Linguistic Society of America

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Grammatical theory in the United States from Bloomfield to Chomsky. By PETER H. MATTHEWS. (Cambridge studies in linguistics 67.) Cambridge: Cambridge University Press, 1993. Pp. xiii, 272.

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Matthews sets out to determine 'what the currents of ideas in twentieth-century American linguistics have in reality been', as an antidote to the garbled view of American linguistic history that appears in certain unnamed books 'that are, unfortunately, quite widely read' (2).[1] Ch. 1 consists of a short introduction, an extended summary of the development of American linguistics from 1910 to 1990 (§1.1), and a brief prospectus of the remaining three chapters (§1.2). Except for its lack of discussion of phonological theory and of developments in syntax and semantics deriving from the work of Richard Montague (Thomason 1974), I recommend §1.1 as an outstanding treatment of the history of contemporary American linguistics; furthermore, it can be read independently of the rest of the book.

Chs. 2–4 trace the history of certain ideas that 'dominate grammatical thought in the late twentieth century' (3). Ch. 2 (51–110) concerns morphology and examines the idea that 'sentences are composed of linear configurations of morphemes' (3). Ch. 3 (111–83) concerns syntax and semantics, and 'explore[s] the history of distributionalism' (49), specifically the idea that 'the study of formal relations can and should be separated from that of meaning' (3). Finally, Ch. 4 (184–252) 'look[s] at [the development of Noam] Chomsky's general ideas . . . over almost forty years' (49), including the idea that 'many aspects of grammar are determined genetically' (3).[2]

Ch. 2 'place[s] the theory of the morpheme in . . . its historical context', namely the 'wider tension or conflict . . . between the concepts . . . of grammar inherited from earlier Western traditions, and the doctrines . . . of [American] structuralism' (51). For example, when a grammatical category, such as 'plural', is associated with a word, as in English *ducks,* then according to traditional accounts, the plurality is primarily a property of the entire word, and secondarily (if at all) of the suffix *s.* But according to structuralist principles, the plurality is primarily a property of *s,* and secondarily of the entire word. These analyses are normally understood as alternatives between which we must choose. How-

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[1] M dubs this view '1957 and All That', alluding to a famous lampoon of British history (1).

[2] Ch. 2 previously appeared as Matthews 1992; part of ch. 3 as Matthews 1986; and an earlier version of Ch. 4 as Matthews 1990.

ever, as M demonstrates in §2.2, Bloomfield 1933 developed a theory which encompasses them both. In *ducks*, Bloomfield identifies a plural morpheme, but not in *geese*. In §2.3, M analyzes the post-Bloomfieldian rejection of this theory (as in Harris 1942), in favor of one which identifies a plural morpheme in both forms.

In §2.4, M points out that structuralist morphology was adopted without modification into generative grammar, except for one passage in Chomsky 1965, in which 'traditional paradigmatic formulations' are argued to be superior for a variety of reasons to their 'modern descriptivist reanalys[e]s' (92, from Chomsky 1965:174). Then, after noting that Chomsky acknowledged Morris Halle for one of the arguments for preferring a traditional theory of morphology to a structuralist one, M declares (92–3):

> It is therefore a remarkable tribute to the inertia of ideas that, when these scholars together addressed the phonology of English [in Chomsky and Halle 1968], it was the other, morpheme-based solution that they adopted.

Finally, §2.5 discusses the continuation of the conflict in generative morphology since 1970 and documents the continuing dominance of morpheme-based theories.

Section 3.1 provides a detailed examination of the origins of the doctrine of distributional analysis. The first clear and unambiguous formulation is in Harris 1946 (122). Harris and his contemporaries presumed that they were 'simply following Bloomfield' (114). M argues that matters are far more complex. First, there is the influence of Edward Sapir, one of whose 'major themes . . . is that the formal processes by which a language expresses concepts do not correspond in any simple fashion to the concepts themselves' (115). Second, Bloomfield did not himself separate the study of form and meaning; he held to a strict Saussurean view of the linguistic sign as combining form and meaning (113). Bloomfield wished to detach linguistics from psychology, not form from meaning (119).

However, the way in which Bloomfield recommended that language be investigated positively invited his students to detach the study of form from meaning. He declared that '[t]he statement of meanings is . . . the weak point in language-study', and that 'linguistic study must always start from the phonetic form and not from the meaning' (115, from Bloomfield 1933:140, 162). Moreover, he developed the concept of grammatical function, defined as 'the positions in which a form can appear' (126, from 1933:185), a notion which lies at the heart of distributional analysis. Functions in this sense, unlike meanings, are straightforwardly identifiable. Finally, distributional analysis provided for a simpler conception of morphology and syntax than Bloomfield's theory did. M is hesitant about the importance of this factor (123), but I think it was a decisive one for Harris.

Sections 3.2–4 examine the extent to which basic tenets of distributional analysis were continued in Chomsky's early work. One is the notion that a language is a set of sentences, which was first enunciated (in a somewhat different guise) in Bloomfield 1926 (131). A second is that a grammar of that language

predicts membership in that set (131, citing Hockett 1948); indeed that it 'generates' that set (134, citing Harris 1954 and Hockett 1954). A third is the retention of phrase-structure grammar as an integral part of syntactic analysis. M puts it this way (148).[3]

> The origin of phrase structure grammar was, in short, Bloomfieldian constituency analysis, and the origin of that, in turn, was what remained of Bloomfield's model when, first, grammatical arrangement is reduced to selection and order and, secondly, all reference to meaning is taken out.

A fourth, derived from Harris, is that transformational analysis applied to a finite set of elementary linguistic structures (what Harris called the 'kernel') provides for a simpler grammar (159–67). A fifth is that semantics should not play a role in formulating a grammar (139). The 'real question' about the relation of grammar and meaning, according to Chomsky, is 'How are the syntactic devices available in a given language put to work in the actual use of this language?' (139, from Chomsky 1957:93) For example, Chomsky flatly rejected Bar-Hillel's (1954) proposal that a new approach is needed 'that will yield reliable techniques of elicitation for the establishment of synonymy and the like' (207, from Chomsky 1955:37).

According to M, two things were distinctive about the theory enunciated in Chomsky 1957. The first is that grammaticality is the fundamental property of the sentences of a language, not their potential for being uttered. A language, for Chomsky, 'is an abstract construct, to which quasi-mathematical (sic) properties, such as that of being infinite can be attributed' (135).[4] In particular, he allowed that an infinite subset of the grammatical sentences of a language (such as those with multiple center embedding) could be unacceptable to native speakers. The goal of linguistic theory is to 'formulate a general theory of linguistic structure in which [fundamental] notions . . . are defined for an arbitrary language L in terms of physical and distributional properties of utterances of L AND FORMAL PROPERTIES OF GRAMMARS OF L' (139, from Chomsky 1957:54, emphasis mine). The second is that 'he saw clearly what was needed to justify a grammar' (135), namely that 'given a corpus and given two proposed grammars G_1 and G_2' the theory must provide an 'evaluation procedure' which will 'tell us which is the better grammar of the language from which the corpus is drawn' (138, from Chomsky 1957:51). It is not necessary to insist that it provide a 'discovery procedure' which will select the correct grammar of the language from which the corpus is drawn.[5]

I have dwelt on M's discussion of the origins of generative grammar in Ch. 3, because of the very effective way in which he shows that initially Chomsky

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[3] M disputes the claim by Chomsky and others that phrase-structure analysis is also a formalization of traditional sentence parsing (147–8).

[4] That is, Chomsky had tacitly shifted from Bloomfield and Harris's nominalism to a kind of realism like that of such European structuralists as Hjelmslev.

[5] M points out (136) that Chomsky had endorsed the notion of a discovery procedure in his first published article (Chomsky 1953). He then engages (136–7) in a very interesting series of speculations about how Chomsky may have arrived at his later position, using the discussion in Wells 1947 as a starting point.

was primarily helping to advance the distributionalist program first enunciated by Harris. Ch. 4 chronicles the dramatic change that started in the late 1950s. Section 4.1 recapitulates the events described in §3.4 and then begins to trace the stages through which Chomsky's conceptualism[6] developed. Section 4.2 continues this analysis to the publication of Chomsky 1965. In that book, Chomsky introduced a new theory of grammar which he himself later designated the 'standard theory', and declared in a passage that M calls 'arguably the most important that he has ever written' (210) that (quoting Chomsky 1965:25):

> 'Clearly . . . a child who has learned a language has developed an internal representation of a system of rules that determine how sentences are to be formed, used, and understood'. He therefore uses 'the term "grammar' with a systematic ambiguity'. 'First', . . . it refers to 'the native speaker's internally represented "theory of his language"'; then 'second, to the linguist's account of this'.

Given the profound direction-changing impact of this idea, M comments that 'in retrospect, it seems surprising that Chomsky should have presented it as uncontroversial' (212), and that 'it is remarkable that Chomsky offered so little justification for what he said' (213).

However, M contends that despite Chomsky's adoption of conceptualism, and the enormous formal differences between the theories of Chomsky 1957 and Chomsky 1965, the actual linguistic theory proposed in the latter work remained fundamentally distributionalist. This can be seen in the way semantics was tacked on to the theory (§3.4, see 182–3 for an elegant summary) and in the way 'generative semantics' ceased to be generative (223, citing McCawley 1975). M does not point out, however, that a proposal for a truly Saussurean integration of syntax and semantics was formulated in the early 1970s in the United States by Montague, and that his idea of applying syntactic and semantic rules in parallel has been widely adopted.

In §§4.3–4, M traces the developments in Chomsky's thinking from 1965 to 1986. These can be understood as the consequences of Chomsky's attempt to work out the implications for linguistic theory of his conceptualist framework. M describes these in some detail, including Chomsky's rejection of the study of language as a set of utterances or of sentences (Chomsky 1986), in favor of the study of internalized grammars simpliciter (239), but does not point out that the resulting theories are no longer distributionalist. Toward the end of §4.4, M analyzes Chomsky's use of the term 'logical form' and considers the extent to which the level it represents can be thought of as 'semantic' or 'syntactic'. He concludes that it makes no sense to call it either (245).

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[6] I prefer the terms 'conceptualism' and 'conceptualist' to 'mentalism' and 'mentalist' to avoid suggesting that Chomsky had become a Cartesian dualist. M denies Chomsky's assertion in the foreword to Chomsky 1975 that he was a conceptualist from the very beginning, stating that in Chomsky 1957, 'he did not abandon the essential goal of distributionalism, or (in any of the work that was published at this stage) the empiricism that pervaded it' (141). It would appear, however, that Chomsky moved from nominalism to conceptualism (and concomitantly from empiricism to rationalism) in two steps: first from nominalism to realism (see note 4), and second from realism to conceptualism.

Section 4.4 ends with a sort of epilogue (249–52), in which M asks 'how far is a commitment to [Chomsky's] programme still essentially a matter of faith?' He claims that 'if we look back over Chomsky's career, it does seem that he is a scholar whose assumptions and goals have never in fact been open to direct argument' (249). The evidence that M cites in favor of this hypothesis clearly indicates that it is very difficult to get Chomsky to change his mind. However, Chomsky has done so at least once, and perhaps twice (see note 6), even though he doesn't admit it. Moreover, for how many leading scholars can it be said that their assumptions and goals *are* open to direct argument? Bloomfield acknowledged that he became a nominalist through the persuasive efforts of Paul Weiss, but Sapir persisted in his conceptualism despite the resulting intellectual isolation. Conversely, B. F. Skinner remained a nominalist and a behaviorist despite the criticisms of his theory of language in Chomsky 1959, which managed to convince so many others that it could not possibly be correct.

Bloomfield's and Skinner's nominalism and Sapir's and Chomsky's conceptualism are equally 'acts of faith' (252). Each one provides guidance for research into the nature of the human mind, which ultimately may vindicate one or the other set of assumptions and goals.

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Understanding language change. By APRIL M. S. MCMAHON. Cambridge & New
    York: Cambridge University Press, 1994. Pp. xi. 361. Cloth $59.95. Paper
    $17.95.

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   This book is an admirable review and summary of research and theory of
language change over the last two centuries—in effect the whole history of
linguistics as a science. It is presented as a textbook for a one-term undergradu-
ate course, intended to be 'usable without prior exposure to historical linguis-
tics' (xi), but so complete is its coverage and so comprehensive is its scope,
that it should be of interest and edification to experienced linguists as well.
McMahon has read widely in the appropriate literature, which she summarizes
and judges with intelligence and impartiality.

   Ch. 1 briefly describes language relationships, using Indo-European as an
illustration. Sections on language change and reconstruction and on synchrony
and diachrony (in which she takes issue with Saussure) are elementary enough
for the general reader, and lay the foundation for the organization of the book.
The next six chapters deal with change in particular areas of the grammar, and
Chs. 8–12 cover various topics and fields of study relating to languages in
context.

   The historical review begins appropriately with phonology, the area given
the most attention by linguists of the 19th century. A brief description of sound
change leads to a section on the Neogrammarians, whose theory of excep-
tionless sound change is illustrated by Grimm's and Verner's Laws, and by
Hermann Paul's speculation on the psychological motivation of sound change.
A section on the Structuralists introduces the phonemic principle and leads to
theorizing by the Prague School and Martinet. The Generativists, with their
emphasis on change as addition or reordering of rules, follow. The chapter
ends with a general statement that, though these schools profess to offer an
explanation of sound change, they do not explain the two basic problems, actua-
tion and transmission, which are discussed at length later in the book.

   Ch. 3, 'Sound change 2: the implementation problem', deals particularly with
the problem of transmission. M adopts the idea that sound change is phoneti-
cally abrupt and lexically gradual. This rejects the Neogrammarian principle but
also the theory, advanced by Hockett and others, of gradual phonetic change
resulting from 'missing the target' in phonetic space, though it accepts the
gradual transmission of a sound change across the lexicon and the speech com-
munity, as described by Wang and Chen (Wang 1977). This allows a rational