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Joseph H. Greenberg on his 75th bir...
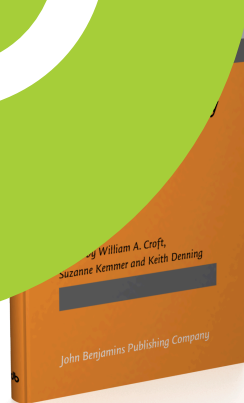**Edited by William A. Croft, Suzanne Kemmer and Keith Denning**
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Typology and diachrony
in the work of Joseph H. Greenberg

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Joseph H. Greenberg's professional life has been devoted to the study of languages in the quest for the nature of language. Because of this, few scholars approach his range of actual linguistic knowledge. The experience of studying manifold aspects of diverse languages has played a pivotal role in his work and is perhaps the thing which most keenly distinguishes him from the majority of his predecessors and contemporaries. Greenberg once went so far as to say "I have learned more from languages than from linguists" (although in fact he is intimately acquainted with work by seminal thinkers in the field with which few modern researchers are conversant). This emphatically empirical, cross-linguistically-based approach to theory has always been tempered with a recognition of the inseparability of diachronic and synchronic considerations in linguistic research. The powerful insight which working from such a panchronic, cross-linguistic perspective have made him a vital and influential force in the field. The present volume is a collection of papers on cross-linguistic and diachronic research written in honor of Joseph H. Greenberg on the occasion of his seventy-fifth birthday by some of the leaders of the field which he has done so much to shape. Such a collection is especially appropriate in view of the way in which cross-linguistic and diachronic considerations are interwoven as the central strands of this great scholar's work.[1]

Greenberg's name is most closely associated with the fields of typology and universals, both of which focus on the comparative analysis of language structure. He is rightly considered to have founded modern linguistic typology with his famous essay treating the order of words and morphemes (1966 [1963]) first presented at a ground-breaking conference on language universals held at Dobbs Ferry in 1961. By illustrating significant limits to cross-linguistic variation, that work contradicted the belief then widely held that languages vary in infinitely many ways. Most important for the future was the discovery of implicational universals in morphology[2] and syntax, generalizations that described constraints on variation by demonstrating that a language with one particular property could be predicted to have a second property. Implicational universals reveals far more systematicity in the structure of language than simple unrestricted universals such as "all languages have vowels" or "all languages distinguish the categories of 'noun' and 'verb'." In fact, as Greenberg once said, grammars get pretty monotonous after you've looked at a lot of them. (Unfortunately, this "monotonous" regularity of language structure is almost never taught to students of linguistics, who therefore have to discover it for themselves). This fundamental notion — that there are discrete patterns in cross-linguistic variation — underlies modern typology.

Less well-known about Greenberg's seminal paper are some of its deeper principles. Virtually as soon as he had elaborated the concept of implicational universal, Greenberg recognized that implicational universals are fairly low-level generalizations, and that deeper principles must underlie them. He proposed two principles underlying the universals: 'dominance' (the notion that one order of words or morphemes is dominant — i.e. more common — than its opposite) and 'harmony' (the fact that parallel word orders, e.g. Adjective-Noun and Genitive-Noun, tend to co-occur). He proposed a principle for their interaction: 'A dominant order may always occur, but its opposite, the recessive, occurs only when a harmonic construction is likewise present' (1966a [1963]:97). This is a relatively early example of a significant generalization based on competing motivation of deeper universal principles, one of the crucial means by which one can account for constrained variation across languages.[3]

The word and morpheme order paper was, however, not Greenberg's first major venture into typology. He took up two major typological concerns that preceded him, and made major advances in both. Greenberg (1954) examined the morphological typology best known from the work

of 19th century historical linguists[4] and reinterpreted it in quantitative terms. This step solved one of the major problems of traditional morphological typology, namely that it had forced the analyst into arbitrary decisions as to which morphological type a specific language belonged to. Following Sapir and elaborating on him, Greenberg also identified ten quantifiable indices of grammatical structure, thus allowing for a far more sophisticated and revealing model of morphological types.

Another major contribution to modern typology preceding Greenberg was the Prague school's notion of markedness, particularly as developed by Trubetzkoy in phonological typology and by Jakobson in the application of Trubetzkoy's model to grammatical categories. Greenberg (1966b) summarized the previous research, systematically surveyed the markedness patterns of all the major grammatical categories, and produced a novel integration of the criteria for both phonological and semantic markedness. In this same work, Greenberg anticipated future developments in typological research by noting hierarchical markedness patterns and markedness reversals.[5]

Given Greenberg's pivotal role in modern typology, it may come as a surprise to discover that typology was for him at first only a side issue which only later became important in itself. Greenberg first decided to pursue the research that resulted in his morpheme and word order paper in order to demonstrate the fallacy of using typological evidence in the genetic classification of languages. The nearly 'monotonous' systematicity of grammatical structure, the frequency of certain patterns of linguistic change and the structural instability of languages over time prevent one from using structural similarity per se to identify languages as sharing descent. To demonstrate a genetic classification, one must show resemblances beyond chance. If there are only a few possibilities (e.g. the six possible word orders of subject, object and verb), and the combinatory possibilities that occur are further limited, then chance resemblance is far more likely. Genetic linguistics must therefore establish resemblances in grammatical properties for which there are multiple possible patterns (i.e. the arbitrary correspondences between sound and meaning/function) to determine that they are indeed shared remnants from some earlier historical period during which now-separate languages were unified.

Looming large among Greenberg's contributions to diachronic linguistics is his work in the genetic classification of languages. This work began with his work on the classification of African languages which culminated in

Greenberg 1963. By the 1950's Greenberg had also addressed considerauons in the classification of languages of Oceania and the Americas (Greenberg 1953, 1960 [1956])). These proposals were substantiated later by lexical and grammatical evidence for the grouping of the non-Austronesian languages of Papua New Guinea and nearby islands (including Tasmania and the Andamans; cf. Greenberg 1970a) and the grouping of the American Indian languages into three major groups, Eskimo-Aleut, Na-Dene (originally proposed by Sapir), and Amerind (Greenberg 1987). Greenberg's research on American Indian languages led him across the Bering Strait to affiliations of Eskimo-Aleut with various languages in northern Asia and Europe, including Indo-European (the 'Eurasiatic' family; Greenberg, in preparation).

The classifications of the Papuan languages and of the American Indian languages have been the subject of considerable debate, as was the African classification when it was introduced. The Eurasiatic grouping will almost certainly be controversial as well. Why then, especially in light of his other major concerns, has Greenberg pursued it with such dedication? The fact is that this strand of his research actually fits in closely to his larger work on the nature of language. One key to this deeper connection lies in Greenberg's method of multilateral comparison in genetic research. In this method, one compares large numbers of lexical items, grammatical affixes and other phenomena across all the languages in question, looking for patterns of resemblance by which the languages may be sorted into genetic groups and subgroups.[6] Like typological analysis, multilateral comparison involves looking at a large number of languages in detail — that is, it utilizes very much the same method employed in a proper investigation of linguistic universals. Furthermore, establishing genetic relationship lays the groundwork for further diachronic typological research. For Greenberg, looking at a large number of languages reveals not only typological patterns, but also those relevant to determining genetic affiliation (including such distortions as the ones introduced by borrowing). These, the two most important patterns of grammatical resemblance, surface only upon examination of a large number of languages.

We have described Greenberg's research on genetic classification and the typological research that grew out of it as if they represented independent and perhaps mutually exclusive pursuits. On one hand, the historical linguist must ignore typological resemblances in order to eliminate spurious genetic groupings, whereas the typologist, on the other hand, must avoid

genetic bias in doing typological surveys of grammatical phenomena. While having first distinguished typological and genetic focusses where necessary, Greenberg has (especially in the last quarter century) come to merge them in the development of a more sophisticated research program, that of *diachronic typology* (see especially Greenberg 1969, 1978a). Diachronic typology is the typology of language change, as contrasted with synchronic typology, the typology of language states. The move from synchronic to diachronic typology is not merely the application of the typological method of comparison to another area of language study; it represents a radical shift in theory. Diachronic typology does not merely supplement synchronic typology; it replaces it.

The unification of diachrony and synchrony found in diachronic typology results from a transcendence of the abstraction of the language state. Synchronic typology, like other varieties of synchronic analysis, examines states or systems of grammatical structures such as the word order combination Subject-Verb-Object (SVO) and Noun-Genitive. Diachronic typology "dynamicizes" the synchronic model by reinterpreting synchronic language states as stages in a diachronic process. One then analyzes the transitions between states or stages and the stability and frequency of occurrence of language states. Synchronic typological generalizations become diachronic sequences of stages. So-called "exceptions" to synchronic universals, such as a combination SOV and Noun-Genitive word orders, usually turn out to be unstable transitory stages in a more or less gradual diachronic process. As Greenberg puts it:

> Synchronic regularities are merely the consequence of [diachronic] forces. It is not so much...that "exceptions" are explained historically, but that the true regularity is contained in the dynamic principles themselves. (1969:186)

The elimination of the dichotomy between synchrony and diachrony in diachronic typology alters our view of the language state. We come to see that speakers, rather than *possessing* a language in their minds, *participate* in *processes* in that dynamic entity which we call 'a language.' The fundamental questions of linguistic theory then become not 'what is a possible language state, and why?,' but 'what are the more *probable* language states, and why?'

Above all else, diachronic typology enables us to abandon one of the most unfortunate idealizations ever adopted in the study of language, the assumption that a synchronic language state is homogeneous. In fact, syn-

chronic language states are highly variable. Different constructions perform the same function for the same speakers or vary quantitatively across different subgroups of the speech community. No language, for example, is really just 'SOV and Genitive-Noun.' Compare the following examples of real language states from Greenberg 1980, a study of word order change in Semitic languages of Ethiopia:

> *Tigre*: SOV order with a minor VSO variant; Adjective-Noun and Noun-Adjective orders, with Adjective-Noun more common; Noun-Genitive most common genitive, with a less common Noun-*nay*-Genitive construction which also occurs in the order *nay*-Genitive-Noun; Noun-Possessive [genitive], Preposition-Noun.

> 14th century Amharic: SOV; Adjective-Noun; *yä*-Genitive-Noun; Noun-Possessive more common, but also a *yä*-Possessive-Noun construction analogous to the nominal genitive; a 'circumposition' (with a preceding and a following morpheme) is most common, but the preceding morpheme is sometimes reduced to *ʔə*, yielding a construction *ʔə*-Noun-Postposition, and there are some adpositional constructions which are simply Noun-Postposition.

'Synchronic states' are so complex as to be essentially unique for any particular language unless filtered through a considerable amount of idealization. But the variation that makes synchronic analysis so difficult is easily accommodated by the diachronic analysis, which in this case is a sequence of quantitative changes, beginning with VSO › SOV, then Noun-Adjective › Adjective-Noun, then Noun-Genitive › Genitive-Noun, then Noun-Possessive › Possessive-Noun (by extension from Genitive-Noun), and finally Preposition-Noun › Noun-Postposition (by the grammaticalization of genitive constructions as new adpositional constructions). *Process* is the true regularity here, the true principle of 'Universal Grammar.'

The reinterpretation of language states in a dynamic perspective is only possible with the shift from typologizing languages to typologizing properties of languages, that is, the shift from 'individualizing' to 'generalizing' typology (Greenberg 1974:28-29, 43). The individualizing approach, characteristic of the nineteenth and earlier twentieth centuries, treats each language as belonging to a single holistic type, such as 'analytic' and 'synthetic,' or more recently 'OV' and 'VO.' This approach treats each language as a more tightly integrated whole than the facts merit, and provides no explanation for language change. The generalizing approach typologizes individual properties such as the formation of relative clauses or adpositional constructions across languages, and then seeks relationships, includ-

ing dynamic ones, among those properties. The shift to the generalizing approach allowed the development of modern typology, including diachronic typology.

Diachronic typology represents the highest level of generalization of internal language structure, as Greenberg argues in the last chapter of his book *Anthropological Linguistics* (1968) and his LSA Presidential address (1979). Greenberg shows that the description-explanation dichotomy is an oversimplification, and proposes that instead we speak of levels of generalization. "Description" is generalization at a very low level, while "explanations" provide generalizations at successively higher levels. Greenberg points out that it is unreasonable to attach the term "law" (or "principle") to a generalization restricted to one language or a small group of languages; it must apply to all languages. Finally, as Greenberg has proposed, generalizations over language states must eventually give way to generalizations over language processes. It is the role of the diachronic typologist to generalize over languages and over time.

Typological (including of course diachronic typological) generalizations are not the sole end of typological research. Having achieved the highest level of internal linguistic generalization, one must seek external explanations. Greenberg has sought these explanations for most of his career. He proposed a processing explanation in his study of the suffixing preference (1954), and phonetic explanations for the generalizations over glottalic consonants (1970). Similar lines of explanation of universals are being pursued today in the work of many linguists. Perhaps his most general discussion of external explanations, however, is in his word and morpheme order paper. In its concluding section, Greenberg proposes combined roles for iconicity, semantic analogy and cognitive processing in explanation of the whole family of syntactic and morphological generalizations noted in the body of the paper. The seeds of the 'functional-typological' paradigm were thus already sown in the seminal work of modern typology.

A global view of language is what distinguishes Greenberg's work from that of almost all who have preceded him and the majority of his contemporaries. At least to the inquisitive mind and the methodologically thorough scientist, such a view virtually requires the elucidation of genetic, areal and typological patterns in language, and their external motivation. Diachronic typology requires close comparison of related languages in order to identify the possible outcomes of a change begun in the protolanguage, as Greenberg has shown in study after study (especially the series of

papers on gender markers (1978, 1981, to appear)). Genetic classification requires knowledge of grammaticalization patterns to identify lexical items and grammatical affixes as potential cognates (for example, the rise and loss of the *kwa* round object classifier cognates in Carib described in Greenberg 1987:298-299). The results of both lead to a need to examine external factors: cognitive and functional forces for the former, demography and cultural contact and divergence for the latter. The need to consider both is a natural result of the study of the vast array of human languages.

Perhaps Greenberg's most telling methodological comment, one which captures his perspective well, is one that he made during a lecture in the course on typology and universals he taught at Stanford in 1984 which the editors attended. Concerning the use of linguistic descriptions in linguistic research, he noted in his characteristically matter-of-fact style, that "you have to muck around in grammars. You shouldn't read a grammar with a predetermined goal in mind. Just look around until something interesting pops out at you." Joseph Greenberg has looked around and we are all thankful for what has popped out at him.

NOTES

1. Cf. Denning and Kemmer (eds.) 1990, a collection of Greenberg's writings in diachronic linguistics and typology/universals as well as various subfields of linguistics.

2. The morphological aspect of this essay has generally been neglected in subsequent work on the order of meaningful elements although it accounted for half of the universals observed.

3. This analysis was superior to the many following attempts to account for word order patterns based solely on harmony. See Comrie 1981: 89-94 for a critique of these proposals. Hawkins (1983) is the first competing motivation analysis since Greenberg's original proposal.

4. This work was itself preceded by 18th century morphological taxonomy by Adam Smith. It was greatly refined in the early 20th century by Sapir.

5. Such are identified in current research as members of the class of typological prototypes. The grammatical criteria used to establish hierarchies and prototypes in current typological theory are essentially those used for markedness patterns.

6. Greenberg discovered in conversation with A. L. Kroeber that both had been independently using multilateral comparison. Greenberg, however, was the first to explicitly describe and defend this method (Greenberg 1957).

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