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Reply to Postal's Review of Grammar Discovery Procedures

ROBERT E. LONGACRE

Postal's recent remarks on my Grammar Discovery Procedures¹ suffer from two main defects: (1) they are dated, and (2) they do not reflect a careful reading of the volume.

For the first, Postal himself may not be to blame. The February 1955 issue of Language, in which I answered certain earlier criticisms of tagmemics by Postal and others, may not have come out before he submitted his review. Nevertheless, this circumstance does make some of Postal's comments of less relevance. In my article,² I went to some lengths to point out some crucial contributions of tagmemics to the current linguistic milieu: (1) the tagmeme, as function-set; (2) the syntagmeme, as a more satisfactory and concrete notion than 'construction'; (3) hierarchy, as a comprehensive taxonomic scheme which, among other things, facilitates assignment of comparable structural descriptions to utterances and parts of utterances; and (4) field structures, as versatile devices for relating the elements of a language.

Postal, in his review, singles out as the 'crucial flaw' the fact that the notion of the tagmeme confuses categorial membership notions like 'is an NP', 'is a VP', etc., and relational notions like 'subject of', 'object of', 'restrictive relative phrase of', etc. (94). This is a repetition of Postal's earlier criticism that "The tagmemic characterization thus seems to miss the relational aspect of grammatical features like 'subject', 'object', 'predicate', and confuses these with constituents."³ This criticism was answered in

¹ IJAL 30.93–98 (1965).

² Some Fundamental Insights of Tagmemics, Lg. 41.65-76 (1965).

³ Paul M. Postal, Constituent Structure: A Study of Contemporary Models of Syntactic Description (Bloomington, 1964), 37-38. Interestthe article just mentioned: "Thus, the four segments of the clause manifest grammatical functions which are at the same time relations within the clause. The goal of tagmemic analysis is not simply to isolate constituents but to reveal relations." (66)

This brings me to my second criticism of Postal's review—the charge that he has not carefully read my volume. Actually, it is made quite clear in the Grammar Discovery Procedures that the relational aspect of the tagmeme is indispensable. "Pattern and pattern point therefore are properly primitives of linguistic structure. The particular linguistic theory here followed terms the former syntagmeme (construction) and the latter tagmeme (element of a construction). The two concepts are correlative. Syntagmemes cannot exist without component elements, i.e. tagmemes. On the other hand, tagmemes exist only by virtue of placement in one or more syntagmemes." (Grammar Discovery Procedures, 15) Since tagmemes and syntagmemes are correlative notions and since a tagmeme cannot exist except by

ingly enough, Chomsky not only recognizes the relational nature of the tagmeme, but gives Pike a word of guarded commendation in this respect: "It is the great merit of Pike's recent work in tagmemics to have focused attention on the importance of these notions, although his analysis of these relational notions is redundant and (since it is a strictly categorial interpretation) not adequate." (Current Issues in Linguistic Theory, in Jerry A. Foder and Jerrold K. Jatz, The Structure of Language (Englewood Cliffs, N.J., 1964), 82). The tagmeme, however, does not involve a 'strictly categorial interpretation' as Chomsky alleges. Cf. Noam Chomsky, Aspects of the Theory of Syntax (Cambridge, Mass., 1965), 68: "The notion 'Subject' as distinct from the notion 'NP' designates a grammatical function rather than a grammatical category. It is, in other words, an inherently relational notion." I'm at a loss to understand why 'Subject' from the mouth of an MIT transformationalist is an 'inherently relational notion', while 'Subject' from the mouth of a tagmemicist is a 'strictly categorial notion'.

virtue of being a constituent of a syntagmeme, it follows that the syntagmeme is the relational framework within which the tagmeme occurs. More precisely, the syntagmeme is a relation in n-tuples, in which n equals the number of constituent tagmemes. Thus, a given noun phrase may function as subject of the syntagmeme to which it belongs (on this level, a clause type), just as the verb functions as predicate of the syntagmeme, and further noun phrases function as objects, locationals, temporals, manner, etc. Positing a relation in n-tuples (implying a tree with coordinate branches) gives maximum flexibility of permutation (without changing tree structure, but only order of branches), and facilitates cartesian multiplication of the sets which are exponents of the various constituent tagmemes. From this point of view, the tagmeme is not only a domain of concatenation (although this is also important) and a relation in n-tuples, but an idealized cartesian product as well. The syntagmeme is, of course an abstraction which must be related to actual language examples via such operations as Reading (combination), Permutation, Exponence, and 'dubbing in' of lexical and phonological stuff.

Postal, however, still writes as if tagmemics begins and ends with the tagmeme. He fails to mention the syntagmeme even once in the whole review. In actual bulk, however, at least fifty per cent of my Procedures volume deals with the syntagmeme on various hierarchical levels. It is Postal's failure to understand the syntagmeme which leads to his inability to recognize the relational nature of the tagmeme.

Postal's emphasis on binary relations (rather than on relations in n-tuples) savors somewhat of unreconstructed immediate constituent analysis: "The attempt to represent grammatical relations in terms of labelled positions in superficial trees (sic!) fails because this cannot indicate the pair of elements which bear the relation" (95). Tagmemics recognizes, as indeed it must,

that within a syntagmeme there may be observable 'layering or grouping tendencies'. Thus, it is apparently true that in English objects are more closely related to their verbs than are subjects.⁴ Nevertheless, tagmemics holds that much is to be gained by treating this layering as of secondary importance and emphasizing rather the mutual relation of all elements of the clause. One significant layering-nucleus versus periphery—is built into tagmemic theory in that this distinction is built into the notion of syntagmeme. Thus, in the English transitive clause, subject, predicate, and object are nuclear while all other tagmemes are peripheral.

It seems labored for Postal to continue to occupy himself with the question as to whether the tagmeme as function-set requires extra nodes in tagmemic trees. Thus on pages 94–6, he speaks at length of the 'inadequacy of the extra node' approach. On page 96, he quotes my rejection of the extra node approach and rightly, interprets tagmemics as requiring a complex symbol which is indeed the very genius of the

⁴ One reason for not taking this layering to be of great relevance to English is its lack of relevance in many other languages. Thus, in certain Otomanguean languages of Mexico, the preferred order of elements is predicate, subject, object, etc. In such languages, the subject groups very closely with the predicate and nothing may intervene between the two-even when PS permutes to SP. Thus, while MIT transformationalists set up for English a predicate phrase branching into VP and NP (object), in these Otomanguean languages we could with equal propriety set up a predicate phrase branching into VP and NP (subject). If, on the other hand, we set up all three as coordinate (regardless of ordering in a particular language), then we have something of universal relevance and not specific to either English or Otomanguean. The layering of object with verb in English and of subject with verb in Otomanguean are probably features of surface structure rather than of deep structure. It can be argued, of course, that the relevant factor is lexical selection between verb and object versus such selection between verb and subject. But even here an empirical investigation is in order before premature decision is made as to language universals.

tagmeme. Such a complex symbol as S:NP includes an ordered pair, the first member of which is a relational and functional symbol, and the second member of which is categorial and summarizes a set of exponents expressing that relation. Use of complex symbols of a different sort has been suggested recently by Chomsky; there seems to be no fundamental objection to them. As for the charge of redundancy, complex symbols of the sort used in tagmemics are no longer redundant in a tree with coordinate branching, but are needed. Furthermore, the charge of redundancy can only carry weight with those who have made the prior assumption that such redundancy is undesirable. Meanwhile, the increasing tendency within transformational grammar to take account of grammatical function indicates that tagmemics has not been entirely misguided in its preoccupation with function.⁵

Actually, tagmemicists do not construct such trees as the following:



We do not construct such trees because we believe that the tagmeme function-set is thereby obscured (not because we want to avoid extra nodes as such).⁶ Rather, we draw tagmemic trees in two ways (I substitute clause for sentence below):



In the first tree, the usual tagmemic notation

⁵See Chomsky, Aspects of the Theory of Syntax, 69 ff.

⁶ There seems to be no special inhibition against a long sequence of nodes that do not display branching. Thus, in G. H. Matthew's Hidatsa Syntax (The Hague, 1965), such trees have so many non-branching nodes in vertical sequence that one is likely to wonder if these trees are not, in effect, weeping willows. is retained. In the second, the branches are labeled as well as the nodes. A labeled branch (function) which terminates in a node (constituent) is not an inappropriate representation of the function-set notion. Of course, in analyzing a given example, the function has as its exponent not the whole set of possible manifesting syntagmemes (in this case the set of noun phrase types for S and O, and the set of verb phrase types for P) but only one member of each set. More abstract trees may be constructed which summarize all possible examples, e.g.



Such generalized trees may be said to lie back of particular manifestations in particular trees. Tagmemics usually gives such information in a formula rather than in such diagrams as the above. The coordinate branching posited everywhere in such a diagram makes it uninteresting. In, however, a full diagram of a sentence or paragraph, branching is seen at nodes that cross hierarchical levels or that illustrate nesting on the same level.⁷

Postal's second main point is much more worthy of consideration: "The trouble is that Longacre and tagmemics generally have not recognized the fact which is the central insight of transformational grammar, that syntactic structure consists of TWO DISTINCT ASPECTS: DEEP STRUCTURE, which is highly abstract and relevant to semantic interpretation and in which grammatical relations can be correctly defined, and SURFACE STRUCTURE, an actual bracketing of the

⁷ For examples of tagmemic trees, see my paper Linguistic Hierarchy and Methodology to be published in the results of the Linguistics Institute Conference on Methodology, Los Angeles, August 1-3, 1966. The idea of abstract grammar trees not ad hoc to particular sentences is Pike's. sentence relevant to phonetic interpretation alone." (97)

I think that Postal is quite right in asserting that this is the central thrust of transformational grammar. That it has taken transformational grammar almost a decade to realize that this is indeed its central drive and intent is typical of the progress of human thought. In Chomsky's Syntactic Structures of 1957, while the central emphasis is adumbrated, it is obscured by emphasis on optional singulary transformations (such as the passive, 42ff) where one actual sentence is changed to another. It originally seemed important to Chomsky that redundant statement of lexical and grammatical constraints ('inelegant duplication') be avoided by stating these constraints once and for all in relation to a kernel and then letting them apply as well to the transformations of the kernel. Thus, 'transformation' originally included not simply rules to obtain surface structure from an abstract deep structure (the terms are not used in Chomsky 1957) but also devices for changing one actual sentence to another. The latter-although now practically abandoned by current MIT transformationalists-still remains of interest to transformationalists of the Harris school and to tagmemicists. In view of the history of this type of transformation, Postal should not speak so disparagingly of this use of transformation as 'ad hoc devices thrown in to talk about relations between sentences' (98).

Since its inception, tagmemics has insisted on a distinction between the FEATURE MODE and the MANIFESTATION MODE. In the feature mode, the identifying-contrastive marks of units are set forth with special attention to meaning contrasts. In the manifestation mode, these units are studied as they are coded into actual speech variants. This distinction is no afterthought, but is part and parcel of Pike's original pre-1957 conceptual framework. Thus, the feature mode is covered in Pike's Language Part I.75-101 (1954) while the manifestation mode is largely the subject of Part II (1955).⁸ Thus, in the feature mode we may speak of indirect object as opposed to subject in the framework of certain clause types. But in the sentence: John told Bill to go, the indirect object of the main clause and the subject of the infinitive construction have portmanteau manifestation in the one item Bill. Thus, in the manifestation mode a single unit (in this case a tagmeme) may have zero manifestation, discontinuous manifestation, etc. A sequence of two tagmemes may have segmentable manifestations, partly fused manifestations, portmanteau manifestations, etc.

The tagmemic distinction between feature mode and manifestation mode is akin to the present MIT transformationalist emphasis on deep structure versus surface structure. It is, therefore, inaccurate for Postal to say "Tagmemics is, then, a theory of grammar which claims, in effect, that surface and deep structure are identical and hence that the structures relevant for semantic and phonetic interpretation are identical." (98) Although, however, the distinction feature mode versus manifestation mode is akin to that of deep versus surface structure, there are important differences. Tagmemics wants less distance between its 'deep' or abstract structure and its 'surface' structure than that found in MIT transformational grammar. Tagmemics is, in fact, distrustful of a highly abstract construct related only by a very complex chain of rules to linguistically verifiable utterances. The syntagmeme (whether a word, phrase, clause, sentence, paragraph or discourse) is an abstract construct. Nevertheless, it is related to its various manifestations by a shorter chain of operations than that found in MIT transformational grammar.⁹ This shorter chain from

⁸ Language in Relation to a Unified Theory of the Structure of Human Behavior, Vols. I, II, III (Glendale [now Santa Ana], California, 1954, 1955, 1960 [Revision in process of publication to appear with Mouton & Co]).

⁹ For this chain of operations, see my Grammar

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the abstraction to the actuality is partly due to the notion of herarchy. A word type or a phrase type may be generated from a formula and accompanying rules without retreating to the initial rule of the grammar and grinding on down through several hundred rules to the relevant spot.

Indeed, a subject which needs much discussion in MIT transformational circles is criteria for evaluation of two or more competing abstract structures of the same language. Vague criteria such as 'simplicity' will have to be considerably disambiguated before such evaluation can be made. Meanwhile, there is a danger that a hastily conceived scheme of universal 'deep structure' will become the newest Procrustean bed upon which languages will be forced to lie.¹⁰

The mention here of feature versus manifestation mode leads to mention of Pike's theory of trimodal structuring. To the above two modes must be added the DISTRIBUTION mode. The three modes are each relevant especially to lexicon (feature mode), phonology (manifestation mode), and grammar (distribution mode)—although each of the three in turn has its own tri-modal structuring. When Postal complains in this regard that "discussion of this has remained too vague to permit any serious conclusions

¹⁰ Cohmsky denies that the Latin model ever constituted such a Procrustean bed in past generations or that universal grammar as now conceived will ever be such a Procrustean bed (The Current Trend in Linguistics: Present Directions, College English 27.287ff). There are, however, clear examples in early Latin American studies of aboriginal languages being forced into a Latin model; cf., e.g., Arte Breve y Vocabulario de la Lengua Tzoque by Fray Luis González (1672) and included in Langue Zoque y langue Mixe by Raoul Grasserie (Paris, 1898); Arte en Lengua Mixteca by Fray Antonio de los Reyes (Mexico City, 1593; reissued in 1888). about the contrasting forms of grammatical theories to be drawn" he simply voices his own lack of acquaintance with Pike's voluminous writings on the subject. Pike's threevolume work is not, of course, easy reading; but neither are Chomsky's to the uninitiated. Have we reached the place in American linguistics where advocates of the various linguistic creeds are too busy elaborating their own dogmas to read the theology books of rival schools?

I am amazed to find that at the end of his review Postal states "In this regard, I would strongly suspect that the two most important 'discovery procedures' from the point of view of theoretical aims are neglected by Longacre. Namely, learn the language of study as well as possible" On page 12 of the Procedures volume, I state: "In using these procedures we assume the following situation: An analyst approaches a language which either he already knows in some practical way or with which he sets about to familiarize himself-preferably in a language learning situation." Since that subset of tagmemicists that belongs to the Summer Institute of Linguistics are Bible translators, it would be something approaching heresy for us to fail to emphasize practical language learning. As Bible translators, we know from experience the importance of an 'intuitive' grasp of a language as well as the importance of explicit and testable statements about the language. For a translation of the Bible must not only involve well-formed 'sentences' but well-formed constructions on all hierarchical levels—even up to paragraph and discourse. If for others grammar stops at the sentence, it cannot stop there for us.

I am disappointed in Postal's review in that it does not really focus on crucial and relevant issues between tagmemicists and transformationalists but raises a smokescreen of pseudo issues. We have yet to see the beginning of fruitful dialogue between the two schools. Perhaps our first job is to create an atmosphere in which such dialogue is possible. This atmosphere cannot be

Discovery Procedures, 32ff, as well as On Tagmemes and Transforms, Walter A. Cook, S.J. (Georgetown University Press, Washington 1964), 53ff; K. Zvelebil, Towards a Taxonomic and Generative Grammar of Tamil, Archiv Orientalni 33.602-13.

created so long as we are more eager to confound an opponent than to embrace truth wherever found. In particular, an atmosphere of fruitful discussion cannot be created if we persist in calling points of view—often the product of years of sober reflection about many languages—'bad arguments', 'wordy', 'empty discussion', etc. just because we have not taken the time to try to understand them.

SUMMER INSTITUTE OF LINGUISTICS

A WIDESPREAD WORD FOR "OWL"

KARL-HEINZ GURSKY

C. F. Voegelin, F. M. Voegelin and Kenneth L. Hale reconstruct a Proto-Uto-Aztecan form *tukur(i) owl.¹ This form is curiously reminiscent of some words for owl in Californian languages. Thus compare the following forms: Penutian: Northern Sierra Miwok tuk·u·li-, Plains Miwok tùk·úl·i-, Proto-Eastern-Miwok *tuk·ú·1l1i-, Lake Miwok túk·uli, Proto-Miwok *tùk·ú(·1)l1i,2 Proto-Yokuts *hutulu,3 Reconstituted Rum-†túkun.⁴ Proto-California-Penutian sen *tukun/l;⁵ Hokan: San Louis Obispo Chumash tukuna great horned owl,⁶ Esselen tukunupša barn owl;7 Yukian: Wappo hutúku·lu.8

The similarity of these forms, especially that of the Proto-Uto-Aztecan and Proto-Miwok reconstructions, is so great that one is inclined to suggest some kind of historical connection between these languages. Miwok was in historical times in immediate contact with the Uto-Aztecan Mono and Northern

¹ IUPAL 17.142 no. 105 (1962).

² S. M. Broadbent and C. A. Callaghan, IJAL 26.313 (1960).

⁸ V. K. Golla, University of California Publications in Linguistics 34.64 (1964).

⁴ H. Pitkin and W. Shipley, IJAL 24.183 (1958). ⁵ Ibid., 188.

⁶ R. F. Heizer, University of California Anthropological Records 15.108 (1955).

⁷ Ibid., 79 (1952).

⁸ J. O. Sawyer, University of California Publications in Linguistics 43.75 (1965).

Paiute. The Chumash were in contact with the Uto-Aztecan Gabrielino and Serrano. Thus Miwok and Chumash could have borrowed their words for owl from neighbouring Uto-Aztecan languages. From Miwok the word could have spread to Wappo, Rumsen and Esselen. Yet this word for owl seems not to be attested for any Uto-Aztecan language in or at the border of California. In any case the nearest languages which the Voegelins and Hale list are Hopi and Papago. A diffusion between Hopi or Papago and Miwok, Rumsen, Wappo, Esselen and Obispeño Chumash is rather improbable in view of the great distances between the regions where these languages were spoken in historical times. Besides, Papago čúkud and Hopi tokori are somewhat less similar to their proto-form than Proto-Miwok *tuk· $u(\cdot_1)l_1i$. Thus there remain only two possible solutions: Either these forms are loans of considerable antiquity or they are, despite their great resemblance, independent onomatopoetic coinages. The first alternative is plausible. We may indeed have here a case of diffusion between Proto-Uto-Aztecan and some stage of Proto-California-Penutian. That Pitkin and Shipley reconstruct Proto-California-Penutian *tukun \sim *tukul does not exclude the possibility that this form was a loan from Proto-Uto-Aztecan. (The *n/lalternation in the Proto-Penutian form is probably the result of consonant symbolism. as Pitkin and Shipley state,⁹ which may have operated after the Proto-California-Penutian-stage in Pre-Costanoan). If we have here indeed a case of diffusion between Proto-California-Penutian and Proto-Uto-Aztecan, this would mean that these protolanguages were spoken in immediate proximity. In this case we should expect that additional loans between these protolanguages can be found.

Another case of borrowing from Uto-Aztecan is probably Quiche (Mayan) tukur *owl.*¹⁰ This cannot be a recent loan from

¹⁰ K. Bouda, Die Verwandtschaftsverhältnisse

⁹ IJAL 24.186 (1958).