

HPSG and LFG

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March 14, 2018

1 Introduction

[This is just a first sketch] LFG and HPSG are often thought of as being very similar. In fact, the differences are more significant than the similarities.

- a little bit of historical background
- similarities (constraint based, surface oriented, use of AVMs as representational devices, computational implementations)
- superficial differences (e.g. LFG has been applied to a wider range of languages)
- references to other introductions (e.g. Bresnan et al. (2015)) and standard references (e.g. Dalrymple (2001)) and shorter discussions (e.g. Müller (2016))

2 Architecture and Levels of Representation

- The ‘projection’ architecture of LFG
- c-structure, f-structure, other levels – discussion of what these correspond to in HPSG
- formal differences (e.g. typed vs untyped feature structures; non-monotonic apparatus, completeness and coherence, =c; ‘restriction’ operator)

3 Difference in Apparatus

For example:

- functional uncertainty as an approach to unbounded dependencies
- off-path constraints
- x-bar syntax and the theory of c-structure
- distributive and non-distributive features
- ?lexical sharing?

4 The Syntax-Semantics Interface: ‘Glue’

There are several approaches to semantics in HPSG, LFG has fundamentally two: (i) a set up derived from work on machine translation; (ii) the ‘glue’ approach (this has been suggested for HPSG, in Asudeh and Crouch (2002), but has not had much up-take).

This section will provide a brief introduction to ‘glue’.

5 Particular Phenomena

Depending on space available, I try to look at discuss some of the following

- Treatment of Adjuncts
- Agreement
- English Aux word order
- Binding Theory
- Free word order/non-configurational languages
- Linking (Lexical Mapping Theory), passive
- Raising and Control

- Coordination

6 Conclusion

There are a few things I will have been discussed, but which I will mention here (e.g. Optimality Theory and LFG)

7 Some References

- Asudeh, Ash and Crouch, Richard. 2002. Glue Semantics for HPSG. In Frank Van Eynde, Lars Hellan and Dorothee Beermann (eds.), *The Proceedings of the 8th International Conference on Head-Driven Phrase Structure Grammar*, pages 1–19, Stanford: CSLI Publications.
- Bresnan, Joan, Asudeh, Ash, Toivonen, Ida and Wechsler, Stephen. 2015. *Lexical-functional syntax*, volume 16. John Wiley & Sons.
- Brown, Dunstan and Sells, Peter. 2016. Archi As a Basis for Comparing Different Frameworks. In Oliver Bond, Grev Corbett, Marina Chumakina and Dunstan Brown (eds.), *Archi: Complexities of agreement in cross-theoretical perspective*, pages 233–260, Oxford: Oxford University Press.
- Dalrymple, Mary. 2001. *Lexical Functional Grammar*, volume 34 of *Syntax and Semantics*. New York: Academic Press.
- Müller, Stefan. 2016. *Grammatical Theory: From Transformational Grammar to Constraint-Based Approaches*. Textbooks in Language Sciences, No. 1, Berlin: Language Science Press.