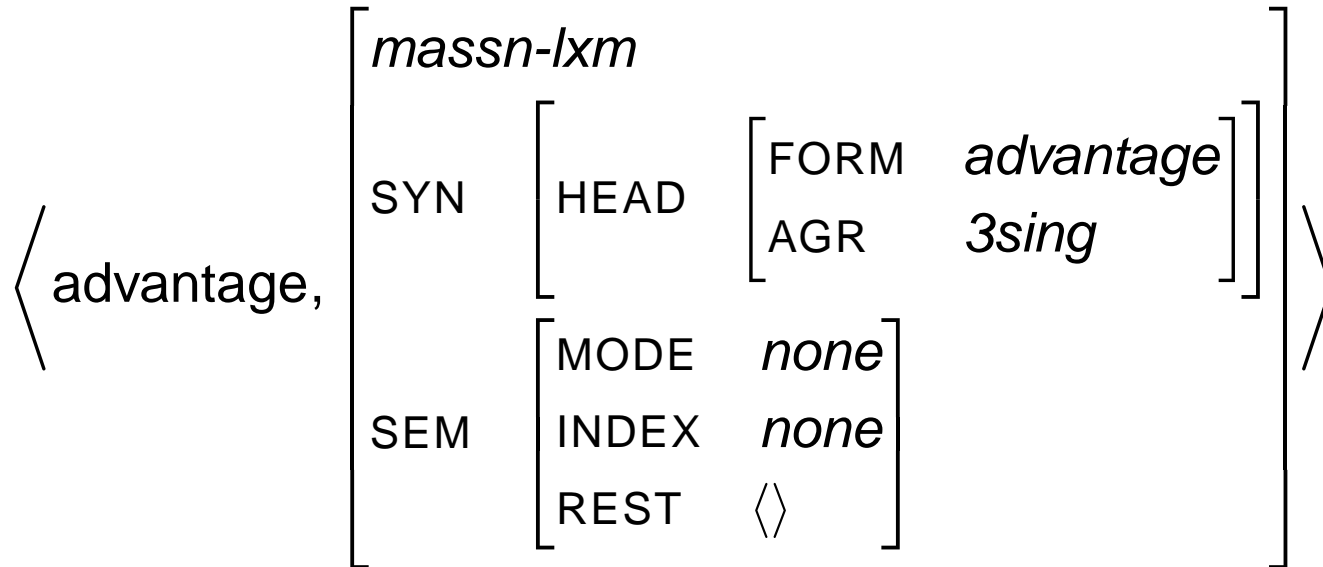
## Extraposition with Verbs whose COMPS lists are Nonempty

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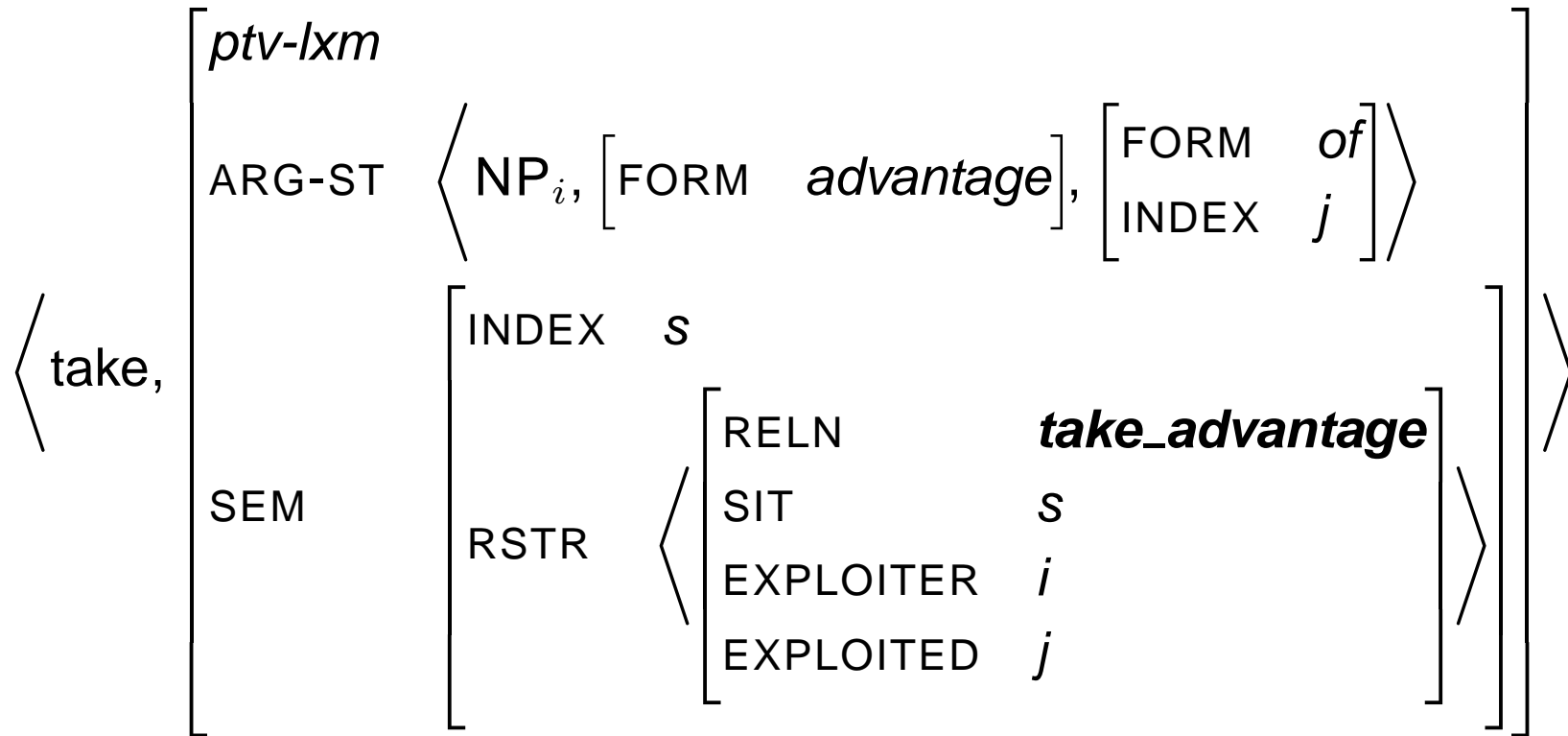
- (13) *It worries me that war is imminent.*
- (14) *It occurred to Pat that Chris knew the answer.*
- (15) *It endeared you to Andy that you wore a funny hat.*

## Another Nonreferential Noun: *advantage*

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## The Verb that Selects *advantage*



## Our analyses of idioms and passives interact...

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➤ We generate

(16) *Advantage was taken of the situation by many people.*

(17) *Tabs are kept on foreign students.*

➤ But not:

(18) *Many people were taken advantage of.*

➤ Why not?

# Overview

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- Existentials (*there*, *be*)
- Extraposition (*that*, *it*, LR)
- Idioms (*take\_advantage*, ...)



## P1: *there* and Agreement

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The analysis of existential *there* sentences presented so far says nothing about verb agreement.

- A. Consult your intuitions (and/or those of your friends, if you wish) to determine what the facts are regarding number agreement of the verb in *there* sentences. Give an informal statement of a generalization covering these facts, and illustrate it with both grammatical and ungrammatical examples. [*Note: Intuitions vary regarding this question, across both individuals and dialects. Hence there is more than one right answer to this question.*]
- B. How would you elaborate or modify our analysis of the *there* construction so as to capture the generalization you have discovered? Be as precise as you can.

## P2: Passing Up the Index

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A. Give the RESTR value that our grammar should assign to the sentence in (i). Be sure that the SIT value of the *smoke* predication is identified with the ANNOYANCE value of the **annoy** predication.

(i) *That Dana is smoking annoys Leslie.*

[Hint: This sentence involves two of the phenomena analyzed in this chapter: predicative complements of **be** and CP subjects.]

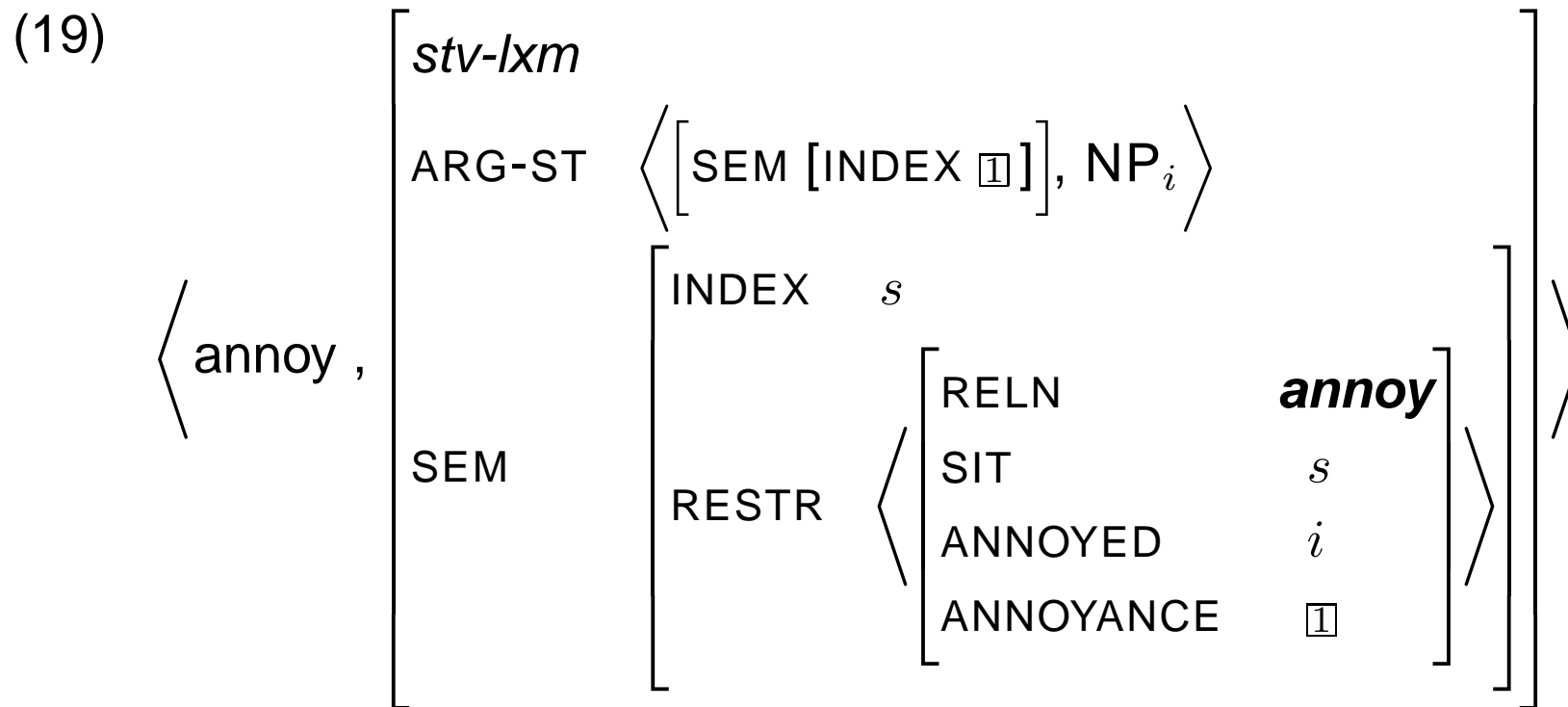
B. Draw a tree for (i). Use abbreviations for node labels, but show the index on each node.

C. Explain how the SIT value of the **smoke** predication gets identified with the ANNOYANCE value of the **annoy** predication. Be sure to make reference to lexical entries, phrase structure rules, and principles, as appropriate.

## P3: An Annoying Problem

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Assume that the lexical entry for the verb *annoy* is the following:



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- A. What constraints are imposed on the lexical sequences that result from applying the **3rd-Singular Verb Lexical Rule** to this entry (including those that involve inheritance of constraints from the entry's supertypes)?
- B. What constraints are imposed on lexical sequences that result from applying the **Extraposition Lexical Rule** to your answer to part (A)?
- C. Draw a tree structure for the sentence in (20). You should show the value of all SEM features on all of the nodes, as well as the SPR and COMPS features for *annoys*.

(20) *It annoys Lee that Fido barks.*

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D. The lexical entry for *annoy* allows NP subjects as well, as in (21). Why doesn't the grammar then also license (22)?

(21) *Sandy annoys me.*

(22) \**It annoys me Sandy.*