Schools and Traditions: Post-Bloomfieldians

J P Blevins, University of Cambridge, Cambridge, UK

Leonard Bloomfield is widely regarded as the principal architect of American descriptivism (or 'structuralism,' as it tends to be called by its detractors), yet many of the positions associated with the descriptivist or Bloomfieldian tradition originate with Bloomfield's successors. Indeed, the great achievement of the post-Bloomfieldians was to develop often programmatic remarks in Bloomfield's work into a coherent framework of grammatical analysis. To the extent that the key analytical assumptions of this framework survive in generative approaches and their offshoots, contemporary formal approaches fall squarely within the post-Bloomfieldian tradition. For the sake of this survey, it is nevertheless useful to restrict attention to the group of Bloomfield's immediate successors; they include Bernard Bloch, Zellig Harris, Archibald Hill, Charles Hockett, Eugene Nida, Kenneth Pike, Henry Smith, George Trager, and Rulon Wells.

The post-Bloomfieldians established the now-familiar practice of factoring linguistic descriptions into a series of 'levels' in which simple units at one level are made up of combinations of units from the next level down. This 'Russian doll' organization, in which clauses are composed of phrases, phrases of words, words of morphemes, and morphemes of phonemes, departs significantly from the conception outlined in Bloomfield 1933. Bloomfield had interpreted the relation between a meaning-bearing morpheme and its constituent non-meaning-bearing phonemes as a model for the organization of linguistic 'signs' in general. Hence *tagmemes,* meaning-bearing units at the syntactic level, were composed of non-meaning-bearing *taxemes,* not of smaller meaning-bearing units, such as morphemes. It was the post-Bloomfieldians who replaced Bloomfield's fractal conception with a model in which a linguistic analysis projected uniform part-whole relations "from morpheme to utterance," in the terms of Harris (1946).

The post-Bloomfieldians applied this general constituency-based conception first to the analysis of word structure and then to phrase and clause structure. In the domain of morphology, techniques of part-whole analysis evolved into what Hockett (1954) termed the item and arrangement (IA) model. The basic principles of segmentation and classification that defined this model were set out in Harris, 1942 and refined in Hockett, 1947. By the early 1950s Hockett was no longer satisfied by technical solutions to the shortcomings of part-whole analysis, and Hockett (1954) outlined the item and process (IP) model as an alternative that avoids *zero morphs, replacive morphs, subtractive morphs,* and other types of expedient units. Hockett (1967) went further in characterizing morphemic analysis in general as a shorthand description of processes of analogical extension based on exemplary paradigms and other morphological patterns. By this time, however, the IA model had jumped hosts, and was firmly established in the generative school.

Post-Bloomfieldian analyses of syntax were not quite as far along at the point that the descriptivist paradigm was superseded by the generative school. But the relatively sketchy remarks about syntax in Bloomfield (1933) had developed into procedures of immediate constituent (IC) analysis in studies such as Wells, 1947. These techniques, in turn, formed the basis for the model of phrase structure analysis formalized in Chomsky, 1956. However, it is important to bear in mind that the goal of Chomsky's formalization was to establish the inadequacy of phrase structure analysis. This goal was achieved in part by defining phrase structure grammars in such a way as to exclude the discontinuous constituents recognized in Wells (1947) and in nearly all subsequent models of IC analysis. This might not matter quite so much if Chomsky (1957) did not criticize phrase structure analysis precisely on the grounds that "discontinuous elements cannot be handled readily within the phrase structure grammar." Like Harris (1957), Chomsky (1957) introduced transformational relations between constituent structures to overcome the putative limitations of single structures. Transformations in Harris's sense expressed static implicational relations over patterns in a corpus: e.g., that a sufficiently large corpus containing a passive would contain a corresponding active. Chomsky (1957) proposed a more dynamic interpretation on which transformations were interpreted as applying to one structure to "derive" another.

Although part-whole analysis can, in principle, proceed in either a top-down or bottom-up fashion, the post-Bloomfieldian techniques were meant to be applied over successively larger domains, from phonemes, through morphemes, to phrases, and onto discourses. At each level a distributional analysis would define the units and classes in terms of which the analysis of the next level would be defined. The desire to obtain effective mechanical procedures of analysis led to the exclusion of considerations of

meaning and to strictures against mixing levels. It is for these methodological concerns that the post-Bloomfieldians are best known in the modern era. Yet it is only fair to mention a number of points in their defense. The first point is that the descriptivist framework grew out of a fieldwork tradition in which the search for discovery procedures was meant to address practical as well as theoretical problems. While this search may have proved unsuccessful, at least in the terms that the descriptivists framed the task, much the same can be said for the more modest task of formulating evaluation procedures to chose between extensionally equivalent generative grammars (Chomsky, 1957). The reduction of grammatical analysis to distributional analysis is also not entirely confined to the descriptivist tradition. In any model that rejects traditional definitions such as 'a noun is the name of a person, place or thing,' it is not clear on what basis, other than form or distribution, word classes are defined. On the predominantly agglutinative view of word structure adopted in IA accounts—whether descriptivist or generative—form classes are merely a type of morphological distribution class. So any approach that rejects notional definitions of categories is implicitly distributional.

Considerations of this sort do not justify all of the assumptions and practices of the post-Bloomfieldians. However, they do reinforce the essential continuity between the descriptivist and generative paradigms (which is traced in more detail in Matthews, 1993) as well as offer a useful corrective to the popular view of the post-Bloomfieldians as methodological eccentrics.

See also: Constituent structure (01958); Bloomfield, Leonard (1887-1949) (02462); Harris, Zellig S. (1909-92) (02608); Hockett, Charles Francis (1916-2000) (02626); Discontinuous dependencies (02002).

Bibliography

Chomsky N (1956). 'Three models for the description of language.' *Institute of Radio Engineers transactions on information theory 2(2),* 113–124.

Chomsky N (1957). *Syntactic structures.* The Hague: Mouton.

Harris Z S (1942). 'Morpheme alternants in linguistic analysis.' *Language 18,* 169–180 [Reprinted in Joos, 1957, 109–115.].

Harris Z S (1946). 'From morpheme to utterance.' *Language 22,* 161–183 [Reprinted in Joos, 1957, 142–153.].

Harris Z S (1957). 'Co-occurrence and transformation in linguistic structure.' *Language 33,* 283–340 [Reprinted in Joos, 1957, 109–115.].

Hockett C F (1947). 'Problems of morphemic analysis.' *Language 23,* 321–343 [Reprinted in Joos, 1957, 229–242.].

Hockett C F (1954). 'Two models of grammatical description.' *Word 10,* 210–231 [Reprinted in Joos, 1957, 386–399.].

Hockett C F (1967). 'The Yawelmani basic verb.' *Language 43,* 208–222.

Joos M (ed.) (1957). *Readings in linguistics I.* Chicago: University of Chicago Press.

Matthews P H (1993). *Grammatical theory in the United States from Bloomfield to Chomsky.* Cambridge: Cambridge University Press.