

Jonathan Ginzburg and Ivan Sag (2000) *Interrogative Investigations: The Form, Meaning and Use of English Interrogatives.*

Review

John Nerbonne, Information Science  
P.O.Box 716, University of Groningen  
NL 9700 AS Groningen  
The Netherlands

Tel +31 50 363 58 15

Tel +31 50 363 68 55

Email: nerbonne@let.rug.nl

Word Count 2296

*Interrogative Investigations: The Form, Meaning and Use of English Interrogatives.*

By Jonathan Ginzburg and Ivan Sag. Stanford: CSLI. 2000. 359pp. + 76pp. (three) appendices + index. ISBN: 1-57586-277-8. \$30.00 (Cloth ISBN: 1-57586-277-8, \$65.00).

Reviewed by John Nerbonne, The University of Groningen

*Interrogative Investigations* (II) is a big, important book about the syntax and semantics of questions. It suggests innovations in a part of semantic theory in which consensus has reigned for fifteen years, placing its motivation moreover in the programmatic views of situation theory (ST). II takes a refreshingly broad view of interrogative grammar, examining *inter alia* WH questions (including both direct and indirect questions), infinitival questions, sluicing questions (*Someone here did this, but no one will say who*), and also two sorts of REPRISE questions ("echo questions" and others like them, see below), not all of which have received a great deal of theoretical attention. Finally, it formalizes the analysis thoroughly using the feature description language of Head-Driven Phrase Structure Grammar (HPSG), but one in which thoroughgoing lexicalism has given way completely to a CONSTRUCTION GRAMMAR (CG) perspective on the division of linguistic labor. I recommend it broadly to students of syntax and semantics.

The standard view of the semantics of questions, introduced by Karttunen (1977) and developed into canonical form especially by Groenendijk and Stokhof in a substantial series of publications (Groenendijk & Stokhof 1997), analyzes questions purely semantically as predicates of propositions, viz. the predicate that is true of exhaustive answers to questions. G&S object (p.14ff, p.100ff) (i) that the characterization of exhaustive questions is contextually determined and therefore not purely semantic; (ii)

that different questions may sometimes have the same exhaustive answers (but differ in polarity), a circumstance not foreseen in earlier treatments; and (iii) that partial answers (*Will she attend? —Possibly*) have no status in the theory. The authors postulate that questions should be semantically identified with the result of abstracting over argument positions in propositions. They note that this differs from earlier attempts to identify questions with  $\lambda$ -abstracts because of the richer ontology of ST. In ontologically poorer model theories a  $\lambda$ -abstract over a (closed) proposition is indistinguishable from a one-place relation, so that interpreting questions as abstractions over propositions in simpler theories led to a number of undesirable conflations. It would go beyond the bounds of this review to sketch the model theory G&S propose, but we find their claims plausible that their proposed semantics distinguishes questions and propositions reasonably, distinguishing in particular among polar (yes/no) and WH-questions, allows for a characterization of the notion ‘exhaustive answer’, and provides the necessary background to characterize partial answers.

An immediate benefit of the G&S view is that short answers to questions receive immediate analysis as arguments to the propositional abstract. This aspect of G&S analysis is developed in Ch. 8 of II, but it has already been exploited in language technology. Koeling (2001, Chap.3) experimented with an earlier version of the analysis in a telephone dialog system which provided train schedule information.

An advantage to the integrated presentation in II is that questions about the parallel grammar of WH-phrases on the one hand and quantifiers on the other can receive the coordinated attention they deserve. The view that questions are fundamentally abstracts is extended to cover questions with multiple WH-words, resulting in an account with

multiple abstraction without scope effects in this chapter. This suggests that other interactions of WH-movement and quantifiers not be reduced to scope differences, and this is indeed the line that G&S take. A valuable destructive contribution of Chap. 4 is the rejection of the tenet that syntactic WH-movement and quantifier scope variation may be reduced to the same grammatical operation. Ch.4 examines this thesis in several varieties and shows that it doesn't withstand scrutiny. In particular G&S show that the putative synonymy of questions multiple with WH-elements on the one hand and the pair-list readings of questions with universal quantifiers is in fact imperfect. At issue are questions such as *What books did each student read?*, which may be answered felicitously by providing pairs of students and books *Tom read 'The Iliad,' Sue read 'The Aeneid,'* . . . are interpreted as systematically different from combinations of WH-elements alone *Which student read which book?*. In particular only the question with the explicit quantifier allows a FUNCTIONALLY DEPENDENT reading, e.g., one which allows the answer *The book he was to be examined on.*

G&S couch their analysis in an HPSG/CG hybrid, making essential use of CG ideas at any number of points in the presentation, but especially in treating reprise questions and sluicing questions. CG's fundamental tenet is the wholehearted rejection of LEXICALISM, the view that syntactic structure is largely implicit in the lexical specification of words, and therefore as something we can "project" from them. "Constructions" are by definition not reducible to lexical properties. Given that HPSG earlier defined itself *inter alia* as lexicalist, we might expect some reflection on how such a radical change of viewpoint was possible, where earlier work went wrong, how methodology needs to change, and what sort of division of labor (lexicon/syntax) ought to be expected in

such a mix. Generalized Phrase Structure Grammar (GPSG) treated subcategorization largely as a constructional property, for example, which HPSG abandoned in favor of the lexicalist treatment it maintains in II. Is there a system to the lexicon/syntax division of labor, or is this something that needs to be reconsidered in every analysis? G&S emphasize instead how the type inheritance hierarchy that HPSG has always employed to code lexical commonalities (Flickinger & Nerbonne 1992) may be put to good use in encoding the common properties of constructions, and this does seem appealing.

It is not always clear why other HPSG innovations are presented prominently in this book about questions. It allows the authors to present the work on questions as fully integrated with their thoughts on grammar in general, but it also burdens the book with material that is not obviously essential to the goals of the II enterprise. HPSG is presented here as employing essentially a default mechanism for combining information, which is independently interesting, but which seems to play no essential role in this analysis of questions. II offers a novel treatment of English auxiliaries, which might arguably be very relevant, figuring in the syntax of inversion, but the novelty is not exploited in furthering the arguments of the book. Additionally, the new take on auxiliaries relies on unpublished material (see p.29ff), and its presentation is challengingly brief and distributed among several sections of the book.

Given the authors' theoretical ambitions, and the role that WH-movement plays in discussions of linguistic theory, I expected to find a treatment of unbounded movement from a CG perspective. Chap. 5 offers a slightly modified variety of the standard HPSG treatment, with only a single remark in passing to work by Postal, indicating the island phenomena are heterogeneous, providing grist to the constructionist's mill.

The chapter is nonetheless remarkable for its detailed specification of a wide variety of pied-piping types, including those involving possessives (*whose cousin*), measure phrases (*how quickly*), prepositions (*to whom*), and adjective phrases (*how honest a person*). The presentation is very compact, but all the specifications I checked had been worked out carefully.

Chapter 7 on REPRISE QUESTIONS (the term is from Bolinger) contains a good deal of novel material which is likewise relevant to ongoing theoretical discussion. G&S distinguish two subtypes of reprises, echo-questions and others. The term ‘echo question’ is reserved for questions in which misunderstood material is inquired after, using an interrogative pronoun *in situ*: *Please pass me the [auditorily indistinct]. — Pass you WHAT?*, which are shown to be distinct in contextual conditioning from other questions in which the interrogative pronoun appears *in situ*:

A. (recently married) We’re going to buy a house!

B. (skeptical in-law) And you’re going to pay for it with WHAT?

The authors make the important point that these constructions conform to standard constraints on (English) syntax, such as those on the parallelism of coordinate structures, the restrictions on extraction in complex noun phrases, and what they call the UNIT-MOVEMENT CONSTRAINT, which prohibits extraction of a common noun phrase in construction with a determiner (i.e., moving a noun without its determiner). This means that one should not be willing easily to dismiss the structures as somehow peripheral with respect to syntactic theory. They note that this might seem more plausible from the perspective of I-language, “the internalized notion of structure in the mind of the speaker”, since reprises involve interaction essentially. The HPSG/CG perspective seems valuable here, emphasizing as it does that linguistic signs join sev-

eral dimension, since it turns out that these structures license very specific meanings on the basis of specific conditions on context, while the analysis is syntactically conservative. The reprise (B) above has the standard syntax of a declarative clause. In fact on the II analysis (p.272) reprise questions and other *in situ* questions are syntactically constrained only in that they must be matrix clauses.

G&S repeat the claim that there are no subjunctive interrogatives in English, and this seems right if we regard only the bare stem third singular as the subjunctive form, but what do we make of third-singular *were* in examples such as *[...] gossip about whether he were gay[...]*” (International Herald Tribune, indexed by Google)? Google finds *is* about 30 times more frequently than *were* in the context *whether he/she/it X*, and many examples are conditional rather than interrogative, but there are easily dozens of convincing examples.

The careful reader familiar with HPSG will pick up a number of technical innovations, often with no special comment, which are nonetheless useful. The capacity of relative clauses to modify nouns was never easily accounted for in lexical grammars, where it should ultimately arise from the projection of a lexical head. This would suggest that the property ultimately resides in the verb in examples such as *a guy he knows*, which, however, leads to complications in predicting other properties of relative clauses. Treating combinations of nouns and relative clauses as constructions (p.41) seems less roundabout. Now that HPSG is taking context more seriously, perhaps as a correlate of accepting the fundamental ideas of construction grammar, a technique was need to characterize the many-many relation of form and context which may arise once contextual requirements are recognized as distinguishing construction types. G&S sug-

gest that some linguistic signs may not be coupled directly with a particular form but rather that they are realized through subcategorization for a MESSAGE ARGUMENT, which may, in turn, be of various sorts (pp.272-273ff), providing minimally a means of encoding this sort of relation.

The authors have worked to make the book more easily digestible, providing an appendix that collects all formal definitions and a very complete index, which are, however, not always in perfect synchrony. They helpfully shade parts of structure diagrams crucial to immediate discussions. But there remain presentational problems. Most profoundly, the syntax and semantics sections of the book are written very differently. The semantics sections are written at a level aimed to establish quite general properties of questions, e.g., whether exhaustive answers distinguish questions finely enough. Once general properties are established, the reader is eager to see how the ideas are realized more concretely, i.e., to work through the model theory as well as the mechanics of type inheritance and unification in HPSG rules. The syntax sections of the book, on the other hand, tend to conduct the discussion via the formal feature description language and commentary on it. The formal specifications are so elaborate that the structure of even very short sentences fills a page. Perhaps this problem is exacerbated by the (justified) pride HPSG takes in providing explicit and detailed specifications. While emphatically agreeing that such specifications should be available, still, I find myself at times fighting my way through pages of complex, interlocking definitions wishing that more abstract characterizations were available. Just as algorithms have for years been specified in (often somewhat vague) pseudo-code in professional journals, instead of in completely explicit object code, so linguistic ideas may often be presented prof-

itably at more abstract, and therefore more general levels—as they are, in fact, in the semantics sections of the book.

HPSG has long claimed to have a special affinity with ST, but this book is the first extended attempt to provide linguist analysis joining the two. The two frameworks seem more inclined to reflect empirical complexity directly in theory than their competitors, and, especially now that HPSG has embraced CG principles, to share a deep commitment to linguistic analysis which respects the role of context in mediating meaning. Finally, HPSG has championed a constraint-based view of grammar, like ST, where constraint- based views controversially contrast with semantics in the possible worlds framework. There is no extended discussion aimed at justifying the HPSG/ST marriage or at analyzing which II results are in particular collaborative products. I see, however, little that would prevent the interested grammarian from accepting only the syntax or, alternatively, only the semantics. And if this is true, it might also have been clearer to have separate books so that each complicated set of ideas might be judged on its own merits.

The book was prepared carefully but there were some few slips in production, e.g., when line spacing becomes erratic (p.272), and the incomplete abbreviations list (pp.417-420, missing, e.g., *ns-wh-int-cl*), does not always jibe perfectly with abbreviations in the type hierarchy (p.363, where, e.g., *repriseis* abbreviated *rep*, while abbreviated as *repr* elsewhere). Given the complexity of the book, it is remarkably free of such minor annoyances.

To summarize: a book with a great deal on the syntax and semantics of questions, as well as important updates on how theories of grammar (HPSG, CG) and context

(ST) may be commonly invoked in problems of analysis.<sup>1</sup>

## References

- FLICKINGER, DANIEL, & JOHN NERBONNE. 1992. Inheritance and complementation: A case study of *easy* adjectives and related nouns. *Computational Linguistics* 19.269–309.
- GROENENDIJK, JEROEN, & MARTIN STOKHOF. 1997. Questions. In *Handbook of Logic and Language*, ed. by Johan van Benthem & Alice ter Meulen, 1055–1124. Cambridge, USA: MIT.
- KARTTUNEN, LAURI. 1977. Syntax and semantics of questions. *Linguistics and Philosophy* 1.3–44.
- KOELING, ROB, 2001. *Dialogue-Based Disambiguation: Using Dialogue Status to Improve Speech Understanding*. University of Groningen dissertation.

---

<sup>1</sup>I benefited from extensive discussions of this book with Gosse Bouma, Leonoor van der Beek, Gerlof Bouma, Begona Villada Moiron, Susanne Schoof and Jennifer Spenader, all of the University of Groningen.