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Word order. By JAE JUNG SONG. (Research surveys in linguistics.) Cambridge: Cambridge University Press, 2012. Pp. xvi, 348. ISBN 9780521693127. \$54.50.

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This book presents a very useful overview of a considerable body of literature. To survey a topic as big as word order in a book of manageable size, it was necessary to make choices about what to omit. Jae Jung Song's choices will not make all readers happy, but they are not unreasonable ones. First, the literature covered is largely confined to work of the last thirty years. Second, the only theories of grammar considered are the minimalist program (MP) and optimality theory (OT).¹ As a consequence, some extremely interesting ideas about how to handle word-order variation never get mentioned. In particular, there is no mention of the idea of decoupling linear precedence and immediate dominance in a phrase structure grammar, an idea that led to some productive research in generalized phrase structure grammar (Gazdar & Pullum 1981), lexical-functional grammar (Falk 1983), and head-driven phrase structure grammar (Reape 1993).

The book has seven chapters: brief introductory and concluding chapters sandwich one surveying what is known about word-order typology (which S abbreviates LT, for linguistic typology), two on MP, one on OT, and one on what S calls 'the performance-based approach'—that is, corpus and experimental research on word order.

Although S discusses these as though they were alternative theories of the same thing, they are in many ways not really comparable. LT seeks inductive generalizations over directly observable patterns, with relatively little attention devoted to explaining those generalizations. The performance-based approach tries to explain word-order patterns (both within and across languages) on the basis of processing efficiency²—that is, what makes utterances easy or hard to produce and comprehend. MP, by contrast, has little concern with what is directly observable or with the efficiency of linguistic processing. Rather, it seeks to deduce properties of language from three 'dimensions to the minimalist position: (1) virtual conceptual necessity; (2) economy; and (3) symmetry' (80). Facts about languages play a role in this enterprise only to the extent that they can be shown to follow from or contradict the analyses so deduced. The OT research S presents shares a largely top-down approach with MP, but, as S writes, 'OT needs to take into account what word order actually looks like on the surface' (183). Later on the same page, S characterizes LT as 'data-driven', and MP (and its transformational predecessors) as 'theory-driven', and says 'OT seems to strike a balance' between the two.

¹ Throughout this work, S refers to minimalism and its immediate predecessor, the theory of government and binding, as 'generative grammar', following a widespread and annoying practice of pretending that alternative generative theories (in the broader sense of the term stemming from the 1950s) do not exist.

² S takes the term 'processing' to mean parsing, but I am using it more generally to encompass the mental computations involved both in speaking and in understanding.

As a practitioner of the ‘performance-based approach’ who has not kept up with the other literature S surveys, I learned a great deal from reading Chs. 2–5. Ch. 6 covers material I was already familiar with, allowing me to assess the accuracy and completeness of S’s coverage. In what follows, I comment on these chapters individually.

Ch. 2 examines the linguistic-typological approach. The method of LT, though inductive, presupposes prior theoretical choices. Going back to Greenberg’s (1963) work in this area, typological generalizations about word order have been expressed in terms of subject, object, verb, preposition, postposition, and so on. These categories and their application to particular utterances involve implicit theorizing. Moreover, typologists’ claims about the word order of a particular language are claims about basic or predominant orders—claims that require examination and analysis of a great deal of primary data. Given these complexities, it is striking how much progress has been made in LT over the half century since the publication of Greenberg’s seminal paper. The number of languages surveyed has vastly increased; the set of elements whose relative orderings have been tested and correlated has expanded; general formulations unifying various ordering correlations have been proposed and tested; family and areal tendencies have been explored; and some proposals have emerged for explaining why certain typological generalizations hold.

This progress in LT has not been without internal disagreements—for example, over whether high-level generalizations about constituent ordering should be stated in terms of heads and dependents or in terms of tree configurations (branching direction). But it is striking how much common ground there seems to be among typologists, permitting this subfield to continue to move forward with relatively little backtracking.

In contrast, generative theories receive thorough overhauls with some regularity. This is undoubtedly part of the reason why S limited his discussion of work within the generative tradition to MP and OT in Chs. 3 and 4: covering more would have made the book unwieldy. Interestingly, however, most work within MP has little concern with word order. As S puts it, ‘in Chomsky’s orthodox theory of grammar, ... linear order is “shunted off” to phonology’ (118). Since generative phonologists have not taken over the task of accounting for constituent ordering, this amounts to abandoning the study of this class of phenomena.

The most influential work on word order within MP is Kayne’s (1994) *The antisymmetry of syntax*, and S devotes much of Ch. 4 to it. Given the standard assumption that phrase structure can be represented by tree diagrams (and that such diagrams do not allow branches to cross or nodes to have more than one mother), the hierarchical structure of a tree partially determines the linear ordering of the leaves of the trees (that is, the words). Kayne adds assumptions about tree structure that tighten this relationship in such a way as to make c-command equivalent to linear precedence. Kayne’s assumptions, based almost entirely on judgments of theoretical elegance, lead him to conclude that all languages have the underlying order specifier-head-complement (a generalization of SVO). Since most languages exhibit other orders most of the time, this theory entails complex transformational derivations, which in turn need to be justified within the assumptions of MP. S has a lengthy discussion of Kayne’s ideas, as well as some criticisms and alternative proposals within MP. It gives the reader a sense of the style of MP research, though understanding the details would require consulting the primary sources. I confess that I was not tempted to do so. I found myself in strong agreement with the following assertion near the end of Ch. 4: ‘[D]eduction comes at a cost; stipulation removed by deduction from one area may result in something to be stipulated in another area’ (156).

After introducing the basic concepts of OT via phonological examples in Ch. 5, S notes that ‘OT has so far produced a relatively small amount of (cross-linguistic) research on word order’ (184). Most of the chapter focuses on two lines of research, Costa 1997, 1998, 2001 and Zepher 2003. S’s presentation does not make these works seem worthy of the space devoted to them. Costa seeks to account for only three basic word orders: SVO, VSO, and VOS (thereby excluding the majority of the world’s languages from consideration). S explains how he derives these three orders through alternate rankings of five constraints. Curiously, he does not comment on the lack

of parsimony: the single constraint $V < O$ is a far more economical way of licensing just these three orderings of S, O, and V. S's presentation of Zepter's work makes it appear almost as profligate, involving as many constraints as word orders.

Moreover, both Costa's and Zepter's OT accounts of word order are built on top of MP-style transformational analyses. This is a lot of theoretical firepower. A more straightforward approach would be to use violable ranked constraints to evaluate alternative word orders directly, without assuming that they are transformationally derived. Analyses of word-order phenomena along these lines have been proposed by Anttila (2008) and Anttila and colleagues (2010).

Anttila's work also falsifies S's claim that 'OT does not have any (meta)theoretical means of converting factorial typologies into numerical frequencies' (232). Indeed, deriving (and verifying) quantitative predictions from the combinatorics of OT constraint systems has been at the center of Anttila's research program. It is true that his work has been about frequencies of variants within a language (or across a set of dialects), whereas S was addressing the question of predicting the frequencies of languages exhibiting different word-order patterns. There is, however, no theoretical obstacle to employing Anttila's methodology for the prediction of typological frequencies.

S's discussion of performance-based approaches in Ch. 6 focuses largely on the idea that constraints on memory can affect what structures are easy to process, and that this in turn can affect what word orders are used. Variants of this idea have been developed by Hawkins (1994, 2004) and Gibson (1998, 2000). The basic idea of all of this work is that linguistic dependencies between nonadjacent elements impose a processing cost proportional to the size of the separation between the elements; hence, language users prefer orderings that minimize such separation, and this is reflected both in frequencies of forms within a language and in word-order patterns across languages. Different ways of measuring the separation lead to subtly different predictions, and S devotes some space to discussing these. S also cites work by me (especially Wasow 2002) and others arguing that a multiplicity of factors contributes to word-order choices. These include Hawkins/Gibson-style locality constraints, but also consideration of information structure (that is, given vs. new), *inter alia*. Not mentioned in this connection is some excellent work by Rosenbach (2002), Bresnan and colleagues (2007), and various other authors, showing a variety of other factors that influence the choice between alternative orderings within a language.

S's concluding chapter, 'Envoi: Whither word-order research?', though a mere five pages, is worth a comment. He sees encouraging points of convergence emerging among various approaches to the study of word order. In particular, he perceives the following general points of agreement (308):

- 'word order does not seem to be something to be explained in its entirety by means of single principles';
- linguists 'need to take cross-linguistic variation (more) seriously (than hitherto)'; and
- 'the oft-cited "schism" between the two research traditions in linguistics, the formal and functional, seems to be showing signs of being narrowed'.

I wish I shared S's optimism. Agreement, if it exists, at this level of generality is not especially impressive. And with respect to the third point, agreement as to the value of functional explanations means little in the absence of agreement regarding what the function of language is. The lines of research S calls performance-based are all based on a fundamental assumption that language is primarily a vehicle of communication, and that structural properties of language can be explained in terms of how they facilitate efficient communication. Chomsky (2002) explicitly rejects this idea, saying, 'The use of language for communication might turn out to be a kind of epiphenomenon' (107). Hence, even when practitioners of MP show some interest in functional explanations, they have little in common with the functional explanations offered in other subfields.

This review has emphasized points on which I take issue with S, resulting in a more negative tone than I had intended. So I close on a more positive note: S has done the field a real service in providing a balanced and thoughtful survey of such a large and varied body of research.

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Phrasal verbs: The English verb-particle construction and its history. By STEFAN THIM. (Topics in English linguistics 78.) Berlin: De Gruyter Mouton, 2012. Pp. xiv, 302. ISBN 9783110257021. \$140 (Hb).

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Is the phrasal verb a distinctly English feature that arose at a certain stage in the history of the language and belongs to the colloquial register? In this insightful work, Stefan Thim debunks these 'myths'. The book is a critical examination of the literature, both synchronic and diachronic, on the topic of the phrasal verb (PV) in English (e.g. *carry out*, *use up*, *get by*). It is not an empirical study of the phenomenon (though T summarizes several short studies of PVs that he has undertaken). The book's major contribution to an understanding of the history of the PV is T's contention that a Germanic system of preverbs led to both prefixed verbs and verb-particle com-