Chapter 1

Introduction

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This chapter discusses how HPSG deals with semantic issues. It focuses on those aspects that are specific to HPSG and, in particular, recent approaches that make use of underspecified semantic representations, as they are quite unique to HPSG.

1 A non-isomorphic approach to the interface between syntax and semantics

It is characteristic of Principles and Parameters or Minimalism that semantic representations are assumed to be, for a large part, read off rather directly from syntactic representations (see the work of Heim and Kratzer, for example). A consequence of HPSG's more surface-oriented approach to syntactic representations is that the relation between syntactic and semantic representations is not "mostly isomorphic." A good deal of work on semantics in the early days of HPSG was devoted to discussing exactly how appropriate semantic representations could be derived from quite distinct syntactic representations. The work of Pollard and Sag on how to derive scope ambiguities without LF movement and the interaction between scope and adjunct interpretation by Kasper are good examples of this kind of strategy. We will also discuss the semantics of adverbial modification and its rather varied syntactic realization, another area of research focus in HPSG.

2 A rich ontology

One of the hallmarks of HPSG is the typing of all grammatical objects, including semantic objects. Quite a bit of work on semantics in HPSG has thus focused on how to put a hierarchical organization of semantic sorts (we use this term rather than *semantic types*, as this term has another meaning in semantics) to good use in modeling the interface between syntax and semantics.

2.1 Lexical sort hierarchy and deriving generalizations about word syntactic contexts

One of the first systematic use of semantic sorts was in the area of lexical semantics where it helps modeling generalizations about the syntactic frame in which words (particularly verbs) occurs. This chapter will focus on how semantic organization was used and what the interpretation of this organization is, something sometimes left implicit in the relevant work.

2.2 Classifying propositions and speech acts

Another area where semantic sorts has been used extensively is in modeling questions, imperatives, particularly the work on Ginzburg and Sag. This section will detail that work.

3 Semantic underspecification

3.1 The motivation for semantic underspecification

We will mention the Verbmobil origin of the interest in underspecification within HPSG, as it is characteristic of the link between HPSG as a theory of grammar and implementations/practical applications.

3.2 MRS

We provide an introduction to MRS in this section, the way to understand MRS representations (which are likely to look odd to semanticists) and some of the work MRS has been put to, particularly scope ambiguities.

3.3 LRS

We will focus more on LRS than on MRS in the chapter for a couple of reasons. First, more *semantic* work proper has been done within LRS (work that uses LRS to solve semantic problems better than the current state of the art). Second, more recent work has been done in LRS, so it seems to represent a more live alternative than MRS.