Linguistic Semantics. 1992. William Frawley. Hillsdale, New Jersey: Erlbaum. xvii + 533 pp. $39.95 U.S. paper; $89.95 U.S. cloth.

Frawley's book is an attempt to create a new discipline to deal with the meaning of words as humans use them. He succeeds admirably in this attempt, providing not only a scholarly work but also one that is quite readable to anyone interested in what we can mean when we use words. Despite the presence of the word *semantics* in the title, Frawley specifically leaves formal semantics to others (while drawing from the results of this field as necessary) and focuses on the semantics drawn from linguistic studies. This increases the book's readability, an important concern, given the breadth of coverage of semantic issues. This is a book that can reach the layperson as well as the expert.

The book is very much like a handbook and so the organization and the division of its content are very important. The table of contents only identifies the first level of division in the chapters, but one could easily and usefully reconstruct a full outline by following the subsections and sub-subsections, recognizing thereby how the issues are dealt with in increasing detail: the overall structure of the book provides a clear demarcation for each topic. The handbook analogy also extends to how the book might be used in practice—as a reference source that permits quick look up of the myriad aspects of meaning that Frawley explores. Another important organizational principle is that each chapter after the first two introductory chapters has an introduction, a descriptive section, and a theoretical section. Each of chapters 3 to 10 begins with a presentation of empirical data. In these parts of the chapters, the author draws mainly on linguistic field data, using material from 203 languages, with a language index identifying the examples from each language except English. In the theoretical sections of each chapter, Frawley usually attempts to synthesize and unify the data, manipulating both the "received wisdom" and his own perspective, which frequently results in engaging conclusions.

I will not judge the thoroughness of Frawley's explications. He has drawn from 458 references, with perhaps half of these from booklength studies. The coverage has the appearance of completeness and I am unable to think of anything that he has omitted in areas with which I am familiar. Those who are sufficiently expert in some particular area of semantics may be able to argue that Frawley's treatment is insufficient. Indeed, each topic could be fruitfully elaborated using details available in Frawley's own citations, but this book is not the place for such extensions. We would want to know where there is the possibility of disagreement, but the only way to do this would be to have an analytic repository of conventional wisdom. (For a proposal to create such a repository, see Olney's SOLAR system, a semantically-oriented lexical archive of formal descriptions of word meanings.)

After a pleasurable first reading of the book, it can then be used as a reference source and as a handbook, with each section standing somewhat on its own. A student or active user (see below) can jump in at any point and get a clear summary of (1) data describing a semantic component of language, (2) the elements necessary to describe that component, (3) windows to the scholarly literature, and (4) major issues that the literature has not yet resolved.

Overview of the Contents

Chapter One: Defining the ambit of linguistic semantics: the meanings that are encoded in language; the meaning that a word brings to its use. Identification of linguistic semantics as an empirical discipline for the study of meaning that is reflected in the syntactic structure of language.

Chapter Two: Selecting the appropriate approach to meaning (from among reference, logical form, context and use, culture, and conceptual structure). Settling on the last.

Chapters Three to Ten (the data and theory chapters): ENTITIES, EVENTS (thematic roles, space, aspect, tense and time, modality and negation), and MODIFICATION (the parenthetical items consist of topics that discuss the attributes of events).

Frawley brings together the data in each of these areas and then presents a unified description of the topic. There are 48 subsummaries as well as 8 chapter summaries for these substantive topics. Though the summaries are not exhaustive, Frawley has thoroughly analyzed each topic. Within each topic, he is concerned with delineating and describing the relevant semantic factors and regularities of encoding. He then brings these data together in a unified theoretical assessment. In some cases, the linguistic semantic perspective leads to novel results where the author is able to draw his own conclusions from the data, perhaps most notably in unifying the treatment of EVENTS, of ASPECT (with a further unified treatment of space, time, and aspect), of MODALITY, and of MODIFICATION. In the other chapters (treating ENTITIES, SPACE, TIME, and ROLES), Frawley rehearses the "received wisdom," but the tenor of his perspective does not create an idiosyncratic synthesis.

I will examine the contents of chapters 1 and 2 in some detail because they are central to the discipline of linguistic semantics. Then, I will provide some examples of the detail contained in the other chapters to show how Frawley proceeds. Finally, I describe how lexicographers and computational lexicologists can benefit from Frawley's presentations.

The nature of linguistic semantics

Frawley defines linguistic semantics as "the study of literal, decontextualized, grammatical meaning" (1). He analyzes (a) "meanings that are actually reflected in overt form differences" (1), (b) "what state of affairs . . . in the world [an] expression represents" (2), not what it "suggests about the speaker's intention" (2), (c) the "meaning that is determinable outside of context" (2), and (d) "meaning that is bound up with the mechanisms that language has for grammatical expression" (3).

Next, Frawley articulates the questions that are addressed within the discipline:

1. How do we decide what kind of information is within the purview of linguistic semantics?
2. How do we decide what is and is not grammatical meaning?
3. What can we expect to be grammaticized in the world's languages? (4)

The main body of the text is then "a tabulation of some of the received answers to these questions" and a "*manual* of procedures for finding solutions to problems that remain open [my emphasis]" (4).

In the next section of chapter one, the author addresses these questions by summarizing philosophical positions on (a) how meaning is possible, establishing that "all meaning is a relation between a signifier and a signified" (8) and that linguistic semantics is not concerned with all meaning, but only the part that languages actually use, and (b) what kinds of meaning are possible, identifying the ontological distinction between natural (non-compositional, such as *horse*) and nominal (compositional, such as *stallion*) kinds. He makes the point that linguistic semantics has goals that are empirical and structural rather than ontological and procedural (as in philosophical semantics).

Frawley restricts linguistic semantics to grammatically-coded meaning. This reflects his view that only part of all semantic information is actually projected in an utterance and only part of this is involved in syntax. He argues that we need to know precisely which part is so involved, so that "we can identify grammatically relevant properties in systematic ways" (13). In what precise form are various semantic properties encoded? In this context, he distinguishes between morphology (concerned with "the variety of actual forms") and linguistic semantics (concerned with "semantic properties [that] have a grammatical reflex," regardless of the form).

The nature of meaning

In chapter two, Frawley circumscribes the notion of meaning that is to be the subject of the remainder of the book. This is necessary if one hopes to analyze the content of semantic representations that are expressed grammatically. He describes five approaches to the representation of meaning—via REFERENCE, LOGICAL FORM, CONTEXT AND USE, CULTURE, and CONCEPTUAL STRUCTURE, deciding that the last of these is appropriate to linguistic semantics.

By examining these five approaches, Frawley shows us how to make operational what is and what is not grammatically relevant. As he puts it, "We already know that semantic properties somehow comprise semantic representations" (17), so we need to examine approaches to meaning to identify precisely what should be included in these representations. In his examination of the five approaches to meaning, Frawley extracts from each something that is salient to semantic representation.

Considering meaning as REFERENCE to facts and objects in the world, Frawley makes the important point that "reference takes place within a mentally projected world" (18), enabling us, for example, to refer to Venus as both the Morning Star and the Evening Star. However, there are phenomena such as presupposition that argue against a completely referential representation of meaning: though "The present king of France is bald" presupposes a truth in some possible universe of discourse, it has an empty referential meaning because at present France has no king. Then, considering meaning as LOGICAL FORM, he recognizes that "formal semantics can help us discover the content of semantic representations" and enable us to "be precise about how

grammatically sensitive semantic properties are components of" truth in a model (35). At the same time, he argues, we must recognize that natural language is non-formal in some respects.

In considering meaning as deriving from CONTEXT AND USE, that is, as pragmatically determined (and the position that context and use are always relevant to an interpretation), Frawley concludes that "linguistic expressions themselves bring semantic conditions with them into any context" (44), because words must be viewed as having some stability. Moreover, through an analysis of Gricean maxims (which specify what people assume when talking to one another), it is possible to articulate a scale of context from conversational implicature to conventional implicature to presupposition to entailment, and to conclude that somewhere along this progression is a place that separates pragmatic from linguistic semantic information. The implicatures (what is implicit) are clearly dependent on context, while entailment requires knowledge of what a word means: if someone says "14 points," the hearer must use context to determine whether the topic is test scores, basketball, type size . . . ; whereas, if someone says "in," time or location is entailed. Frawley frequently invokes the scale in chapters 3 to 10 in examining specific pieces of grammatically encoded information.

Frawley next examines the view (45) that "linguistic meaning is entirely determined by the cultural context in which the language occurs" (stemming from the Sapir/Whorf Hypothesis). The view that meaning derives from CULTURE fails, according to Frawley, because "the same meanings are there and the same conceptual structures exist" (48) across cultures: variations across cultures arise from the *significance* attached to these meanings and concepts. "Linguistic semantics is concerned with invariant meaning," "the constancies in spite of the variation of contexts," and "what is immune to cultural variation" (48). "Grammatically relevant semantic representations are invariant because they are constituted by relatively stable, decontextualized semantic properties" (50).

Finally, Frawley settles on meaning as represented in CONCEPTUAL STRUCTURE, particularly as presented in Jackendoff's notion of the "Cognitive Constraint" that "no fact is excluded from expression" (51). Thus, "grammatical meaning is a subset of the intensions [connotations] that comprise semantic representations, and this is in turn a subset of conceptual structure," that "is identifiable from how languages are actually put together and how speakers mentally project context, culture, and the world of reference" (55).

Semantic representation, for Frawley, involves "reference to universal, gradient, inherent properties of a mentally projected world" (18). This interpretation of meaning underlies the explication of the concepts presented and analyzed in detail in chapters 3 to 10, although not with the formality of representation pursued by Jackendoff or computational linguists. Such an exercise is left to us.

The primary data in chapters 4 to 9 centers on verbs and the concepts they encode, with chapter 4 presenting the backbone typology of verbs. Events are the primary conceptual content of verbs, where an event is defined as "a relatively temporal relation in conceptual space" (144), and where events are divided into four categories: ACTS, STATES, CAUSES, and MOTION. In his description of verbs, Frawley synthesizes and unifies treatments of, among many others,

Davidson, Givón (1984), and Langacker. Chapters 5 to 9 treat the principal conceptual attributes of verbs: ROLES, DEIXIS, ASPECT, TENSE and TIME, and MODALITY and NEGATION.

Example of an analysis of linguistic data

In section 7.22 (302-6), the author analyzes the aspectual (nontemporal) distinctions between telic and atelic events as a feature of the "internal contours of events" (302), that is, their beginning, duration, completion, and repetition. Telic verbs have built in goals and are "processes that exhaust themselves in their consequences" (302), that is, they consist of a process and its required result. Thus, in 'Bill drove to New York', *drive* contains within its meaning both the process and the result of 'driving'. The distinction between telic and atelic verbs has particular reflexes that can be determined using tests of non-interruption, ambiguity with *almost*, and use of durative *for*. One might interrupt Bill in his driving to New York, but he may still reach his destination. However, for the atelic verb *reach*, an interruption of Bill reaching New York makes the entire event fail. If Bill *almost* drove to New York, there is ambiguity as to his starting or his arriving; atelic verbs do not show ambiguity with *almost*. Finally, Bill might drive to New York, but 'Bill reached New York for two hours' has no meaning, because *reach* is instantaneous, not durative.

Frawley then describes how perfect tense, e.g., 'Donna has driven', and passive voice, e.g., 'The door was closed', induce telic interpretations by turning an event into a process that exhausts itself. Further, he notes how several languages allow the conversion of "an atelic event into a telic one by inserting a morpheme of result" (306).

Example of a unified theoretical treatment

In section 9.3 (406-19), Frawley first surveys epistemic notions from the literature, that is, he considers the manner in which speakers express judgment about factual statements and the likelihood of a state of affairs. He presents Palmer's account of judgments and evidentials and Givón's (1982) theory of epistemic scales. He then simplifies and unifies these accounts by analyzing epistemic modality using notions of deixis (a common thread through much of the book): deictic points, direction, and remoteness, as "linguistic truth relativized to a speaker" (418). Deixis refers to the anchoring of an expression, so the speaker might refer to the self or to another as making some judgment. The direction of a judgment has to do with (a) whether the judgment by the self is necessary ('It must be . . .') or possible ('It might be . . .') or is based on some sense perception ('I hear that . . . ' or 'I see that . . .'), or (b) whether a judgment comes from some other person directly ('Bill said that . . .') or indirectly ('Bill heard that . . .'). Remoteness refers to how strongly or confidently the self or the other is committed to the judgment, differentiating, for example, a quote from a report, or a report from hearsay.

Uses in lexicography

Some dictionaries provide summary grammatical information about lexical items; this is primarily syntactic information—parts of speech and verb subcategorization frames. One can visualize the extension of this material into the semantic realm, where a dictionary would provide

an introduction to the structure of concepts represented in the language. As there is a certain amount of generality (universals) of syntax, so too there would be a certain amount of generality of semantics, but with an even greater number of universals. I would expect, particularly after reading this volume, that the variations from one language to another would be much less in semantics than in syntax.

With a general explication of what meanings are representable (in the front matter or an appendix of the dictionary), the lexicographer could then proceed to characterize the semantics of any lexical item with the necessary detail to place the item in its appropriate semantic position within the described structure. The procedure for this would be quite analogous to what, for example, the *Oxford Advanced Learner's Dictionary* does in characterizing the syntactic placement of a lexical item. Frawley's explication brings such an order to semantics as to make this task of semantic placement a much less daunting prospect. Indeed, his 56 sectional and chapter summaries provide a good beginning for a generalized semantic structure.

As a specific example, we will take his summary 3.223, dealing with the inherent delimitation of entities, that is nouns and their BOUNDEDNESS. Syntactically, this is manifested in the singular/plural distinction, and perhaps the count/mass opposition. Semantically, though, as a result of Frawley's method, we need to talk about the "bounded/unbounded distinction," which includes such characteristics as "virtual bounding, fuzziness, and expansibility," and "the divergence of boundedness and expected (physical) surface forms," discussed in terms of "internal or external incrementation."

In defining (in any language) a noun involving these properties, a lexicographer needs to identify salient syntactic information (singular/plural forms, whether it is a count or mass noun—*pat of butter/butter*) and to provide semantic information (conceptually heterogeneous/homogeneous—*furniture/butter*, expansible or not—*wood/board*, replicable or not—*a chocolate/chocolate*, virtual/real—*idea/table*, inherently limited-bounded/unbounded—*steak/ground beef*, fuzzy/clearly demarcated—*region/country*, internally incrementable or externally incrementable—*oats*, which is inherently plural and able to be increased by adding units; *hair*, which is conceptually singular but has perceived but unrecognized units). Some of these concepts have grammatical reflexes, but most of them constitute semantic constraints or selectional restrictions that come into play when we are concerned with what semantic constructions may be considered well-formed in a language. For some languages, it may be the case that a given semantic construction may not currently be expressible. For a language learner, such recorded distinctions may be fine-grained, but will be of inestimable value.

For motion verbs (see section 4.23, 170-180), Frawley identifies eight semantic factors that may be inherent in the meaning: THEME, SOURCE, GOAL, PATH, SITE, CAUSE, MANNER, and CONVEYANCE. It is clear that the definitions in an ordinary dictionary will express one or more of the components. (One might even be able to use dictionary definitions to identify the particular components inherent in a lexical item.) But a dictionary needs to explicate these components based on what the actual usage of the item is found to be. When we are attempting to disambiguate, we are looking at the context to find the elements that give rise to a particular

meaning. If we do not find some discriminator, we must leave the meaning ambiguous; however, for a sense that indicates the existence of a particular meaning, we can know precisely what components of meaning to attach as adjuncts. For example, the verb *box* means to enclose *in* a box or enclose *with* boarding. If we "box the light bulbs," we speak ambiguously; to remove the ambiguity, we add an adjunct phrase such as "*in* corrugated cardboard" or "*with* pine paneling," the preposition directing us to the appropriate meaning. Lexicographers can specify these as completely as possible; with electronic dictionaries, they will not have their hands tied as much.

Uses in computational lexicology

Frawley's material characterizes the components of meaning that we must represent computationally and that we must know about componentially when we look up a definition. By identifying the plethora of types of lexical contents of lexical items, we can identify the forms of manipulation of those entities, that is, how we parse or disambiguate, or how we combine these components in larger representations. The challenge becomes one of taking that information and building appropriate representations and appropriate calculi for working with them.

Within each topic, Frawley explicates and summarizes appropriate semantic components and features that are associated with lexical items of the appropriate type . This material is crucial to anyone who must map out and assign meanings to lexical items as they are used in context. At the same time, it is important to understand the limits of Frawley's presentation in helping us to do so.

The components and features that Frawley identifies serve as a typological superstructure for lexical items, that is, the initial branches of a classification tree. However, this superstructure does not exhaustively list the lexical items that should be placed in each category. For those who have embarked on such an enterprise, such as listing verbs in their classes (Levin; Fellbaum), we can see that these typological superstructures provide a lexical hierarchy of several layers (perhaps on the order of five or so classificatory levels), with one, perhaps two, orders of magnitude greater of lexical items at each leaf in the superstructure.

In the computational linguistics literature, the work of Flickinger shows how such a structure should be built in order to classify lexical items in terms of their syntactic reflexes. In general linguistic theory, such a superstructure is present in Jackendoff's work (although not overtly presented in a typological structure). In psychology, the work of Miller and his colleagues in the development of WordNet (particularly Fellbaum in analyzing verbs) implicitly builds such a typological superstructure.

Frawley grapples with complex issues in semantic analysis; he organizes, delimits, characterizes, and synthesizes the theory and practice of linguistic semantics. His compendium will simplify and accelerate our further work in semantics.

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