

HG4041 Theories of Grammar

Sign-Based Construction Grammar

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Lecture 16

Location: LHN-TR+36

HG4041 (2020)

Overview

- Chapter 16 framework (same analyses, different underlying system)
- General wrap up

Construction Grammar (CxG)

- A family of grammars based on the idea that
 - Knowledge of a language comes from **form and function pairings**
 - **function** includes meaning, content, or intent (both semantics and pragmatics)
 - **form** includes phonology, syntax, orthography
- CxG grew out of generative semantics and cognitive linguistics, by researchers such as Charles Fillmore, Paul Kay and George Lakoff
- Instead of language as a grammar+lexicon, think of it as a structured network of families of constructions

Construction Grammars

- Sign-based-Construction Grammar (Berkeley Construction Grammar)
unification-based framework (with computational implementation)
- Goldbergian/Lakovian Construction Grammar
psychologically plausible
- Radical Construction Grammar
syntactic categories, roles, and relations are not universal:
they are not only language-specific, but also construction specific
- Embodied Construction Grammar
relates constructions to embodiment and sensorimotor experience
- Fluid Construction Grammar
learns grammars from the environment (with computational implementation)

Overview of Differences (SBCG vs HPSG)

- Multiple Inheritance
- Signs
- Grammar rules form a hierarchy — many more rules
- Every tree node has its own phonology
- Many principles become constraints on grammar rules
- The definition of well-formedness is simplified

Wrap Up

HPSG

Head-driven Phrase Structure Grammar

- Describes a set of strings
- Associates semantic representations (and trees) with well-formed strings
 - Is stated in terms of declarative constraints
 - ... which are order-independent
 - Locates most constraints ‘in the lexicon’
 - Is stated in a precise fashion

Parts of our model

- Type hierarchy (lexical types, other types)
- Phrase structure rules
- Lexical rules
- Lexical entries
- Grammatical principles
- Initial symbol

Universals in our model

- SHAC
- Binding theory
- Head-complement/-specifier/-modifier
- Head Feature Principle
- Valence Principle
- Semantic Compositionality Principle
- ...

Design Goals of our Model

- Precise
- Robust
- Psychologically Plausible
- Computationally Tractable

Course overview

- Survey of some phenomena central to syntactic theory
- Introduction to the HPSG framework
- Process over product: How to build a grammar fragment
- Value of precise formulation (and of getting a computer to do the tedious part for you!)

Reflection

- What was the most surprising thing in this class?
- What do you think is most likely wrong?
- What do you think is the coolest result?
- What do you think you're most likely to remember?
- How do you think this course will influence your work as a (computational) linguist?

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