*Al-Lisaniyyat* 2 : 56-62 (1971).

# TAGMEMICS AND SYNTACTIC PROGRESSION

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Tagmemics needs no introduction. It is above all a primary example of the application of the methods of empirical science to the field of language study. Developed by Kenneth Pike and his collaborators at the Summer Institute of Linguistics, tagmemic analysis has been used in the description of literally hundreds of languages many of which were hitherto « unknown ». It is essentially a practice oriented theory based on discovery procedures which are designed to assist the language scientist in the analysis of the diverse structural characteristics of individual languages. Recently, however, an effort has been made to demonstrate the generative capacity of tagmemic grammar and these efforts have contributed in large measure to the upgrading of the theory so that it take into account the new and revolutionary trends of modern linguistics (1).

The aim we have set ourselves in this short paper is not to demonstrate the value of tagmemics as an heuristic devise, an exercise which might prove to be somewhat redundant, nor to illustrate its generative capacity, but rather to attempt to show how tagmemic analysis might be applied to the concrete problems raised by the creation and evaluation of language teaching courses. It is hoped that these modest proposals will prove to be of some use in the difficult task of determining and judging syntactic progression, which, in the opinion of this writer, has been sorely neglected in the past.

Let us first cast a glance at some of the basic tenets of tagmemic theory. As he proceeds in the analysis of a language, the specialist in tagmemics is not held to any specific mechanical procedure. R.E. Longacre qualifies the method as voluntarily « guess and check ». This means that the analyst advances by a series of intuitive approximations based on his professional training and previous language experience, followed by strictly ordained verifications which can lead to the acceptance or the reformulation of his original statements. This, of course, has the advantage of treating the language in question as an entity per se rather than forcing it into a predetermined mould. Any statement not immediately verifiable within the context of that language must be discarded in favour of a more accurate description of its intrinsic structural caracteristics. In his « Grammar Discovery Procedures », Longacre states : « ... the time will come when the etics of grammar will be (...) capable of formulation. This formulation will then be available to guide the beginning guesses of the student of a previously unanalyzed language (2). However, the expectation of this desired state of scientific formulation based on a highly developed and greatly generalized knowledge of the structure of the world's languages need not in the meantime invalidate the usefulness of « guess and check » as an heuristic technique.

If tagmemics does not depend on any mechanical procedures, operationally applicable in all cases, it does however rest on some well developed postulates or insights which are central to the theory. Kenneth Pike has described language as a trimodal system based on

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1) ROBERT E. LONGACRE, *Grammar Discovery Procedures,* (The Hague : Mouton, 1968), pp. 10-11. In these pages, the author makes some interesting remarks as to the reconciliation of taxonomy and generation. This writer agrees wholeheartedly with Longacre's viewpoint since taxonomy must be envisaged as a moment in the scientific process and not as an inferior method for looking at language. Taxonomy is in fact only anterior to statement of generative rules, not inferior. One must not loose sight of the scientific perspective.

WALTER A. COOK, *On Tagmemes and Transforms* (Washington : Georgetown University Press, 1967).

EDDY ROULET, *Syntaxe de la proposition nucléaire en français parlé* (Bruxelles : Aimav, 1969).

2) P. 13.

phonology, grammar and lexicon. Each one of these interrelated modes has its own internal hierarchical structuring but one must not lose sight of the fact that, taken individually, they remain fragmentary and are incapable of giving an adequate account of the overall structural components of a language. « ... Until joined to full set of phonological rules (not a truncated set) and to a complete cross reference dictionary, the grammatical specifications cannot generate actual utterances » (3).

The limits placed on this paper will compel us to disregard the phonological and lexicological modes and to concentrate our attention on the grammatical component.

« Tagmemics assumes that every language has a grammatical hierarchy discoverable within the framework of that language and applicable to the language as a whole (4). The concept of a well ordained set of hierarchical levels is one of the most fundamental postulates of tagmemic theory, that which gives the theory its particular seal and allows the analyst to discover the highly structured patterns characteristic of any particular language to a maximum degree of relevance within that language. The theory posits five levels which are qualified as typical. These levels are :

1) sentence level
2) clause level
3) phrase level
4) word level
5) morpheme level

Each level is defined in terms of the structural units which manifest it. The units of a superior level are said to be typically composed of units on the level immediately inferior to it. Conversely, lower level units are said to manifest ones at the level immediately above. In other words,sentence level units will be built out of units which will later be analysed at the clause level. Clause level units in turn will then be broken down into constituent units which will be described at phrase level etc... This procedure of identifying constituents of a lower level in higher level units must not be treated in an absolutely rigid manner for there are notable exceptions to linear structuring. These exceptions are referred to by W.A. Cook as « atypical mappings » and include :

1) level skips - which are found where it is possible to omit a level as in the case of a word which happens to be identified as a clause level constituent. In this case the phrase level has in fact been skipped.

2) layering - which occurs when a unit is identified as the constituent of a unit at the same level. Clauses nesting within clauses are a typical example of this particularity.

3) loopbacks - which are units of a higher level identified as constituents of a lower level unit as when a clause is found to be constituent unit at phrase level.

These interruptions in linear structuring from one level to another are not the only exceptions to the typical situation described above. It has been clearly stated that the aforementioned levels are typical not compulsory and an analyst may in fact add or delete a level if the

3) LONGACRE, op. cit., p. 9.

4) LONGACRE, op. cit., p. 16.

structure of the language he is studying calls for such a modification. These modifications are only possible however in cases where sufficient ly strong evidence can be brought to bear on the contrastive qualities of a new level, or the lack of such in a level which is to be eliminated, with the levels immediately above or below it.

So far, we have been purposely general in qualifying as units the characteristic points which constitute entities at various levels. We may now insert into our discussion the terms which are used to describe the unit and the combination thereof at a given level. The unit in tagmemic analysis is called the tagmeme and the construction into which it enters is termed a syntagmeme. The tagmeme cannot be defined in single terms but must be viewed as a two part entity which comprises of a functional slot on the one hand and a class of items that fill the slot on the other. Within the context of tag memic theory it is impossible to separate the two components. They must be considered as inseparable correlates. In the literature relating to tagmemics this correlation is sometimes referred to as function and set, or again as funtion and form. « So intimate is the correlativity of function and set that each is mutually dependent on the other ; the function cannot exist apart from the set nor has the set significance apart from the function » (5).

Unlike the basic technique of binary divisions used in identifying structures in immediate constituent analysis, tagmemics relies on the concept of string constituency where multiple cuts are made in order to identify all the functionally pertinent tagmemes on a particular level. The functionally contrastive strings which result from these cuts on any given level are the syntagmemes or patterns in the language. Hence, the relationship of syntagmeme to tagmeme is that of « pattern » to « pattern point » or as previously mentioned of construction to unit.

An important procedural characteristic of the theory is found in the concept of labelling. The identifying label which bears the descriptive name of the function is used to refer to the tagmeme as a whole. In this respect we speak of the « subject or predicate tagmeme ». The forms which are said to fill the function slot are also explicitly named so that a typical tagmemic formula looks something like this :

N = + Det : det + H : n (6)

In trying to discover the structure of language by means of tagmemic analysis the linguist must in fact carry out two separate but related analyses : the etic and emic. The etic analysis is described as the original cutting up of utterances into tagmas which in turn are found to comprise syntagmemes. In this first step the tagmemes and syntagmemes are treated as individual items occuring in various parts of the corpus. These items are what Cook calls the « nonessential » units. The segmenting of phenomena into nonessential units is caracteristic of any scientific procedure. However, in order to arrive at a proper level of generalization, a theory must at some point account for the essential caracteristics of the phenomena in question. This power of generalization is added to tagmemics by means of the emic analysis which consists for instance in grouping the sum total of subject slot fillers inder that label, the essential caracteristic of these fillers being that they are distributionally identical at one point in the structure of a language.

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5) R. E. LONGACRE, op. cit., p. 16.

6) Read : a noun phrase is made up of a determiner slot filled by a determiner and a head slot filled by a noun.

It also means determining which syntagmemes are identical, similar or totally different on the basis of preselected criteria (7). Only when the emic analysis has been completed will the analyst have an accurate understanding of the functionally and distributionally relevant constituents of a language at its various levels.

In the course of his emic regrouping procedures the analyst discovers that constructions possess tagmemes which are diagnostic of those constructions and tagmemes which are not. The diagnostic tagmemes which help to define a construction are termed nuclear. Tagmemes which do not possess such a characteristic are described as peripheral. Nuclear tagmemes are not always required in a construction though they may be as in the case of the predicate tagmeme at clause level. Other clause level nuclear tagmemes are optional. Peripheral tagmemes, on the other hand, are obligatorily optional.

In attempting to treat the question of syntactic progression in the following pages we will deal primarily with such nuclear elements. Our attention will focus on clause level syntagmemes and the tagmeme itself has been apocopated to function label for purposes of ease of treatment. The French language corpus from which the following results were obtained is the second level course of « Voix et Images de France ».

« A clause construction is any string of tagmemes which consists of or includes one and only one predicate or predicate - like tagmeme among the constituent tagmemes of the string, and whose manifesting morpheme sequence typically, but not always, fills slots on the sentence level (8). In spite of some obvious shortcomings, as for instance in the case of elliptical replies where the predicate is omitted and which would have to be treated in terms of deep structure, we will adopt this definition in the present work. A clause is then a string of tagmemes which must obligatorily contain a predicate.

Certain nuclear tagmemes gravitate around the predicate and in the clause these are considered to be the subject, and object tagmemes. Introducers, temporals, locative tagmemes... are considered peripheral to clause level structure.

Departing somewhat from usual emic analysis we will attempt to make a study of nuclear structures by virtue of which we hope to arrive at an understanding of progressive syntactic complexity in our corpus. As stated previously, we will deal exclusively with the nuclear tagmemes which will be stated as follows : + S + P + DO + IO (9). Henceforth we will retain the term « level » to refer to points in the grammatical hierachy as posited by tagmemic theory but we will also introduce the term « rank » to refer to hierarchical levels within a level and « rank pattern » as typical constructions of a rank.

It is possible, by taking the four previously stated nuclear tagmemes, to arrange these in ranks of ascending complexity with a single constant, the predicate, being present at all ranks. A rank will be determined by the number of nuclear tagmemes present in a structure and rank pattern will in turn be identified on the basis of possible combinations and permutations within the rank. We will posit four ranks in order of ascending complexity.

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7) For further discussion on these criteria see R.E. LONGACRE, op. cit., p. 18.

8) BENJAMIN ELSON and VELMA PICKETT, *An Introduction to Morphology and Syntax* (SANTA ANA : Summer Institute of Linguistics, 1968) p. 64.

9) Read : + Subject + Predicate + Direct Object + Indirect Object.

Rank 1 : will contain only 1 nuclear tagmeme :

+ P

Rank 2 : will contain certain combinations and permutations in groups of 2 nuclear tagmemes. The following were identified in our corpus :

a) + S + P
b) + P + DO
c) + P + IO
d) + IO + P
e) + DO + P
f) + P + S

Rank 3 : will contain certain combinations and permutations in groups of 3 nuclear tagmemes. The following were identified :

a) + S + P + DO
b) + S + P + IO
c) + S + IO + P
d) + S + DO + P
e) + DO + S + P
f) + P + IO + DO
g) + IO + P + DO
h) + P + S + DO
i) + P + DO + S
j) + P + S + IO
k) + P + IO + S
l) + IO + DO + P
m) + DO + P + S

Rank 4 : will contain certain combinations and permutations in groups of 4 nuclear tagmemes. The following were realized in our corpus :

a) + S + P + DO + IO
b) + S + P + IO + DO
c) + S + IO + P + DO
d) + S + DO + P + IO
e) + DO + S + P + IO
f) + P + S + DO + IO
g) + S + IO + DO + P
h) + DO + S + IO + P
i) + DO + P + S + IO
j) + DO + IO + P + S

Once the ranks have been stated the analyst references each rank pattern in relation to its frequency, distribution and the place in the corpus where it was identified (this, in order to follow the progression of rank and pattern throughout the method). A possible format for this statement might be :

| Rank pattern | Frequency | Distribution (by lesson) | Place or places identified |
|---|---|---|---|
| + S + Pred + DO | 62 | 18 | 1 : 4, 1 : 12, 2 : 8, 3 : 2, etc. (10) |

These tables provide the researcher with a basis from which to compare the structural characteristics and the use of pattern in a language. The statistics obtained in our analysis have provided some particularly interesting results. For instance all rank patterns stated in position « a » at ranks 1, 2 and 3 in the previous pages were found to have the highest degree of frequency and the widest distribution. This would provide a case for the teaching of the « natural ordering » of nuclear tagmemes at a very early stage in any method. Patterns at rank 4 were found to be uniformely low in frequency and narrow in distribution. This is possibly due to the level of corpus which we chose to analyse and a more advanced level or one with a broader spectrum of occurences might perhaps provide more conclusive results.

Our brief suggestions on rank patterns stated in terms of nuclear structure would require considerable refinement before being of any practical value. To arrive at such a state of relevancy the methodological procedures would have to include a study of a pattern's external distribution stated in terms of higher level tagmemes which the pattern realizes. A study on co-occurence of lexical items identified within the syntagmemes would add greatly to the validity of a method designed to establish progression. A further and necessary refinement would involve devising a means of hierarchical structuring of filler classes which realize grammatical functions. The method would necessarily have to be extended to include the hierarchical ordering of peripheral tagmemes occurring with nuclear elements. This in itself might prove a rather difficult task. The necessity of considering deep structuring as an explanation for elliptical occurrences has already been suggested and might prove fruitful in eliminating certain inadequacies inherent in the theory.

Transformational rules have already been included in tagmemic theory and would certainly find a relevant application in the study of syntactic progression. Finally, the procedures that have been suggested for clause level structuring would have to be experimented at all levels in order to prove their validity within the context of tagmemic theory.

It appears from the above that the problems of devising an adequate procedure for evaluating and establishing syntactic progression are far from solved. It is the hope of the author that in the future the method can be developed beyond its present state to a sufficient degree of sophistication which will render it valuable to researchers, course writers, reviewers and teachers alike.

## *SUMMARY*

In this article, the author attempts to show how some of the basic tenets of tagmemic theory can be applied to the search for a method which would allow us to arrive at a better understanding of syntactic progression in language teaching courses.

10) Read : lesson 1, sentence # 4 etc.

## الخلاصـــــة

## التكميميـــة وتدرج التعلم للابنية التركيبية

لقد أظهرت التكميمية ( الطريقة الموضعية ) الى حد الآن مقدرة عظيمـــة على ضبط الاساليب الاستكشافية فى تحليل اللغات . غير أنه لم يبلغ بعد استغلال امكانياتها المتعـــددة حده الاقصى . وهذا ما حملنا على استعمال بعض المبادىءالراجعة الى طريق التجميع « الايمى » ( 1 ) لنقترح منهاجا تحلل به كيفية التدرج فى تحصيل **الابنية الا**تركيبية التى تتبعها الطرق الحاليـــة فى تعليـــم اللغـــــات .

( 1 ) لفظة emic هي صفة لكل ما هو أدائي فى اللغة وهي تقابل لفظة etic . وهما لاحقتان استخرجهما **Pike** صاحب هذه الطريقة ( استغراق الموضع أي احصاء جميع ما يجنى فى موضع ما من الكلام وبالتالي احصاء السياقات ) من الكلمتين Phonemic/Phonetic وتدل الاولى على دراسة أصوات اللغة بصفة عامة والثانيـــة على الدراســـة الادائية فقط لهذه الاصوات .


*RESUME*

*Progression tagmémique et syntactique*

Jusqu'à maintenant la tagmémique s'est avérée très riche de conséquences en ce qui concerne la mise au point de procédés de découverte de langues. Toutefois, les multiples possibilités d'exploitation de cet apport n'ont pas encore été portées à leur conclusion logique. C'est dans cet esprit que nous avons essayé d'utiliser certains principes du regroupement émique pour suggérer une méthode d'analyse de la progression syntaxique dans les méthodes d'enseignement.