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Nirit Kadmon, *Formal Pragmatics: Semantics, Pragmatics, Presupposition, and Focus*. Oxford: Blackwell, 2001. xi + 430 pages.

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Formal Pragmatics concerns several topics that lie on the border between semantics and pragmatics. The back cover of the book states that the volume “serves as a textbook, as well as a reference or research book”. Since I have used the book in the classroom, I will mostly concentrate on evaluating it as a textbook. I start, however, with evaluating the book as a reference and research monograph.

The book consists of three parts, covering definite and indefinite NPs, presupposition, and intonational focus. The first part is mostly based on Kadmon’s previous work on NPs with numeral determiners and on uniqueness of definite NPs, with an introductory chapter on Discourse Representation Theory (Kamp 1981; Kamp and Reyle 1993) and File Change Semantics (Heim 1982). The second part is concerned mostly with the problem of presupposition projection; Heim’s (1983) treatment in terms of context change potentials and local accommodation is presented gradually, and at each stage Kadmon contrasts Heim’s approach with competing theories. The third part deals with intonational focus, and the picture that emerges from the discussion is that focus is not the product of idiosyncratic rules, but rather a reflex of general constraints on discourse. The parts are largely independent of one another.

The book is not programmatic: Kadmon does not attempt to define the field of formal pragmatics, or to delimit the boundary between semantics and pragmatics, but is rather concerned with the small set of topics outlined above. The book does present an overall view of what constitutes a pragmatic explanation, which is probably brought out in its clearest form in a short section titled “the pragmatic wastebasket” (section 3.2, pp. 75–76). The argument in a nutshell is that classifying a process as pragmatic or semantic is not in itself explanatory; insight into a problem is gained by showing exactly what pragmatic forces are at work, and how they interact with an explicit semantics. This section follows the exposition of

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Kadmon's theory for NPs with numeral determiners (chapter 3, pp. 68–76). Since this is representative of the overall attitude of the book towards pragmatics, I will go over the argument in detail.

Kadmon's proposal, which stems from her dissertation (Kadmon 1987: chapter 4), treats NPs like *two boys* on par with indefinites like *a boy*. The indefinite NP *two boys* introduces a discourse referent, and adds a condition that it is of cardinality 2; it differs from the NP *at least two boys*, which predicates a cardinality of at least 2. A sentence like *two boys came in* receives an "at least" interpretation because discourse referents are subject to existential quantification at the level of the whole discourse (Kamp 1981), so in case three boys came in it is possible to map the discourse referent to two boys that came in, making the sentence true. In predicative position no new discourse referent is introduced, and the result is that predicative NPs receive an "exactly" reading: the sentence *Bill, John and Adam are two boys* is false because the predicate states that an existing discourse referent, corresponding to Bill, John and Adam, is of cardinality 2. In contrast, the sentence *Bill, John and Adam are at least two boys* is true because the predicate states that the cardinality is at least 2. The analysis also correctly predicts a difference in anaphora between bare numeral determiners and *at least* numeral determiners: in the discourse *two boys came in; they sat down* the pronoun *they* can only refer to a group of two boys, even if more than two boys came in; whereas the same pronoun in the discourse *at least two boys came in; they sat down* can refer to all the boys that came in. The difference stems from the formal representation of the subject NPs – in the first discourse the pronoun *they* refers back to a discourse referent of cardinality 2, while in the latter discourse it picks up a discourse referent whose cardinality is 2 or more.

Pragmatics comes into play in explaining why sentences with an NP like *two boys* in argument position, which are predicted to have an "at least" reading, are still often understood with an "exactly" interpretation. Following work by Laurence Horn, Kadmon argues that this is the result of a scalar implicature: we assume that if a speaker could make a stronger statement she would do so, so if for example she says *two boys came in*, we infer that she cannot attest to the truth of *three boys came in* – hence the "exactly" interpretation. Kadmon contrasts this with an alternative proposal, that an NP like *two boys* has a semantic representation identical to that of *exactly two boys*, and that the "at least" reading is a result of some pragmatic process. Kadmon argues that there is no independent motivation for such a pragmatic process, and that it makes wrong predictions in negative contexts. It predicts that the sentence *Leif doesn't have four chairs* has the same meaning as *Leif doesn't have exactly four chairs*, where in fact they differ in mean-

ing – in case Leif has five chairs, the former is false while the latter is true.

Kadmon considers the latter proposal to be an example of throwing a problem into “the pragmatic wastebasket”: readings that are not predicted by the theory that equates *two boys* with *exactly two boys* are discarded and placed under the label “pragmatic”. Kadmon’s own analysis does not use pragmatics as a wastebasket. The semantic representation predicts that *two boys* should have an “exactly” reading in predicative position and when referred to by a pronoun, and other cases of an “exactly” interpretation are the result of a familiar and well-understood pragmatic process – scalar implicatures. This attitude towards pragmatics permeates the entire book: pragmatic explanations have to be well-motivated, explicit, and tied to a semantic representation.

A fully explicit analysis of the kind demonstrated above sometimes remains as an ideal that is not reached. One such case is the use of accommodation (problems with the use of accommodation have been pointed in another review of this book, Bultinck 2001). Kadmon brings new data to bear on the question of accommodation in presupposition projection: the sentence *if Sue stopped smoking yesterday she will get a prize from the health bureau* (due to Lenore Shoham) does not presuppose that Sue had been smoking, and thus contradicts the predictions of “filtering” theories (Karttunen 1973; Heim 1983) which are advocated in the book. Kadmon concludes from this example that accommodation can be local – the proposition that Sue used to smoke is only a temporary assumption made in the antecedent clause which does not get incorporated into the common ground – even when there is nothing that blocks global accommodation. Unfortunately, the implications for the general theory of accommodation are inconclusive: Kadmon states that “for each act of accommodation . . . there may be lots of different factors that either favor or disfavor it” (p. 174). This is a case, then, that does not fully reach the standards set in the discussion of “the pragmatic wastebasket”: Kadmon argues convincingly that accommodation exists and affects processes like presupposition, but the exact circumstances that allow or constrain accommodation remain elusive. Why this is so, and whether accommodation in general can be “tamed” and formulated in the kind of explicit theory that is the goal of this book, remains unclear.

The book is intended to serve as a reference, and therefore much of the book involves the discussion of previous work. Kadmon puts her arguments in a historical perspective, presenting the various debates and proposals that have led her to adopt one line of analysis instead of another. Kadmon also summarizes and discusses work that has not been previously published, both her own (the analysis of NPs with numeral determiners presented above) and of others (for instance work by Shimojima on referential and attributive uses of definite NPs, and work

by Schwarzschild on the connection between association with focus and discourse uses of focus).

We now turn to the evaluation of the book as a textbook. I have taught a class using *Formal Pragmatics* as a main text (Rutgers University, Fall 2001). The students were definitely not the book's intended audience: they were advanced undergraduates, with varying backgrounds in linguistics but at most one semester of formal semantics. The fact that the course was successful speaks well for the book – while it is intended for advanced students of formal semantics, it is also accessible to students with less background, given enough guidance. This is largely due to Kadmon's writing style, which is rather informal, and to the fact that she takes great care to describe the intuitions and judgments that underlie the presented data before going into the technical analysis. The practice of repeating examples throughout the text (rather than referring to them a few pages back) also adds to the readability of the book.

Formal Pragmatics is not intended to be an introductory textbook. It does not attempt to cover all the topics in pragmatics, and not even a representative sample. It is therefore suited for courses in the particular areas that it addresses, notably presupposition projection and intonational focus. Indeed, the acknowledgments state that the book has grown from such courses, and the book provides a thorough and in-depth treatment of these two topics.

Each of parts 2 and 3 (presupposition and focus respectively) has the structure of a course, where every chapter builds on material from the preceding chapters. While some chapters can be skipped without compromising the understanding of subsequent chapters (for instance chapter 6, which compares the “filtering” and “cancellation” approaches to presupposition projection), each part mostly needs to be taught in order. This allows the book to get into deep and detailed discussion of the material, but also limits the freedom of the instructor to present the material in a different way. Part 2 concentrates almost exclusively on the projection problem for presuppositions, while part 3 is more varied – after a detailed introduction to the phonology of prosody (chapter 12) and a development of the theory of focus (chapters 13–17), the book ends with four chapters on different topics that can be taught independently of one another.

In contrast to the other parts of the book, part 1 (dynamic semantics, definites and indefinites) does not form a complete and coherent unit. Chapter 3 is a compact and self-contained discussion of NPs with numeral determiners, while chapter 4 deals with a variety of topics that do not appear to be that closely connected (uniqueness of definite NPs, the formal representation of context of utterance, and referential and attributive uses of definite NPs). The sections themselves are pre-

sented very well – I chose to start my course with chapter 3 as the motivation for a semantic representation semantic discourse referents, and only then move back to chapter 2 for the formal theory.

Chapter 2 is a very good and concise introduction to Discourse Representation Theory and File Change Semantics. It is somewhat repetitive – the author first introduces DRT and FCS separately, and then discusses why they are essentially the same theory – but I believe this sort of redundancy is useful in a textbook. However, the text on DRT is only concerned with the semantic interpretation of Discourse Representation Structures, and I found it necessary to augment it with some instructions on how to translate a natural language discourse into a DRS. I believe this chapter can serve as a starting point for a variety of courses on dynamic semantics that do not want to get into the details of DRT as it is presented in Kamp and Reyle (1993). One virtue of this chapter is that, like the rest of the book, the technical details of the theory are brought in gradually. I do find it surprising that the chapter ends with a section on formalization, with no comment made beyond presenting the formal definitions – not even a set of exercises.

I believe it would be useful to include exercises in the book. As suggested by the title and stated explicitly in the introduction, the author is mainly interested in developing formal, model-theoretic analyses for linguistic observations. However, because of the informal style of exposition, which is very effective and readable, the precise details of formalization sometimes appear to be marginalized. Providing a set of exercises at the end of each section, especially those that introduce new technical mechanisms, would help in emphasizing the importance of the precise details, and would be appreciated by instructors who use the book as a textbook.

Another addition that would help with the technical details is a list of symbols, as well as a glossary. The book is intended for students familiar with formal semantics, but some of the notation and terminology may not be familiar to all students; furthermore, it should be taken into account that the book may be used with less advanced students (as in the case of my class), that even an advanced class may have an occasional student with a different background, and that an instructor may want to use only select chapters, or teach them in a different order than in the book, in which case the students may encounter a particular notation before it is defined. It is clear that a great deal of editorial effort has been put into this book, as is evident by the near-absence of typos and the extensive index. It is regrettable that this editorial effort did not include compiling a list of symbols and a glossary, and this is definitely something to do for the next edition.

To sum up, *Formal Pragmatics* is an excellent book. While it does not attempt to cover or even survey the entire field, it does give a comprehensive view of what

pragmatics is and how it interacts with semantics, and what is desired from a pragmatic explanation. The topics it does discuss are dealt with in a thorough manner, with attention to both the histories of the linguistic debates as well as new data and arguments that point to the preferred solution. The book is suitable as a textbook for a variety of levels, and can serve as the basis for a number of courses – both in-depth courses on presupposition and on focus, and overview courses on the interface between pragmatics and semantics.

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