

## Book review

*Interrogative Investigations, Jonathan Ginzburg and Ivan A. Sag*

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

Jonathan Ginzburg and Ivan A. Sag

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In the well-known parable of the blind men and the elephant, several blind men are each asked to describe their own view of what an elephant is. Naturally, each man provides and vehemently defends a very different description, depending on which part of the elephant he is feeling. The linguistic analysis of questions is certainly a pretty big elephant, in terms of both the complexity of the topic and the amount of literature devoted to it. Indeed, questions have been amply analyzed from both syntactic and semantic viewpoints (not to mention logic, pragmatics, etc.), but it is very seldom that a unified view with large empirical coverage has been presented. This is the ambitious task that Ginzburg and Sag undertake in this voluminous book.

The book starts with an introduction of the authors' main approach (Chapter 1) and a review of the basic tenets of HPSG, restricted to declarative clauses (Chapter 2). The authors' basic approach to the semantics of questions is then presented, starting with an exposition of a detailed semantic ontology including propositions, outcomes, facts, and questions (Chapter 3), followed by the basic semantics of questions as propositional abstracts (Chapter 4). An HPSG account of unbounded dependencies follows, based on percolation of the SLASH feature (Chapter 5). Syntax and semantics are then integrated to provide a full treatment of basic interrogatives and exclamatives (Chapter 6). A thorough analysis of reprise questions, a topic that has usually



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escaped detailed attention in the linguistic literature, is provided next (Chapter 7). The authors then show how the basic approach can be extended to account for short answers, sluicing, and negative questions (Chapter 8). The book closes with a substantial appendix, providing type hierarchies, type constraints, formal definitions of the semantics, and lexical entries (Appendices A, B, and C).

The main evolutionary change in HPSG from earlier versions (Pollard and Sag, 1994) is a move toward *Construction Grammar* (Sag, 1997; Kay and Fillmore, 1999). Whereas earlier HPSG adopted Lexicalism, the view that features of derivations are projected from the lexicon, Construction Grammar enumerates different kinds of allowed constructions as basic. As an example (Chapter 1, Example 7), certain wh-words may appear in wh-questions, requiring inversion of the auxiliary (Which desk did they build?), wh-relatives (the desk which they built. . .) and wh-exclamatives (What an ugly desk they built!), but not in the extracted position of topicalized sentences (That desk, my friend from Denmark built). In a lexicalized grammar, it would have been up to the lexical entries of the wh-words (*e.g.*, which) to account for these facts. In Construction Grammar, each of these may be a separate construction. Adopting constructions allows the authors to bring more and more phenomena into the purview of the grammar.

Despite being distinct, different constructions might nevertheless have striking commonalities. Ginzburg and Sag show how such regularities may be compactly encoded into a type hierarchy with multiple inheritance. This approach allows the flexibility of introducing as many constructions as necessary, while not sacrificing generalization. Not surprisingly though, these hierarchies tend to be quite complex, however well-motivated. A similar approach underlies the authors' semantic ontology of clause types, where the main argument is that different classes of verbs sub-categorize for different kinds of clause type.

A second, technical, HPSG innovation is the unification of HPSG's principles into a single default one, the *Generalized Head Feature Principle* (GHFP), which states that a headed phrase must *by default* share the SYNSEM feature of its head. This default may be overridden by constructions, which replace the additional principles of previous versions of HPSG. For instance, a head-complement construction replaces the *Valency Principle* (Pollard and Sag, 1994) in ensuring that the complements of a head are checked off, before being inherited by the mother phrase.

With the use of HPSG comes a very welcome (and uncommon) insistence on spelling out syntactic analyses in explicit detail. By using constructions, this tradition is emphasized even further, allowing a treatment of the quirks and idiosyncrasies of English. This level of

explicitness also paves the way toward a computational implementation of the grammar.

Ginzburg and Sag analyze the meanings of questions as abstractions over propositions. A simple wh-question (Who left?) is just an abstraction over the single variable position being asked about (the potential subjects of leave). Polar questions (Did Bo leave?) are 0-ary abstractions, and multiple wh-questions (Who saw whom?) induce  $n$ -ary abstraction over multiple variable positions. Importantly, the authors use *simultaneous abstraction*, rather than piecemeal Currying of multiple  $\lambda$ -operators. Multiple wh-phrases thus combine to form a single abstraction operator, which always take highest scope over any additional generalized quantifier (GQ) in the sentence. Pair-list readings (Which book did each person read? John read War and Peace, and Bill read Anna Karenina.), which would otherwise appear to support a universal quantifier scoping over questions, are explained by reducing them to a pairwise specification of a *functional* answer (Engdahl, 1986).

This view diverges significantly from many previous approaches that attempt to interpret wh-phrases as denoting a form of GQ. The authors provide several striking items of linguistic evidence to support this view. For instance, singular which phrases give rise to a uniqueness presupposition. Multiple singular which-phrases lead (to a first approximation) to a presupposition of a bijective reading. For instance, Which person read which book? presupposes a unique book per reader. If one wh-phrase scopes over another, it would be difficult to reconstruct the bijection presupposition incrementally. Instead an *absorption* operation (Higginbotham and May, 1981) would be needed to combine them, in order to apply the bijection presupposition as a global constraint. However, if simultaneous abstraction is used, then the different wh-phrases are already “pre-absorbed”, and no special operation is necessary. While Ginzburg and Sag’s evidence against a GQ approach is appealing, it does not appear to provide a knock-down proof against it.<sup>1</sup> In any case, the onus is now on the holders of the GQ view to account for such evidence.

The book frames its semantic theory within Situation Semantics (Barwise and Perry, 1983). Situations, which are partial by definition, purport to provide finer-grained control on the semantic contribution of clauses. For instance, positive and negative questions (Did Bo leave/not leave?) are usually assumed to have the same answers, and therefore often considered equivalent (Groenendijk and Stokhof, 1997). By contrast, Ginzburg and Sag interpret them as different entities, by applying

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<sup>1</sup> In particular, the presuppositions of questions are a more complex topic (Rullmann and Beck, 1998).

a question operator to a positive or negative relation (leaving/not leaving), respectively. Their definition of answerhood ensures that while being distinct, the answerhood conditions of both polarizations will coincide. This approach allows subtle contextual restrictions such as in the acceptability of French *si* with negative but not positive questions. This offers convincing evidence that Situation Semantics can be used to account for such phenomena. What is less evident is to what degree the authors' adoption of Situation Semantics together with related assumptions (rejection of the foundation axiom, defeasible reasoning, not-quite-classical negation of propositions) is necessary to handle these constructions.

The syntactic analysis of questions relies on the authors' HPSG treatment of unbounded dependencies. This analysis eschews overt gaps, traces and the like, and instead uses the SLASH feature to encode the "extracted" argument. The SLASH feature is percolated up the derivation tree by virtue of the GHFP (rather than a special SLASH Inheritance Principle as in previous versions of HPSG). It is canceled off by a suitable filler, subject to the constraints of different constructions, which are used to account for different extraction types. Wh-phrases may also remain in-situ, in particular (but not exclusively) in reprise contexts (Jo saw WHO?). They also appear in exclamatives (What a sunset Kim painted!). Ginzburg and Sag's account not only "liberates" such utterance types from the domain of performance to the domain of competence, it also has a "democratizing" effect, of viewing all these utterance types as members of equal standing in a collection of different construction types.

Likewise, the authors provide a detailed treatment of short answers (such as Who left? Bo. or Who left? Every student. and even Did Bo leave? Yes.) and sluicing (I'm very tired. Since when?). These are handled using a general theory of discourse that keeps track of the facts that were established by the previous discourse and the questions that are currently under discussion. These are tracked using the CTEXT feature within the same feature structures used for the grammatical interpretation, allowing an anchor for answers and sluices to interact with. For instance, the meaning of yes is roughly something that extracts the queried proposition from the current polar question under discussion, and asserts it.

To summarize, Ginzburg and Sag's goal in this book has been to provide a unified syntactic and semantic view of the grammar of English questions. So, returning to the parable, what kind of "elephant" emerges from this view? It is certainly a noble creature: an integrated, thorough, and very plausible view of the grammar with rich empirical coverage. This is no small feat, and therefore makes the book highly

recommended for researchers interested in the analysis of natural language questions. However, it is also a cumbersome animal, with typed feature structures, a detailed semantic ontology, varied grammatical constructions, Situation Semantics using non well-founded sets, non-classical negation, simultaneous abstraction, etc. Further research will show whether a more nimble-footed description may be achieved allowing similar empirical coverage. While one is not necessarily obligated to accept all the theoretical commitments of the book, it would be imperative for any researcher on questions to heed the wealth of evidence contained in the book.

Finally, a note on style and typography. The linguistic analyses, both syntactic and semantic are always presented with clarity. The authors' use of abbreviation and shading (in addition to the hierarchy of constructions itself) is very useful in graphically containing otherwise unwieldy feature structures within the limits of a page. The book is exceptionally free of type-setting errors for its level of detail. A list of corrigenda nevertheless is to be found on the publisher's Web site.<sup>2</sup>

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### References

- Barwise, J. and J. Perry: 1983, *Situations and Attitudes*. Cambridge, MA: MIT Press.
- Engdahl, E.: 1986, *Constituent Questions: The syntax and semantics of questions with special reference to Swedish*. Dordrecht: Reidel.
- Groenendijk, J. and M. Stokhof: 1997, 'Questions'. In: J. van Benthem and A. ter Meulen (eds.): *Handbook of Logic and Language*. Amsterdam: Elsevier Science, pp. 1055–1124.
- Higginbotham, J. and R. May: 1981, 'Questions, Quantifiers, and Crossing'. *The Linguistic Review* **1**, 41–79.
- Kay, P. and C. J. Fillmore: 1999, 'Grammatical Constructions and Linguistic Generalizations: The What's X Doing Y? Construction'. *Language* **75**(1), 1–33.
- Pollard, C. J. and I. A. Sag: 1994, *Head-Driven Phrase Structure Grammar*. Chicago: University of Chicago Press.
- Rullmann, H. and S. Beck: 1998, 'Presupposition projection and the interpretation of *which*-questions.'. In: *Proceedings of Semantics and Linguistic Theory (SALT) VIII*. Ithaca, NY, pp. 215–232, Cornell University Department of Linguistics.
- Sag, I. A.: 1997, 'English Relative Clause Constructions'. *Journal of Linguistics* **33**(2), 431–484.

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<sup>2</sup> <http://cslipublications.stanford.edu/site/1575862786.html>



