

mechanisms sprouting full syntax from symbolic beginnings need much fuller neurolinguistic consideration, if they are to be confirmed at all.

Language Evolution and Computation Research Unit
University of Edinburgh
Edinburgh EH8 9AD, United Kingdom
[jim@ling.ed.ac.uk]

The Routledge handbook of historical linguistics. Ed. by CLAIRE BOWERN and BETHWYN EVANS. London: Routledge, 2015. Pp. xviii, 757. ISBN 9780415527897. \$225 (Hb).

Reviewed by DON RINGE, *University of Pennsylvania*

Numerous collaborative handbooks of particular subfields of linguistics have appeared in the past couple of decades, and all are useful.¹ This one is exceptionally useful because of its unusually wide coverage. Among its welcome innovations are discussions of: language change in terms of compositionality, modern computational phylogenetics, the stability of typological features of grammars, syntactic change and reconstruction (from more than one viewpoint), change in signed languages, the relation between language acquisition and language change, and several other topics. The contributors have typically illustrated their discussions with a wide range of examples, many of them unfamiliar to most linguists—a welcome change from the old-fashioned reliance on familiar textbook examples.

I have neither the expertise nor the space to discuss all thirty-four contributions individually; I thus discuss those that I have some hope of evaluating.

PAUL KIPARSKY's overview (Ch. 2) should be required reading for anyone currently working in historical linguistics. Kiparsky manages to discuss or mention an astonishing range of current lines of work in historical linguistics. Many lines of work are reported without comment or evaluation, but the comments that Kiparsky does make are thought-provoking; a typical example is his observation that the transfer of Turkish verb morphology into two dialects of Cappadocian Greek almost certainly occurred when the dialects were moribund and can be accounted for by that fact (p. 87, n. 8).

The other overviews are interesting because they are unconventional. ROGER LASS's discussion of the history of historical linguistics shows that tracing a single thread that leads to modern theory and practice does not have to be tendentious. NIGEL VINCENT focuses on the intersection of language change and compositionality, a topic that, as he notes, has been almost entirely overlooked.

Because the comparative method (CM) is central to the methodology of historical linguistics, every handbook needs a chapter that explains it in terms accessible to nonspecialists and illustrates it with a broad range of examples. MICHAEL WEISS's contribution meets that need admirably. MARK HALE's complementary chapter does not call the fundamentals into question; it does show, however, how a naive understanding of the CM, or of uniformitarianism, can lead to apparent paradoxes and other problems.

Chs. 6 through 8 on the processes of language diversification are extensive, and rightly so. ALEXANDRE FRANÇOIS discusses models of diversification in great detail, especially in light of Malcolm Ross's seminal work, and illustrates his discussion with interesting original research. He points out that networks are a better model of language diversification than trees in a large majority of instances, but I think he misses the one advantage of the *Stammbaum* model: it is clearly falsifiable, which makes it a good initial scientific hypothesis, even though one soon

¹ I am grateful to Tandy Warnow for helpful discussion and references. All of the assessments are my own, as are any errors or infelicities.

comes to expect that it will in fact be falsified more often than not. It should also be pointed out that not all types of network can be converted into phylogenies without further information; in particular, NeighborNet and other ‘data display’ networks do not provide any direct information about evolutionary history (cf. Morrison 2011:47).² MICHAEL DUNN provides a good overview of computational approaches to the recovery of linguistic phylogenies, noting the strengths and weaknesses of each. I think that he too misses a methodological point. The usual objection to distance-based methods is that the conversion of a character matrix into a distance matrix discards information about how each character partitions the tree; some consideration of that criticism in his discussion of ‘When to use distance, and when not to use it’ (195–96) would have been welcome. Finally, SØREN WICHMANN reviews work on the stability of typological characteristics of languages, much of it very recent. Perhaps his most interesting conclusion is that ‘structural features do not preserve more ancient phylogenetic signals than does the basic vocabulary; ... they are more prone to diffusion’ (221). These three contributions especially deal with cutting-edge work in an area of historical linguistics that is currently undergoing a revival prompted by new and more powerful models and methods; they are essential reading for anyone who wants to understand some of the ‘hot topics’ of recent research.

Since regular sound change is the methodological basis of the CM, one might expect all relevant facts about it to be known, but this is not the case. ANDREW GARRETT discusses a wide range of phenomena bearing on the definition and limits of sound change: phonological changes that do not involve the phonologization of low-level phonetic patterns, types of phonetic patterns that are apparently never phonologized, generalization of derived allophones, saltatory changes, and so on. He also discusses the ‘embedding’ problem at length and touches on the ‘actuation’ problem, focusing especially on current research. (A very recent piece of research that sheds further light on the relation between phonologization and sound change is Fruehwald 2013, not widely available in time to be considered for Garrett’s discussion.) SILKE HAMANN’s contribution focuses instead on the process of phonologization itself and how it can be formalized and investigated, especially by experimental methods and simulations. There is no contribution that explicitly addresses the evolution of phonological rules as rules (after a phonetic process has been phonologized); this is one of the very few gaps in this handbook.

STEPHEN ANDERSON’s discussion of morphological change (Ch. 11) seems at first to be rather conservative, considering at some length the development of phonological processes into morphology, the development of syntax into morphology, and change within the morphological module of grammar, traditionally called ‘analogy’. However, his conclusions are interesting: that neither analogy nor ‘grammaticalization’ is a distinctive process with principles of its own—in fact, that all morphological change is simply deductive or abductive change in the course of language acquisition that happens to target morphology. That is the kind of ‘null hypothesis’ that should lend itself to testing with the expectation of interesting results. HAROLD KOCH’s contribution on morphological reconstruction accordingly emphasizes that there is no single procedure, and that reconstruction must make full use of what is known about particular types of morphological change. Koch illustrates his discussion copiously with examples from Australian languages, which should help materially to broaden our collective experience of morphological change.

There is little that I can say about the discussions of syntactic change and reconstruction and of semantic and pragmatic change (Chs. 13–18) or about signed languages (Ch. 20). A chapter on corpus linguistics—a major growth point in the study of syntactic change—would also have been welcome. ROBERT MAILHAMMER’s discussion of etymology (Ch. 19) contains no surprises.

JAMES STANFORD’s discussion of language acquisition and language change (Ch. 21) is a comprehensive introduction to the subject. It samples the literature from the nineteenth century to the twenty-first, discusses language change both within and after the ‘critical period’ for native acquisition, and concludes judiciously that while native acquisition clearly plays a fundamental role in change, a sociolinguistic approach to the spread of changes through the speech community (usu-

² It should also be noted that networks are not all alike in other ways; for instance, some approximate phylogenetic trees, while others are completely untreelike.

ally among speakers beyond the critical period) is also essential. Missing from Stanford's chapter is a discussion of mathematical modeling of language acquisition, as exemplified especially by Charles Yang's work (see e.g. Yang 2002). The spread of change through the speech community—by now a major emphasis of work in linguistics—is the focus of LEV MICHAEL's well-informed chapter. JOAN BYBEE and CLAY BECKNER's contribution (Ch. 23) lays out a usage-based, rather than acquisition-based, model of change. Their model is clearly applicable to types of change that can occur at any time of life, such as shifts in word usage and in phonetic implementation, but they do not address the observed resistance of native GRAMMAR—both categorical phonology and basic morphosyntax—to change after the close of the critical period for native acquisition.

Like several contributions discussed above, CHRISTOPHER LUCAS's chapter on contact-induced language change is a state-of-the-art discussion, distinguishing carefully between several types of linguistic transfer and between changes in native-speaker grammars and in the speech community as a whole. It should be required reading for all historical linguists. JANE SIMPSON's chapter on language attrition and change is also a welcome addition to the literature on a phenomenon about which we still know too little.

The chapters on interfaces with related disciplines (Chs. 26–29) are one of the novel features of this handbook. SIMON GREENHILL's discussion of demographic factors that might influence language diversity is engaging, informative, and thought-provoking; he points out that one of the best recent studies manages to explain only half of the variation in language diversity over a large area of the globe, and he asks, memorably, 'What are we missing?' (574). PATIENCE EPPS's cautious and detailed discussion of the reconstruction of proto-cultures—a notoriously difficult application of the findings of historical linguistics—is illustrated with fascinating examples from the Amazon basin. BRIGITTE PAKENDORF's contribution (Ch. 29) is a good orientation to attempts to correlate genetic and linguistic distributions, an endeavor that, as she notes, is still in its infancy.

While I share much of PAUL HEGGARTY's skepticism about attempts to correlate linguistics and archaeology (Ch. 28), I do not share his pessimism, for at least three reasons. It is occasionally possible, using all of the linguistic information available, to establish a connection between reconstructable lexemes and the archaeological record (cf. Anthony & Ringe 2015), and the fact that a determined skeptic can imagine how it might have been different should not be allowed to trump the actual evidence. Second, I do not think that absence of unanimity among specialists regarding a particular issue necessarily renders it doubtful; since there is no unanimity even about climate change, for instance,³ it seems unrealistic to demand unanimity about anything in prehistory. Finally, I think it is reasonable to hope for convergences of different lines of evidence yielding much stronger arguments for particular proposals even though each line of evidence is not usually in itself decisive. (Note that recent research in population genetics and computational phylogeny has begun to converge on the 'steppe hypothesis' of Indo-European (IE) origins, not on Renfrew's 'out of Anatolia' hypothesis, in spite of Heggarty's arguments for the latter; see Chang et al. 2015, Haak et al. 2015.) Of course it is true that the contribution of linguistics to such arguments will typically be modest—and that caution is always advisable.

The 'regional summaries' (Chs. 30–34) are an especially attractive feature of this handbook. BEN FORTSON's discussion of recent work in IE linguistics is necessarily very selective—there is simply too much good work to summarize in a single chapter—but it gives the reader some idea of what is going on in traditional IE linguistics. I do not have the expertise to judge the other regional summaries, but I found them all interesting and informative; I wish it had been possible to include more such contributions. Would the editors consider putting together a volume composed entirely of regional summaries, covering as much of the world as possible?

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Department of Linguistics
University of Pennsylvania
Philadelphia, PA 19104-6305
[dringe@sas.upenn.edu]

Making new words: Morphological derivation in English. By R. M. W. DIXON. Oxford: Oxford University Press, 2014. Pp. 472. ISBN 9780198712374. \$110 (Hb).

Reviewed by PAVOL ŠTEKAUER, *P. J. Šafárik University*

With regard to books describing English word formation, 2014 was a very prolific year, including Bauer et al. 2014, Miller 2014, and the presently reviewed book by R. M. W. Dixon. Each has contributed in its specific way to our knowledge of English morphology. Certainly, there are many more books on English word formation that have emerged since Marchand's groundbreaking *Categories* (1960). Some of them are mentioned as an important source of data by D himself.

Given this multiplicity of recently published books dealing with English word formation, it is not easy to be innovative and bring to the market ideas that attract the attention of the readership. If I claim that every teacher and student of English linguistics should possess this excellent book in their library, one may ask what it is that MAKES THE DIFFERENCE. I believe this book to be a worthy successor to Marchand's *Categories* (1960, 1969), and, as such, it deserves to be labeled (like *Categories* was by Zandvoort (1961:120)) a 'truly monumental work' synthesizing and expanding the available knowledge in the field. While its scope only encompasses affixation processes, these are described with remarkable comprehensiveness and systematicity. Like *Categories*,¹ D's volume does not deal with demanding theoretical issues of word formation; this kind of discussion is reduced to the necessary minimum. D appears to ably pursue the goal of being theory-neutral in order to concentrate on practical aspects of modern English word formation. What is embarrassing in some places, however, is the avoidance of established terminology and use of a few new terms that may cause confusion among morphologists. This is most evident in his use of the term 'double-duty words', to which I return below.

Another similarity to Marchand's volume is D's scrupulous adherence to the diachronic-synchronic method in the description of every single affix. D is right in saying that our understanding of the use of a particular affix with a particular stem cannot be reduced to a single factor; it is rather an interaction of several factors that are at play. Therefore, the account of synchronic phenomena has, throughout the whole volume, very strong support from diachronic data, which facilitate the understanding of various ostensible (from the synchronic point of view) idiosyncrasies. Highly systematic and meticulous coverage of individual affixes pays relevant attention to each affix's origin and historical development (including the date of the first occurrence of the corresponding affixed words), its semantic scope and current use, the productivity of the affix across time, and selectional restrictions, including historical, structural, phonological, and se-

¹ It should, however, be noted that Marchand 1960 contains brief but highly important theoretical foundations of his structuralist approach to word formation.