

Ling 566

Dec 3, 2024

Variation in the English Auxiliary System

Overview

Reminder:
Course evals!

- AAL copula absence
- Why it's not phonological deletion
- Alternative syntactic analyses
- The winner: An empty element (!)
- Reflection on syntactic argumentation
- Reading questions
- If time: Ch 16 (briefly)

Linguistic Argumentation

- The available data usually underdetermines the analysis (cf *to*)
- Sometimes appeals to naturalness can help
- Further constraints come into play when we try to make interacting analyses consistent
- Still, just about everything could be done differently if we're willing to change assumptions
- Data underdetermines the theory; difficult to argue that something must be analyzed a certain way

RE: Data underdetermines theory, your current sense of syntactic analyses:



One right answer, we might not have found it yet

0

If we only look at grammaticality/paraphrases, always underdetermined

0

Could be that different speakers have internalized different analyses

0

Not sure that grammars are modeling wetware

0

None of the above

0

An Unusual Case

- The verbless sentences in Chapter 15 provide a rare example where the data seem to force a particular kind of analysis
- Specifically: an empty element
- And we tried **very** hard to avoid it

Notes on African American Language

- aka AAE, AAVE, Ebonics, Black English, and various other things
- All natural languages are systematic
- This is just as true of stigmatized varieties as of prestige dialects
- The claim that AAL has “no discernible rules” (columnist William Raspberry) is blatantly false
- This is not to deny the social and economic value of using a prestige dialect
- But prestige is not correlated with systematicity

Further readings on AAL

- Rickford, J.R. & R.J. Rickford. *Spoken soul: The story of black English*. John Wiley & Sons Incorporated, 2000.
- Lanehart, Sonja, ed. *The Oxford Handbook of African American Language*. Oxford University Press, 2015.
- Mufwene, Salikoko S., et al., eds. *African-American English: structure, history, and use*. Routledge, 2021.

Missing *be* in AAL

- Some AAL sentences:

Chris at home

We angry with you

You a genius

They askin for help

- Like GAE sentences with a form of *be* missing
- Analogous sentences occur in many languages

AAL Also Allows Sentences With *be*

Chris at home

Chris is at home

We angry with you

We're angry with you

You a genius

You are a genius

They askin for help

They're askin for help

Labov's Deletion Account

- Copula absence comes about when contracted auxiliaries (*'s* and it *'re*) are deleted altogether
- Predicts that copula absence is only possible where contraction is: (strong claim)

You got to be good, Rednall!

**You got to Ø good, Rednall!*

Be nice to your mother!

**Ø Nice to your mother!*

It ain't a flower show, is it?

**It ain't a flower show, 's it?*

**It ain't a flower show, Ø it?*

Counterexamples to Labov's Account

How old you think his baby is

**How old you think his baby 's*

How old you think his baby Ø

Tha's the man they say is in love

**Tha's the man they say 's in love*

Tha's the man they say Ø in love

- The relevant examples here are with fully contracted 's
- These examples show that copula absence can't depend on copula contraction

Our Challenge

- Provide a precise analysis of AAL copula absence within our theory
- Account for all of the facts covered by the deletion account
- Deal with the counterexamples to the deletion account

Two Possible Analyses

1. Add another initial symbol which is [HEAD [PRED +]], not [HEAD *verb*]:

$$\begin{bmatrix} \text{HEAD} & \begin{bmatrix} \textit{pos} \\ \text{PRED} & + \end{bmatrix} \\ \text{VAL} & \begin{bmatrix} \text{SPR} & \langle \rangle \\ \text{COMPS} & \langle \rangle \end{bmatrix} \end{bmatrix}$$

2. Write a special grammar rule for verbless clauses:

$$\begin{bmatrix} \textit{phrase} \\ \text{SYN} \begin{bmatrix} \text{HEAD} \begin{bmatrix} \textit{verb} \\ \text{FORM} & \textit{fin} \end{bmatrix} \\ \text{VAL} \begin{bmatrix} \text{SPR} & \langle \rangle \end{bmatrix} \end{bmatrix} \\ \text{SEM} \begin{bmatrix} \text{MODE} & \textit{prop} \\ \text{INDEX} & \boxed{2} \end{bmatrix} \end{bmatrix} \rightarrow \begin{bmatrix} \boxed{1}\text{NP} \\ \text{CASE} & \textit{nom} \\ \text{AGR} & \textit{non-1sing} \end{bmatrix} \begin{bmatrix} \text{SYN} \begin{bmatrix} \text{HEAD} \begin{bmatrix} \text{PRED} & + \end{bmatrix} \\ \text{VAL} \begin{bmatrix} \text{SPR} & \langle \boxed{1} \rangle \end{bmatrix} \end{bmatrix} \\ \text{SEM} \begin{bmatrix} \text{INDEX} & \boxed{2} \end{bmatrix} \end{bmatrix}$$

A Counterexample to Both:

How old you think his baby Ø

- LDDs require that a non-empty GAP list be licensed by a lexical head that is missing an argument
- Neither the initial symbol analysis nor the grammar rule analysis posits a lexical head corresponding to *is* that would license the gap
- If we posit a silent variant of finite forms of *be*, we solve this problem

The Silent *be* Analysis

Silent *be* Lexical Rule

$$\left[\begin{array}{l} i\text{-rule} \\ \text{INPUT} \quad \langle \text{be}, X \rangle \\ \text{OUTPUT} \quad \left\langle \phi, \left[\text{HEAD} \left[\begin{array}{ll} \text{AGR} & non-1sing \\ \text{FORM} & fin \\ \text{INV} & - \end{array} \right] \right] \right\rangle \end{array} \right]$$

- This is a highly specialized lexeme-to-word rule (i-rule)

Some Questions About This Rule

Silent *be* Lexical Rule

$\left[\begin{array}{l} i\text{-rule} \\ \text{INPUT} \quad \langle \text{be}, X \rangle \\ \text{OUTPUT} \quad \langle \phi, \left[\begin{array}{l} \text{HEAD} \left[\begin{array}{ll} \text{AGR} & non-1sing \\ \text{FORM} & fin \\ \text{INV} & - \end{array} \right] \end{array} \right] \rangle \end{array} \right]$	
QUESTION	ANSWER

Which lexemes does it apply to?

Those spelled *be*

Why is the output [FORM fin]?

**You got to Ø good*

Why is the output AGR *non-1sing*?

**I Ø hungry.*

Why is the output [INV –]?

**It ain't a flower show, Ø it?*

How does this account for LDDs?

Silent *be* Lexical Rule

$$\left[\begin{array}{l} i\text{-rule} \\ \text{INPUT} \quad \langle \text{be}, X \rangle \\ \text{OUTPUT} \quad \left\langle \phi, \left[\text{HEAD} \left[\begin{array}{ll} \text{AGR} & non-1sing \\ \text{FORM} & fin \\ \text{INV} & - \end{array} \right] \right] \right\rangle \end{array} \right]$$

Answer: The usual way. That is, the output of this rule (silent *be*) can have a non-empty GAP list. The fact that the verb is not pronounced doesn't matter.

A Possible Objection

- Earlier, we touted the WYSIWYG character of our theory: everything justified by something observable.
- Doesn't positing an inaudible verb undermine that claim?
- Response
 - A word with no phonology is just the shortest possible word
 - Positing one such word, with restricted distribution is qualitatively different from allowing multiple "empty categories" that can appear in many places

What do you think about empty categories?



Any/all okay. Empty categories are cool!

0

Traces of movement seem more plausible than a silent verb

0

A silent verb seems more plausible than traces

0

Don't like them

0

Conclusions

- Studying a variety of languages and dialects is important to discovering what formal devices are necessary to account for natural language
- Formulating a precise theory of grammar allows us to investigate in detail the differences between dialects and between languages
- We were able to make the argument for a silent verb because our analyses were precise, and the consequences could be worked through

Overview

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RQs: Data collection

- When considering variation between dialects, if grammaticality is our proxy for acceptability, (how) do syntacticians address grammaticality of Standard dialect utterances against Non-Standard dialects(for any language)? Essentially, how would a researcher elicit acceptability judgments from a speaker of a Non-Standard dialect regarding something resembling a Standard utterance (while considering the social influence of a Standard dialect)?

RQs: Difference to deletion

- I would benefit from diving deeper into why the Silent LR is not a type of deletion. On the surface, it seems that we are replacing a string with an empty string but keeping the effects of its constraints.

RQs: Difference to deletion

- How is the Silent Copula LR different to Labov's deletion analysis?
- What purpose does putting be through the Silent Be Lexical Rule serve if the be in question doesn't ever actually appear in the sentence?

RQs: Other languages

- Do other languages that don't use copulas have a similar analysis to the zero copula contexts in AAVE? Or do the structures of these languages license a more simple analysis for their zero copula contexts? Essentially I'm curious if the pitfalls we see in the non-silent copula analyses are because we are building off of the grammar we've built around SAE, which requires copulas, and if they would be avoided the foundational grammar was meant for another language.

RQs: Ambiguity

- In allowing for a silent word via lexical rules, how do we change this analysis if the need for a second, different silent word arises? Do we keep the analysis the same and accept the potential for more ambiguity? Also, what would happen if two words with similar distributions could go through a lexical rule to become a silent word? Two different trees? or the same tree geometry with different semantics? Does this happen?

RQs: In implementation

- How are silent words handled in implemented grammars? Have there been any changes to the analysis that departure from strict surface-orientation is necessary in this case since the textbook was written? Are there other examples in English where a similar conclusion was drawn?

RQs: Meaning of copula absence

- I feel the silent rule fails to adequately capture the linguistic intuition and motivation behind copula absence in AAVE. Although the use of an i-rule describes the environments where the copula can be absent, technically any grammatical phenomenon could be explained by adding a series of rules, each modifying only a small set of features. So such an approach may lack the unification of form and meaning, why is the copula allowed to be absent in certain environments but not in others?

RQs: Meta-analysis

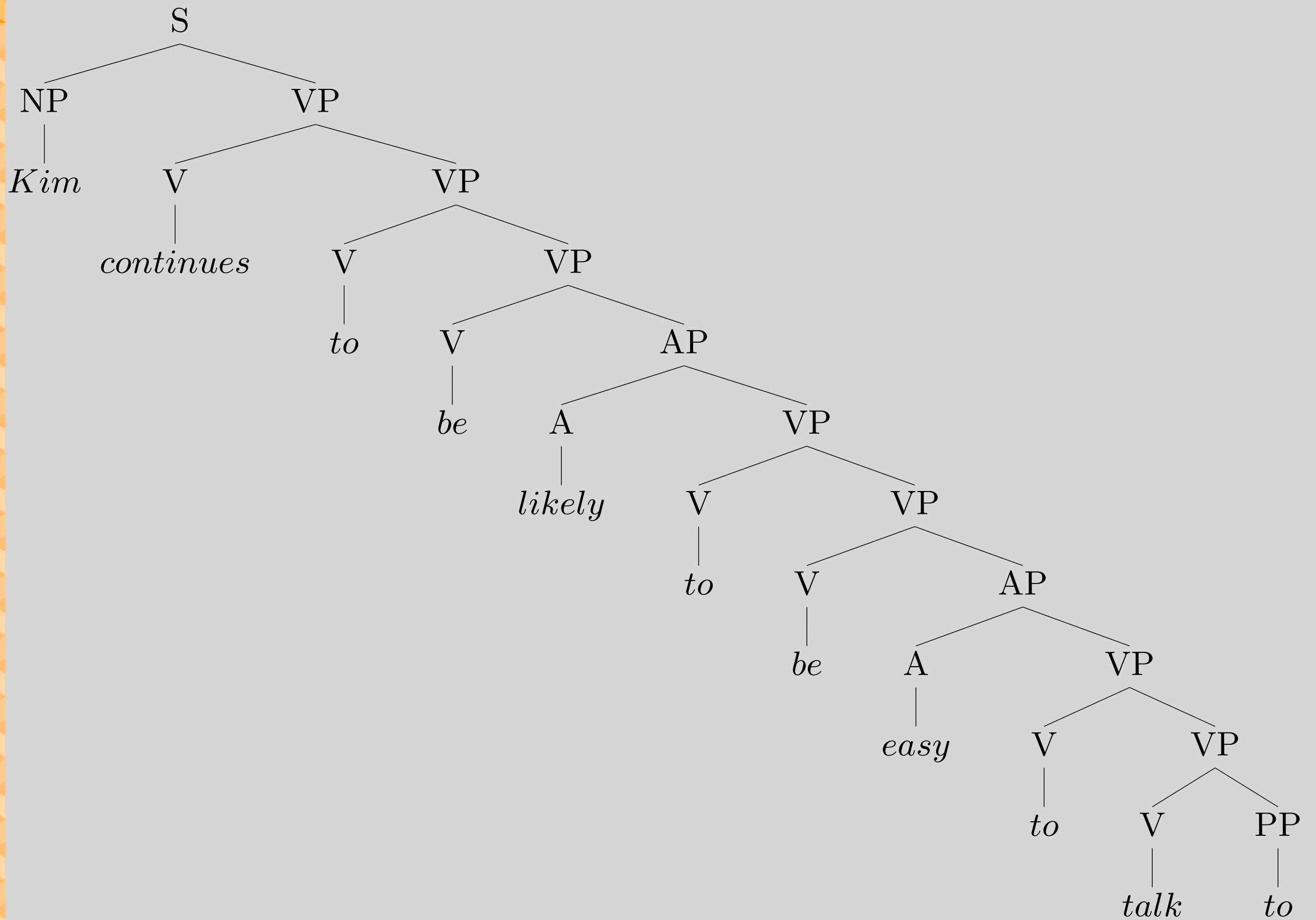
- Are lexical rules typically the best analysis for linguistic variation?
- When choosing a silent word analysis, how do we prove that we have checked all possible cases and find no other available solution? For a data-rich language like English, do linguists have a consensus on what data needs to be explained for a certain phenomenon? And for a low-resource language, what's the approach when new language data gets collected and the analysis might need to change?

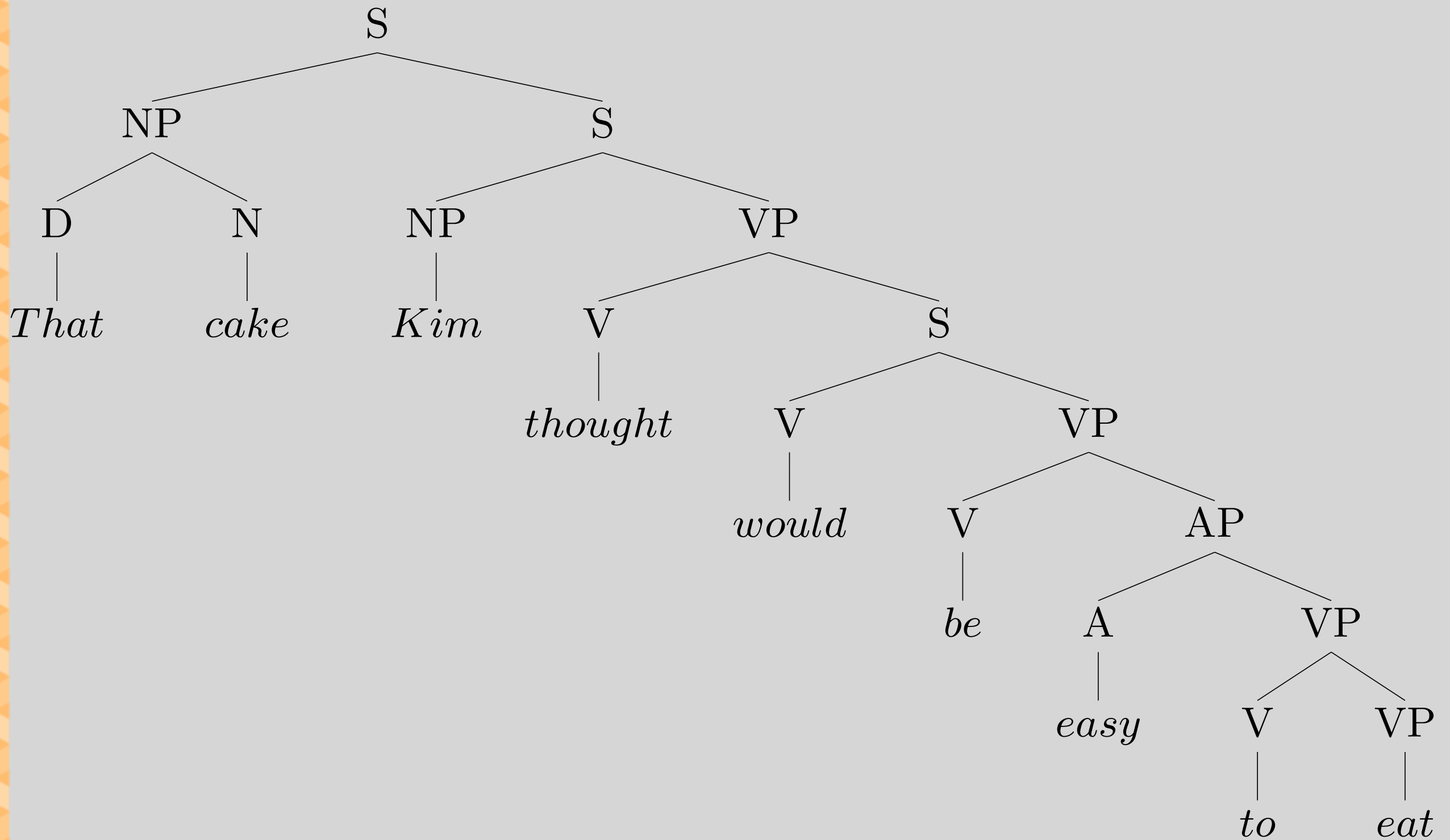
RQs:Language change

- I'm curious how a grammar could reflect language change in real time (e.g., the distinction between who and whom seeming to become lost for some speakers of American English). How would we describe the fact that a lexical entry may be changing (e.g., CASE underspecified instead of [CASE nom]) or that a new phrase structure rule may be emerging?

RQs: Boundaries between grammars

- Doesn't it make sense to have a different grammar for AAVE? I guess if we did that, we'd have to do one for every dialect.
- At what point do we, as grammar designers, need to start analyzing a dialect from scratch instead of modifying an existing grammar of a related dialect? Are there any metrics or tests to guide our judgment?
- How does our framework deal with phenomena like code-switching or contact dialects like "Spanglish"?



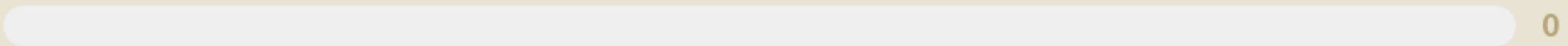




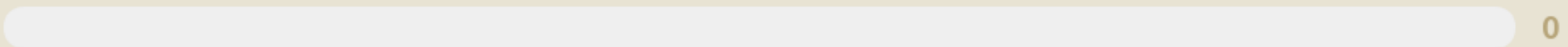
How many more analyses of interacting phenomena do you think we'd need to get to broad coverage of English?



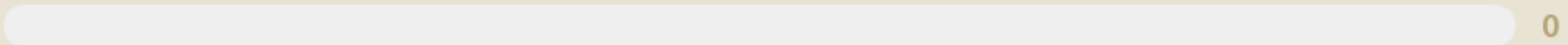
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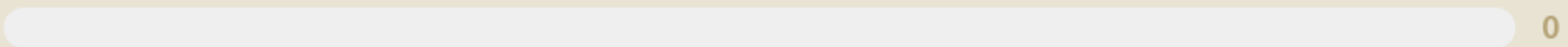
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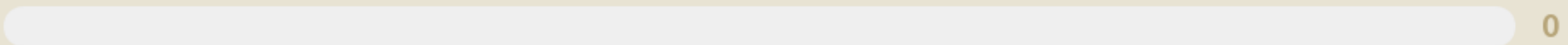
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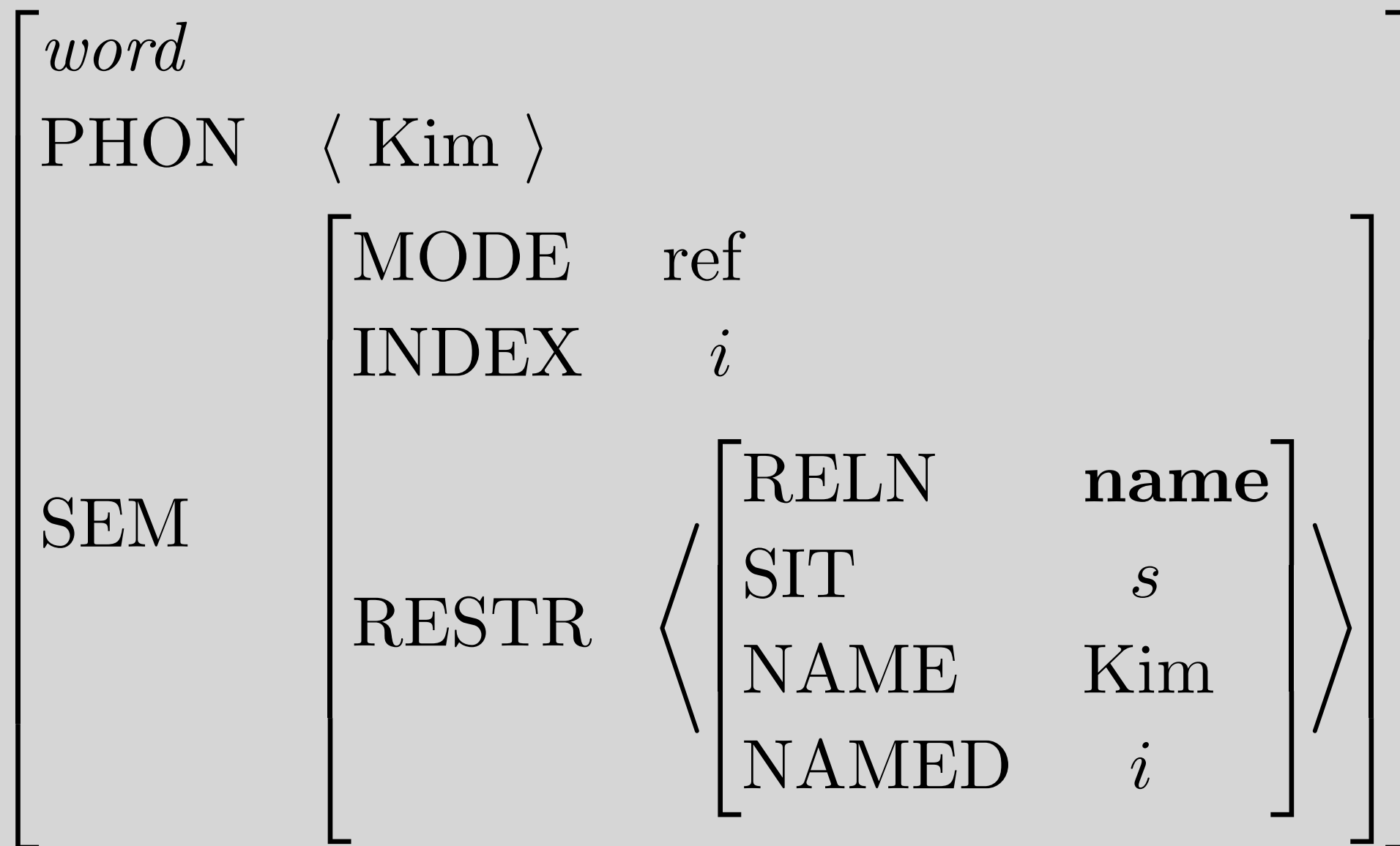


More?!



Ch 16 - just for fun

Words and Phrases as Saussurean Signs



Augmented Signs

<i>word</i>															
PHON	⟨ Kim ⟩														
SYN	<table> <tr> <td>HEAD</td><td> <table> <tr> <td><i>noun</i></td><td></td></tr> <tr> <td>AGR</td><td><i>3sing</i></td></tr> </table> </td></tr> </table>	HEAD	<table> <tr> <td><i>noun</i></td><td></td></tr> <tr> <td>AGR</td><td><i>3sing</i></td></tr> </table>	<i>noun</i>		AGR	<i>3sing</i>								
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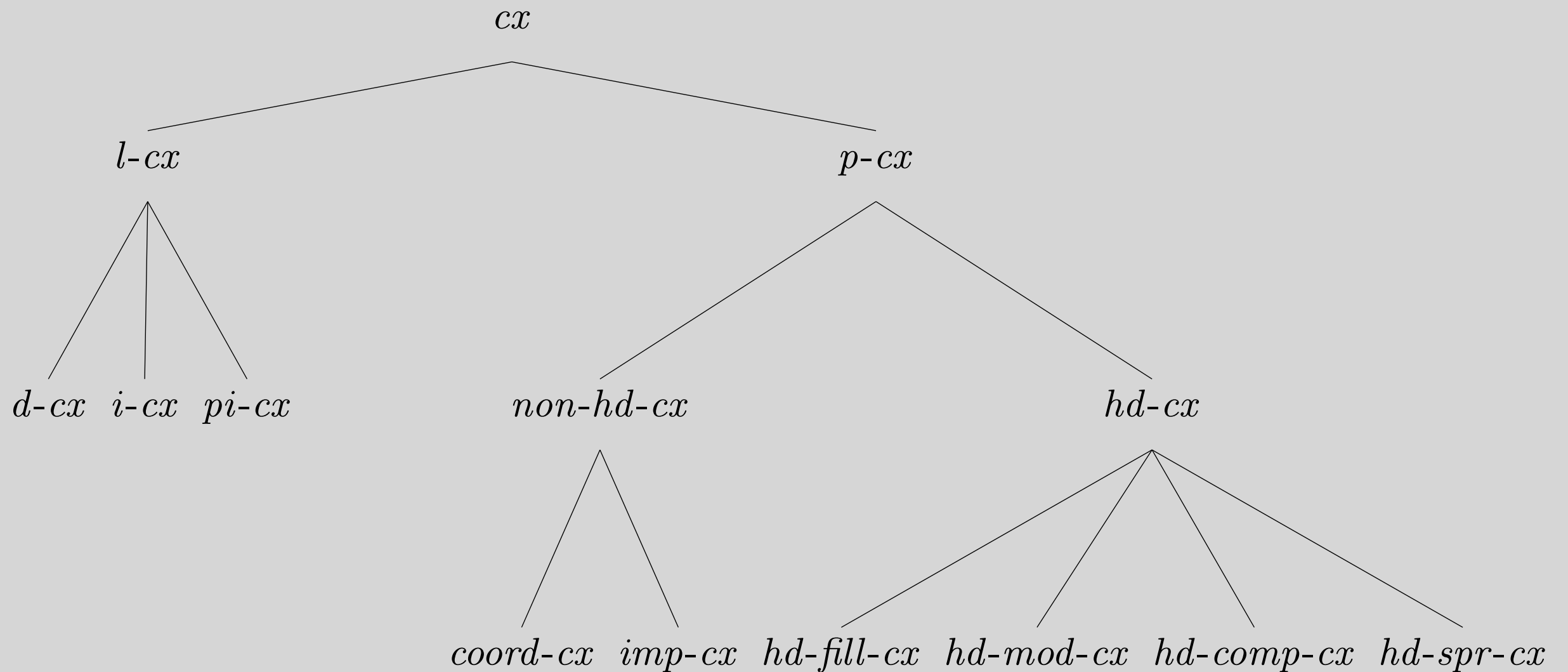
Phrases as Signs

<i>phrase</i>	
PHON	⟨ Kim , walks ⟩
SYN	$\left[\begin{array}{l} \text{HEAD} \left[\begin{array}{l} \text{verb} \\ \text{FORM} \quad \text{fin} \end{array} \right] \\ \text{SPR} \quad \langle \rangle \\ \text{COMPS} \quad \langle \rangle \end{array} \right]$
SEM	$\left[\begin{array}{l} \text{MODE} \quad \text{prop} \\ \text{INDEX} \quad s \\ \text{RESTR} \quad \left\langle \left[\begin{array}{l} \text{RELN} \quad \mathbf{name} \\ \text{NAME} \quad \text{Kim} \\ \text{NAMED} \quad i \end{array} \right], \left[\begin{array}{l} \text{RELN} \quad \mathbf{walk} \\ \text{SIT} \quad s \\ \text{WALKER} \quad i \end{array} \right], \dots \right\rangle \end{array} \right]$

Types and Constraints

TYPE	FEATURES/VALUE TYPES	IST
<i>sign</i>	$\left[\begin{array}{ll} \text{PHON} & \text{list}(\text{form}) \\ \text{SYN} & \text{syn-cat} \\ \text{SEM} & \text{sem-cat} \end{array} \right]$	<i>feat-struct</i>
<i>expression</i>		<i>sign</i>
<i>lex-sign</i>	$\left[\text{ARG-ST} \quad \text{list}(\text{expression}) \right]$	<i>sign</i>
<i>phrase</i>		<i>expression</i>
<i>word</i>		<i>expression</i> & <i>lex-sign</i>
<i>lexeme</i>		<i>lex-sign</i>

The World of Constructions



Properties of Constructions

TYPE	FEATURES/VALUE TYPES	IST
cx	$\left[\begin{array}{ll} \text{MOTHER} & \textit{sign} \\ \text{DTRS} & \textit{list}(\textit{sign}) \end{array} \right]$	$\textit{feat-struct}$
$l-cx$	$\left[\begin{array}{ll} \text{MOTHER} & \textit{lex-sign} \\ \text{DTRS} & \langle \textit{lex-sign} \rangle \end{array} \right]$	cx
$p-cx$	$\left[\begin{array}{ll} \text{MOTHER} & \textit{phrase} \\ \text{DTRS} & \textit{list}(\textit{expression}) \end{array} \right]$	cx

Two Constraints

Root Constraint:

$$\left[\begin{array}{c} \text{SYN} \\ \left[\begin{array}{c} \text{HEAD} \\ \text{VAL} \\ \text{GAP} \end{array} \begin{array}{c} \left[\begin{array}{c} \text{verb} \\ \text{FORM} \quad \text{fin} \end{array} \\ \left[\begin{array}{c} \text{COMPS} \quad \langle \rangle \\ \text{SPR} \quad \langle \rangle \end{array} \end{array} \right] \\ \langle \rangle \end{array} \right] \end{array} \right]$$

Principle of Order:

$$cx : \left[\begin{array}{c} \text{MOTHER} \\ \text{DTRS} \end{array} \begin{array}{c} [\text{PHON } \boxed{A1} \oplus \dots \oplus \boxed{An}] \\ \langle [\text{PHON } \boxed{A1}] , \dots , [\text{PHON } \boxed{An}] \rangle \end{array} \right]$$

Semantic Compositionality Principle

$$cx : \left[\begin{array}{l} \text{MOTHER} \\ \text{DTRS} \end{array} \quad \begin{array}{l} [\text{SEM} [\text{RESTR } \boxed{A1} \oplus \dots \oplus \boxed{An}]] \\ \langle [\text{SEM} [\text{RESTR } \boxed{A1}]] , \dots , [\text{SEM} [\text{RESTR } \boxed{An}]] \rangle \end{array} \right]$$

Alternative Version:

$$cx : \left[\begin{array}{l} \text{MOTHER} \\ \text{DTRS} \\ \text{CX-SEM} \end{array} \quad \begin{array}{l} [\text{SEM} [\text{RESTR } \boxed{A0} \oplus \boxed{A1} \oplus \dots \oplus \boxed{An}]] \\ \langle [\text{SEM} [\text{RESTR } \boxed{A1}]] , \dots , [\text{SEM} [\text{RESTR } \boxed{An}]] \rangle \\ \boxed{A0} \end{array} \right]$$

Headed Constructions

TYPE	FEATURES/VALUE TYPES	IST
<i>hd-cx</i>	[HD-DTR <i>sign</i>]	<i>cx</i>

Head Feature Principle:

$$hd-cx : \left[\begin{array}{ll} \text{MOTHER} & [\text{SYN} \text{ } [\text{HEAD} \text{ } \boxed{1}]] \\ \text{HD-DTR} & [\text{SYN} \text{ } [\text{HEAD} \text{ } \boxed{1}]] \end{array} \right]$$

Two More Principles

Semantic Inheritance Principle:

$$hd-cx : \left[\begin{array}{c} \text{MOTHER} \\ \text{HD-DTR} \end{array} \left[\begin{array}{c} \text{SEM} \left[\begin{array}{cc} \text{MODE} & \boxed{1} \\ \text{INDEX} & \boxed{2} \end{array} \right] \\ \text{SEM} \left[\begin{array}{cc} \text{MODE} & \boxed{1} \\ \text{INDEX} & \boxed{2} \end{array} \right] \end{array} \right] \right]$$

Valence Principle:

$$hd-cx : \left[\begin{array}{c} \text{MOTHER} \\ \text{HD-DTR} \end{array} \left[\begin{array}{c} [\text{SYN} [\text{VAL} / \boxed{1}]] \\ [\text{SYN} [\text{VAL} / \boxed{1}]] \end{array} \right] \right]$$

The GAP Principle

hd-cx:

$$\left[\begin{array}{l} \text{MOTHER} \\ \text{HD-DTR} \\ \text{DTRS} \end{array} \begin{array}{l} [\text{SYN} [\text{GAP} (\boxed{A1} \oplus \dots \oplus \boxed{An}) \ominus \boxed{A0}]] \\ [\text{SYN} [\text{STOP-GAP} \boxed{A0}]] \\ \langle [\text{SYN} [\text{GAP} \boxed{A1}]] , \dots , [\text{SYN} [\text{GAP} \boxed{An}]] \rangle \end{array} \right]$$

The Head-Complement Construction

$$hd-comp-cx : \left[\begin{array}{l} \text{MOTHER} \quad [\text{SYN} \quad [\text{VAL} \quad [\text{COMPS} \quad \langle \rangle]]] \\ \text{HD-DTR} \quad \boxed{0} \left[\begin{array}{l} \textit{word} \\ \text{SYN} \quad [\text{VAL} \quad [\text{COMPS} \quad \boxed{A}]] \end{array} \right] \\ \text{DTRS} \quad \langle \boxed{0} \rangle \oplus \boxed{A} \textit{nelist} \end{array} \right]$$

And with inherited constraints....

$$\left[\begin{array}{l} \text{MOTHER} \\ \text{HD-DTR } \boxed{4} \\ \text{DTRS } \left\langle \boxed{4} \left[\begin{array}{l} \text{PHON } \boxed{A1} \\ \text{RESTR } \boxed{C1} \end{array} \right], \boxed{5} \left[\begin{array}{l} \text{PHON } \boxed{A2} \\ \text{RESTR } \boxed{C2} \end{array} \right], \dots, \boxed{m} \left[\begin{array}{l} \text{PHON } \boxed{A_n} \\ \text{RESTR } \boxed{C_n} \end{array} \right] \right\rangle \end{array} \right]$$

$$\left[\begin{array}{l} \text{PHON } \boxed{A1} \oplus \dots \oplus \boxed{A_n} \\ \text{SYN } \left[\begin{array}{l} \text{HEAD } \boxed{1} \\ \text{VAL } \left[\begin{array}{l} \text{COMPS } \langle \rangle \\ \text{SPR } \boxed{D} \\ \text{MOD } \boxed{E} \end{array} \right] \end{array} \right] \\ \text{SEM } \left[\begin{array}{l} \text{MODE } \boxed{2} \\ \text{INDEX } \boxed{3} \\ \text{RESTR } \boxed{C1} \oplus \dots \oplus \boxed{C_n} \end{array} \right] \end{array} \right]$$

$$\left[\begin{array}{l} \text{word} \\ \text{SYN } \left[\begin{array}{l} \text{HEAD } \boxed{1} \\ \text{VAL } \left[\begin{array}{l} \text{COMPS } \langle \boxed{5}, \dots, \boxed{m} \rangle \\ \text{SPR } \boxed{D} \\ \text{MOD } \boxed{E} \end{array} \right] \end{array} \right] \\ \text{SEM } \left[\begin{array}{l} \text{MODE } \boxed{2} \\ \text{INDEX } \boxed{3} \end{array} \right] \end{array} \right]$$

An Instance of the HCC

