Ling 566
Dec 2, 2025

Variation in the English Auxiliary System

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Overview

- 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)

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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

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

0

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

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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

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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

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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.
- New journal! *Journal of Black Language and Culture (JBLAC)* (2025-) Anne H. Charity Hudley,

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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

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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*

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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 ∅ good, Rednall!*

Be nice to your mother!
**∅ 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, ∅ it?*

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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 ∅

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

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

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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

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Two Possible Analyses

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

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

2. Write a special grammar rule for verbless clauses:

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

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A Counterexample to Both:

How old you think his baby ∅

- 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

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The Silent *be* Analysis

Silent *be* Lexical Rule

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

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

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Some Questions About This Rule

Silent *be* Lexical Rule

$$\begin{bmatrix} \textit{i-rule} \\ \text{INPUT} & \langle \text{be} , \text{X} \rangle \\ \text{OUTPUT} & \left\langle \phi , \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{AGR} & \textit{non-1sing} \\ \text{FORM} & \text{fin} \\ \text{INV} & - \end{bmatrix} \end{bmatrix} \right\rangle \end{bmatrix}$$

QUESTION	ANSWER
Which lexemes does it apply to?	Those spelled *be*
Why is the output [FORM fin]?	**You got to ∅ good*
Why is the output AGR *non-1sing*?	**I ∅ hungry.*
Why is the output [INV –]?	**It ain't a flower show, ∅ it?*

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How does this account for LDDs?

Silent *be* Lexical Rule

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

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.

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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

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What do you think about empty categories?

0

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

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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

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Overview

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RQs: Grammar sharing

- I'm curious how we determine if two languages/dialects are similar enough to use the same HPSG grammar. What about languages where the grammar structure is the same but the lexicon is different?
- For creole languages (or pidgins I think), when developing an HPSG grammar, would you merge the grammars from the substrate and the superstrate? How would you go about buidling a grammar for one?

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RQs: Language variation

- What diagnostics do linguists use to tell a dialect from performance errors? Does speaker population play a role? What kinds of other evidence show that a pattern like AAVE copula absence is part of a community grammar?
- What is the situational element that determines whether a statement is said in "broken SAE" vs following the rules of AAVE? And (if at all), when does it matter?

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RQs: Language variation

- I have noticed over the years though what seems like aspects of AAVE's grammar creeping into English (primarily slang but also phrases like "I be doin X" I've heard very normal/formal people around me saying as well). Is that something we have any evidence for since this chapter was written too?

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RQs: Copula absence in other languages

- Is the silent copula only a feature of AAVE, or does it also apply to other copula-free languages?
- I was wondering if any of this applies to ASL or if ASL operates by different syntax than spoken language.

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RQs: Psycholinguistics

- How can we empirically test whether AAVE speakers mentally represent a silent copula (as in the Silent Be Lexical Rule) or instead use a purely phrase-structure-based zero-copula construction?

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RQs: Language attitudes/ideologies

- It makes me think of the difficulty of proposing an analysis for a language, where prescriptivism is so common. How many new words and varieties have been effectively killed by this mindset? How does one decide the amount of differences that makes something an ‘official’ variation?

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Ch 16 - just for fun

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Words and Phrases as Saussurean Signs

$$\left[\begin{array}{ll} \textit{word} & \\ \text{PHON} & \langle\ \text{Kim}\ \rangle \\ \text{SEM} & \left[\begin{array}{ll} \text{MODE} & \text{ref} \\ \text{INDEX} & i \\ \text{RESTR} & \left\langle \left[\begin{array}{ll} \text{RELN} & \textbf{name} \\ \text{SIT} & s \\ \text{NAME} & \text{Kim} \\ \text{NAMED} & i \end{array}\right] \right\rangle \end{array}\right] \end{array}\right]$$

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Augmented Signs

$$\begin{bmatrix} word & & \\ \text{PHON} & \langle\ \text{Kim}\ \rangle & \\ \text{SYN} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} noun & \\ \text{AGR} & 3sing \end{bmatrix} \end{bmatrix} & \\ \text{ARG-ST} & \langle\ \ \rangle & \\ \text{SEM} & \begin{bmatrix} \text{MODE} & \text{ref} \\ \text{INDEX} & i \\ \text{RESTR} & \left\langle \begin{bmatrix} \text{RELN} & \textbf{name} \\ \text{SIT} & s \\ \text{NAME} & \text{Kim} \\ \text{NAMED} & i \end{bmatrix} \right\rangle \end{bmatrix} & \end{bmatrix}$$

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Phrases as Signs

$$\left[\begin{array}{ll} \textit{phrase} & \\ \text{PHON} & \langle\ \text{Kim}\ ,\ \text{walks}\ \rangle \\ \text{SYN} & \left[\begin{array}{ll} \text{HEAD} & \left[\begin{array}{ll} \textit{verb} & \\ \text{FORM} & \text{fin} \end{array}\right] \\ \text{SPR} & \langle\ \rangle \\ \text{COMPS} & \langle\ \rangle \end{array}\right] \\ \text{SEM} & \left[\begin{array}{ll} \text{MODE} & \text{prop} \\ \text{INDEX} & s \\ \text{RESTR} & \left\langle \left[\begin{array}{ll} \text{RELN} & \textbf{name} \\ \text{NAME} & \text{Kim} \\ \text{NAMED} & i \end{array}\right], \left[\begin{array}{ll} \text{RELN} & \textbf{walk} \\ \text{SIT} & s \\ \text{WALKER} & i \end{array}\right], \ldots \right\rangle \end{array}\right] \end{array}\right]$$

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Types and Constraints

TYPE	FEATURES/VALUE TYPES	IST
sign	$\begin{bmatrix} \text{PHON} & \textit{list}(\textit{form}) \\ \text{SYN} & \textit{syn-cat} \\ \text{SEM} & \textit{sem-cat} \end{bmatrix}$	*feat-struc*
expression		*sign*
lex-sign	$[\text{ARG-ST} \quad \textit{list}(\textit{expression})]$	*sign*
phrase		*expression*
word		*expression* & *lex-sign*
lexeme		*lex-sign*

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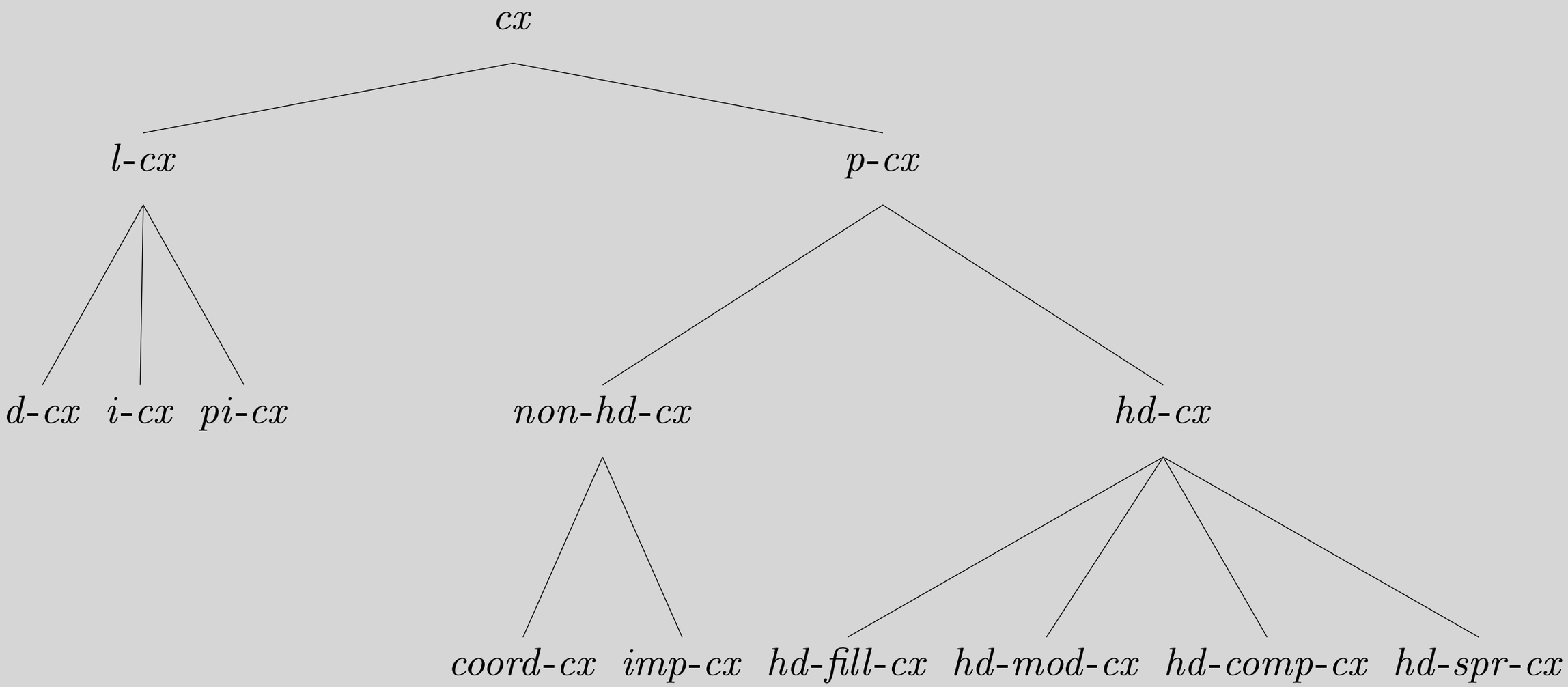
The World of Constructions



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Properties of Constructions

TYPE	FEATURES/VALUE TYPES	IST
cx	$\begin{bmatrix} \text{MOTHER} & \textit{sign} \\ \text{DTRS} & \textit{list}(\textit{sign}) \end{bmatrix}$	*feat-struc*
l-cx	$\begin{bmatrix} \text{MOTHER} & \textit{lex-sign} \\ \text{DTRS} & \langle\ \textit{lex-sign}\ \rangle \end{bmatrix}$	*cx*
p-cx	$\begin{bmatrix} \text{MOTHER} & \textit{phrase} \\ \text{DTRS} & \textit{list}(\textit{expression}) \end{bmatrix}$	*cx*

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Two Constraints

Root Constraint:

$$\begin{bmatrix} \text{SYN} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \textit{verb} \\ \text{FORM} \quad \text{fin} \end{bmatrix} \\ \text{VAL} & \begin{bmatrix} \text{COMPS} & \langle\ \rangle \\ \text{SPR} & \langle\ \rangle \end{bmatrix} \\ \text{GAP} & \langle\ \rangle \end{bmatrix} \end{bmatrix}$$

Principle of Order:

$$cx: \begin{bmatrix} \text{MOTHER} & [\text{PHON} \quad \boxed{\text{A1}} \oplus \ldots \oplus \boxed{\text{An}}\ ] \\ \text{DTRS} & \langle\ [\text{PHON}\ \boxed{\text{A1}}]\ ,\ \ldots\ ,\ [\text{PHON}\ \boxed{\text{An}}]\ \rangle \end{bmatrix}$$

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Semantic Compositionality Principle

$$cx: \begin{bmatrix} \text{MOTHER} & [\text{SEM } [\text{RESTR } \boxed{\text{A1}} \oplus \ldots \oplus \boxed{\text{An}} \,]] \\ \text{DTRS} & \langle\, [\text{SEM } [\text{RESTR } \boxed{\text{A1}}]] \;,\; \ldots \;,\; [\text{SEM } [\text{RESTR } \boxed{\text{An}}]] \,\rangle \end{bmatrix}$$

Alternative Version:

$$cx: \begin{bmatrix} \text{MOTHER} & [\text{SEM } [\text{RESTR } \boxed{\text{A0}} \oplus \boxed{\text{A1}} \oplus \ldots \oplus \boxed{\text{An}} \,]] \\ \text{DTRS} & \langle\, [\text{SEM } [\text{RESTR } \boxed{\text{A1}}]] \;,\; \ldots \;,\; [\text{SEM } [\text{RESTR } \boxed{\text{An}}]] \,\rangle \\ \text{CX-SEM} & \boxed{\text{A0}} \end{bmatrix}$$

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Headed Constructions

TYPE	FEATURES/VALUE TYPES	IST
hd-cx	[HD-DTR *sign*]	*cx*

Head Feature Principle:

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

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Two More Principles

Semantic Inheritance Principle:

$$hd\text{-}cx : \begin{bmatrix} \text{MOTHER} & \begin{bmatrix} \text{SEM} & \begin{bmatrix} \text{MODE} & \boxed{1} \\ \text{INDEX} & \boxed{2} \end{bmatrix} \end{bmatrix} \\ \text{HD-DTR} & \begin{bmatrix} \text{SEM} & \begin{bmatrix} \text{MODE} & \boxed{1} \\ \text{INDEX} & \boxed{2} \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

Valence Principle:

$$hd\text{-}cx : \begin{bmatrix} \text{MOTHER} & [\text{SYN} & [\text{VAL} & / \boxed{1}]] \\ \text{HD-DTR} & [\text{SYN} & [\text{VAL} & / \boxed{1}]] \end{bmatrix}$$

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The GAP Principle

hd-cx:

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

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The Head-Complement Construction

$$hd\text{-}comp\text{-}cx : \begin{bmatrix} \text{MOTHER} & [\text{SYN} \; [\text{VAL} \; [\text{COMPS} \; \langle \; \rangle \;]\,]\,] \\ \text{HD-DTR} & \boxed{0}\begin{bmatrix} word \\ \text{SYN} \; [\text{VAL} \; [\text{COMPS} \; \boxed{A} \;]\,]\,] \end{bmatrix} \\ \text{DTRS} & \langle \; \boxed{0} \; \rangle \; \oplus \; \boxed{A}nelist \end{bmatrix}$$

And with inherited constraints....

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$$\left[\begin{array}{ll}
\text{MOTHER} & \left[\begin{array}{ll}
\text{PHON} & \boxed{\text{A1}} \oplus \ldots \oplus \boxed{\text{An}} \\
\text{SYN} & \left[\begin{array}{ll}
\text{HEAD} & \boxed{1} \\
\text{VAL} & \left[\begin{array}{ll}
\text{COMPS} & \langle\ \rangle \\
\text{SPR} & \boxed{\text{D}} \\
\text{MOD} & \boxed{\text{E}}
\end{array}\right]
\end{array}\right] \\
\text{SEM} & \left[\begin{array}{ll}
\text{MODE} & \boxed{2} \\
\text{INDEX} & \boxed{3} \\
\text{RESTR} & \boxed{\text{C1}} \oplus \ldots \oplus \boxed{\text{Cn}}
\end{array}\right]
\end{array}\right] \\
\text{HD-DTR} & \boxed{4}\left[\begin{array}{ll}
\textit{word} & \\
\text{SYN} & \left[\begin{array}{ll}
\text{HEAD} & \boxed{1} \\
\text{VAL} & \left[\begin{array}{ll}
\text{COMPS} & \langle\ \boxed{5}\ ,\ \ldots\ ,\ \boxed{\text{m}}\ \rangle \\
\text{SPR} & \boxed{\text{D}} \\
\text{MOD} & \boxed{\text{E}}
\end{array}\right]
\end{array}\right] \\
\text{SEM} & \left[\begin{array}{ll}
\text{MODE} & \boxed{2} \\
\text{INDEX} & \boxed{3}
\end{array}\right]
\end{array}\right] \\
\text{DTRS} & \left\langle \boxed{4}\left[\begin{array}{ll}\text{PHON} & \boxed{\text{A1}} \\ \text{RESTR} & \boxed{\text{C1}}\end{array}\right], \boxed{5}\left[\begin{array}{ll}\text{PHON} & \boxed{\text{A2}} \\ \text{RESTR} & \boxed{\text{C2}}\end{array}\right], \ldots, \boxed{\text{m}}\left[\begin{array}{ll}\text{PHON} & \boxed{\text{An}} \\ \text{RESTR} & \boxed{\text{Cn}}\end{array}\right] \right\rangle
\end{array}\right]$$

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An Instance of the HCC

$$\left[\begin{array}{l}
\textit{hd-comp-cx} \\
\text{MOTHER} \left[\begin{array}{l}
\textit{phrase} \\
\text{PHON} \langle \text{ talked , to , Kim } \rangle \\
\text{SYN} \left[\begin{array}{ll} \text{HEAD} & \textit{verb} \\ \text{VAL} & \left[\begin{array}{l} \text{SPR} \quad \boxed{\text{A}}\langle \text{ NP } \rangle \\ \text{COMPS} \quad \langle\, \rangle \end{array}\right] \end{array}\right] \\
\text{SEM} \left[\text{ ... } \right]
\end{array}\right] \\
\text{HD-DTR} \quad \boxed{0} \\
\text{DTRS} \left\langle \boxed{0}\left[\begin{array}{l}
\textit{word} \\
\text{PHON} \quad \langle \text{ talked } \rangle \\
\text{SYN} \left[\begin{array}{ll} \text{HEAD} & \textit{verb} \\ \text{VAL} & \left[\begin{array}{l} \text{SPR} \quad \boxed{\text{A}} \\ \text{COMPS} \langle\, \boxed{1} \,\rangle \end{array}\right] \end{array}\right] \\
\text{SEM} \left[\text{ ... } \right]
\end{array}\right], \boxed{1}\left[\begin{array}{l}
\textit{phrase} \\
\text{PHON} \quad \langle \text{ to , Kim } \rangle \\
\text{SYN} \left[\begin{array}{ll} \text{HEAD} & \textit{prep} \\ \text{VAL} & \left[\begin{array}{l} \text{SPR} \langle\, \rangle \\ \text{COMPS} \langle\, \rangle \end{array}\right] \end{array}\right] \\
\text{SEM} \left[\text{ ... } \right]
\end{array}\right] \right\rangle
\end{array}\right]$$

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