Thirteen-Box Tagmemic Theory
as a Method for Displaying
Semi-Independent Language Variables

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1. Introduction

My purpose is to set forth a more consistent and "rationalized" tagmemic system for analyzing language constructions. My starting point is the form of tagmemic theory developed by the Pikes. Since 1972 Kenneth L. Pike (1974a, 1974b) and Evelyn G. Pike have developed a form of tagmemic theory representing language constructions by means of entries in 13 boxes: 4 boxes to display grammatical classifications, 4 boxes for "lexemic" or referential classifications, and 1 box for lexical units. Each set of 4 boxes is called a tagmeme.

A typical 4-box grammatical tagmeme for 'the boy' in the sentence 'The boy ate the apple' is

S_1	NP_2
a_3	$\{-\}_4$

where S designates the grammatical *slot* "subject" which 'the boy' fills, NP designates the grammatical *class* "noun phrase" of which 'they boy' is a member, a designates the grammatical *role* "actor" which 'they boy' fills, and - is the unspecified symbol for the grammatical *category* of cohesion of which 'the boy' is a member.

One advantage of this notational system is that it specifies simultaneously several different relationships all of which contribute to defining the total function of any unit in the language system. However, this notation has three disadvantages. (1) It is not always clear what *type* of information belongs in each box. Lack of rigorous definitions allows for more room for the flexibility of intuition, but it also allows for inconsistencies. Inconsistencies can arise not only between two different practitioners of tagmemics, but also within a single person's work. (2) It is not clear how the third grammar box (filled by "cases" like actor and goal) differs from lexemic material. (3) A good deal of the time, some of the boxes prove to be redundant. That is, their entires are predictable from the entries of the other boxes.

The disadvantage (3) seems irremediable, since it is bound up with the redundancy of language itself, and Pike's decision to represent redundancy explicitly (see Pike, 1967: 588). However, some improvement in the areas (1) and (2) may still be possible. My suggestions consist in a more precise interpretation of what entries are to occur in the four grammar boxes (§2), the four lexemic or semantic boxes (§3), and the

four phonological boxes (§4). I leave unexamined the nature of the "thirteenth" box, which in Pike's theory is supposed to contain "lexical" material.

2. Grammar

I begin with the 4-box grammatical tagmeme of K. Pike (1974a, 1974b). First, box 2 should be filled by class labels like NP, VP, AdjP (adjective phrase), or PrepP, which depend primarily on the internal grammatical structure of the item in question. Some attention to distribution, not to mention semantics and phonology, may be necessary for the best definition of a class like NP. However, the *primary* focus is on internal structure. A NP in English is anything with the internal grammatical structure "similar" to 'the boy' or 'a proud father of three sons'. A great deal of vagueness is, of course, still left in the word 'similar'. We can attempt to be more specific by employing H. A. Gleason's (1965: 199) definition of "enateness":

> Two sentences may be said to be enate if they have identical structure, that is, if the elements (say, words) at equivalent places in the sentence are of the same classes, and if the constructions in which they occur are the same.

A similar definition may be constructed for specifying when phrases, clauses, or even paragraphs are enate. Of course, as Gleason points out, the definition is in part circular, since it presupposes that we know what "identical structure" is. But it may still serve a useful purpose.

Next, two units may be said to be partially enate if they have *similar*, rather than identical, structure. Thus 'the boy' and 'a father' are enate, while 'a proud father of three sons' is only partially enate with them. NP is a class of units related to one another by the relation of partial enateness.

Now consider box 1 of the grammatical tagmeme. I suggest that this box should be filled by frame labels like S(ubject), P(redicate), O(bject), I(ndirect) O(bject), Ax(is), Rel(ator). These depend primarily on the *distributional* properties of the item in question. A label like S can be defined more precisely as the class of all frames with grammatical structure partially enate to '_____ gave my friends a surprise', '_____ ate the apple', and the like.

Boxes 1 and 2 represent semi-independent items of information about a given construction. They are semi-independent in the sense that frequently one cannot be predicted from the other.
Consider the following data.

(1) *Bills humor* gave the company a surprise. *S / NP*
(2) *Bills casually breaking the law* gave the company a surprise. *S / GerCl*
(3) The company was given a surprise by *Bill's humor*. *AxPrep / NP*
(4) The company was given a surprise by
     Bill's casually breaking the law. *AxPrep / GerCl*

In sentences 1 and 2 the subject slot (S) is filled by a NP and a GerCl (gerundive clause) respectively. In sentences 3 and 4 the AxPrep (axis of a preposition) slot is filled by a NP and a GerCl. Hence the type of internal structure (NP or GerCl) is semi-independent of the type of structure of the frame (S or AxPrep).

Next we turn to the description of the content of boxes 3 and 4 of the grammatical tagmeme. Box 3 should contain a class like the classes S, P, O, etc.: a class of frames of "similar" grammatical structures. However, the type of "similarity" must be somehow distinct from the similarity of partially enate structures. In particular, we wish to say that '_____ gave the company a surprise' and 'The company was given a surprise by _____' are both instances of the "actor" frame. Also, 'Bill's humor gave _____ a surprise' and '____ was given a surprise by Bill's humor' are both instances of some kind of "dative" frame. We can specify our thought more precisely by means of Gleason's (1965:202) definition of "agnateness":

> Pairs of sentences with the same vocabulary items, but with different structures (generally shown by differences in arrangement, in accompanying function words, or other structure markers) are agnate if the relation in structure is regular and systematic, that is, if it can be stated in terms of general rules.

Agnateness is a relation between two distinct sentences. 'Bill's humor gave the company a surprise' is agnate to 'The company was given a surprise by Bill's humor', because (1) both sentences have the same major vocabulary items (excluding 'by', 'was', and the verbal affixes on 'give'), and (2) they are related to one another by general rules (transformation from active to passive). In general, any two surface sentences which are "transforms" of one another in a transformational grammar are agnate to one another in Gleason's sense. But the relation of agnateness so defined is narrowed than the relation obtained from transformations. For "agnateness" is defined only for complete sentences, not for phrases or clauses within the sentence. But in another sense agnateness may be broader: it is a relation between two surface structures without reference to which is regarded as closer to representing "deep" structure, and without reference to whether the general rules for moving from one surface structure to another are actually embodied in one or more transformations in a given formal grammatical theory.

"Agnateness" is not yet broad enough to serve our purposes. First, we need a definition that will apply to words, phrases, clauses, and paragraphs as well as sentences. We say:

> Two emic grammatical units (words, phrases, clauses, etc.) are agnate to one another if (1) they have the same major vocabulary items, and (2) their structures are related to one another by general rules.

Thus the gerundive clauses 'Bill's casually breaking the law' is agnate to the sentence 'Bill casually broke the law' and to the noun phrase 'Bill's casual breaking of the law'.

Next, as in the case of enateness, so here, we need to include "partial" cases where some minor elements of structure are dropped or altered. We want to say that 'Bill's

humor gave the company a surprise' is *partially* agnate to 'The company was given a surprise'. In general:

> Two units A, B are partially agnate to one another if one (say A) is agnate to a unit B' from which the other (B) can be derived by adding and removing various peripheral elements in the structure. But the addition and removal must take place in a way compatible with general rules.

Finally, we want to allow a certain amount of substitution of major vocabulary items. For instance, we want '*(Bill)* gave the company a surprise' and '*(The boy)* sent his mother a letter' both to be instances of the "actor" frame. But we want to exclude '*(The letter)* was sent' or '*(The butter)* melted' because these latter two do not undergo a passive transformation. In general:

> Two units A, B are partially agnate to one another if one (say A) is partially agnate to a unit B' which is partially *enate* to B, but with the restriction that B and B' must both be instances included in the general rules which related structures of the from B' to those of the form A.

Thus, "a(ctor)" may be defined as the set of frames partially agnate to '_____ gave the company a surprise', '_____ ate the apple', '_____ will strike the gong', etc. IN general, box 3 is to be filled with a class all of whose members are related to one another by the relation of partial agnateness.

It remains to specify the content of box 4. The analogies that we have built up with the other boxes enable us to do this easily. The type of class appropriate for box 4 is a class each of whose elements is a unit partially agnate to all other units in the same class. More precisely, within a given class, the *internal* structures of the units are to be partially agnate to one another.

Boxes 1, 2, 3, and 4 are semi-independent, as can be seen from the following data.

> (5) *Bill's humor* gave the company a surprise.   *S / NP*
>   a / n pl
> (6) *Bill's humor* was not appreciated by the company. *S / NP*
>   u / n pl
> (7) *Bill's casual breaking of the law* gave the company a surprise. *S / NP*
>   a / cll
> (8) *Bill's casual breaking of the law* was not appreciated   *S / NP*
>   by the company.   u / cll
> (9) *Bill's casually breaking the law* gave the company a surprise. *S / GerCl*
>   a / cll
> (10) *Bill's casually breaking the law* was not appreciated   *S / GerCl*
>   by the company.   u / cll

The four boxes on the right-hand side of the data interpret the italicized portion of the

sentences on the left. The first two boxes call for little comment. 'Bill's casual breaking of the law' is classified as a NP because of its partially enate relation to 'John's big bag of apples'. For box 3, the designations a(ctor) and u(ndergoer) are chosen in order to indicate the agnate relation between active and passive clauses. In sentence 5, for example, 'Bill's humor' occurs in the frame '_____ gave the company a surprise'. This frame is partially agnate to 'The company was given a surprise by _____' and to other instances of the "actor" frame. Hence 'a' is entered in box 3.

The labels in box 4 also call for explanation. n pl = noun phrasal is my designation for the class of units whose internal structure is partially agnate to a typical NP such as 'Bill's humor'. cll = clausal is my designation for the class of units partially agnate to clauses such as 'Bill casually broke the law'.

A few more examples may serve to clarify my usage. Consider:

(11) The *wise* men succeeded.
(12) The men *who were wise* succeeded.
(13) The man, *being wise*, succeeded.
(14) *Being wise* is advantageous.

Since the italicized portions of 11-14 can be transformed into one another, by general rules, they are partially agnate to one another, and they belong to a single class of the box-4 type, a class which I call 'adjl' (adjectival).

(15) The man gave away his coat by *a mistake*.   *AxPrep / NP*
                                                          man / n pl

man = manner is my designation of the class of frames partially agnate to 'The man gave away his coat by _____' and 'By _____ the man gave away his coat'. AxPrep = axis (object) of a preposition, as before.

(16) The man gave away his coat by *a misunderstanding*   *AxPrep / NP*
       of his friends' needs.   man / cll
(17) The man gave away his coat by *wrapping it*   *AxPrep / GerCl*
       up as a present.   man / cll
(18) The man gave away his secret by *being stupid*.   *AxPrep / GerCl*
                                                                man / adjl
(19) The coat was given away by *the man*.   *AxPrep / NP*
                                                                a   / n pl
(20) The company was given a surprise by *Bill's*   *AxPrep / NP*
       casual breaking of the law.   a   / cll
(21) The company was given a surprise by *Bill's*   *AxPrep / NP*
       casually breaking the law.   a   / cll.
(22) The company was helped by *being wise*.   *AxPrep / GerCl*
                                                                a   / adjl

Examples 15-22 again demonstrate the semi-independence of the four boxes.

The use of the four boxes of the grammatical tagmeme may be summarized as in Figure 1. The material inside the dotted line presents the four-box grammatical tagmeme in the form in which it has been developed by Pike (1974b). Pike's terminology represents basically an intuitive attempt at specifying the nature of each box. Outside the dotted line of Figure 1 is my view. Boxes 1 and 2 deal with factors invariant (or at least "semi-invariant") under the relation of partial enateness. That is, each class occurring in box 1 or box 2 is a class of units or frames all partially enate to one another. By contrast, boxes 3 and 4 deal with factors invariant under the relation of partial agnateness. Each class occurring in box 3 or box 4 is a class of units or frames all partially agnate to one another. Next, boxes 1 and 3 deal with the structure of frames ("external distribution"). Each class of box 1 or 3 is a class consisting of frames. Moreover, *one* of the frames in the class is the frame in which the item under discussion actually occurs. By contrast, boxes 2 and 4 deal with the structure of items occurring in those frames ("internal structure"). Each class is a class consisting of units similar to one another in their internal structure.

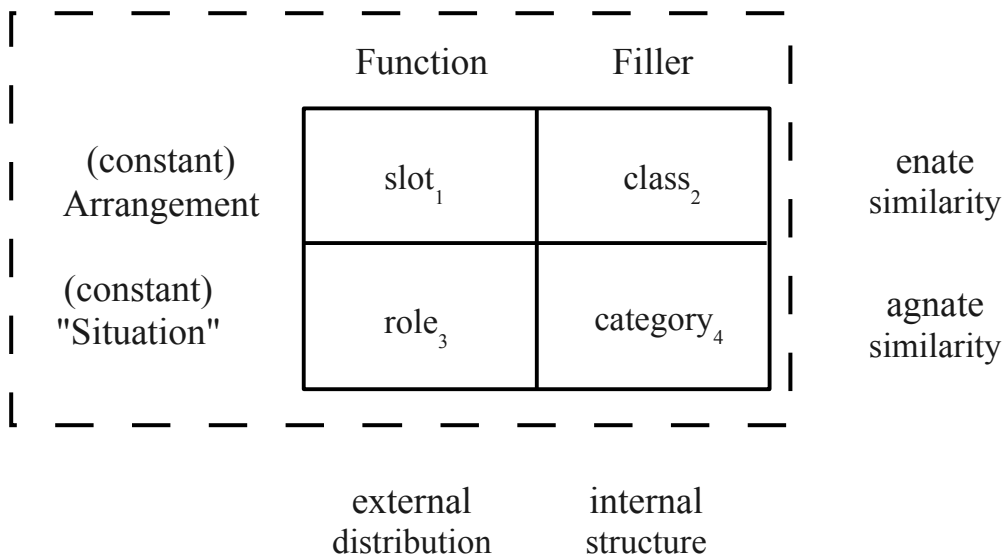|	Function	Filler	
(constant) Arrangement	$slot_1$	$class_2$	enate similarity
(constant) "Situation"	$role_3$	$category_4$	agnate similarity

external distribution | internal structure

Figure 1
The Grammatical Tagmeme

Inside the dotted line is the terminology already developed in
Pike's theory (1974b). Outside the dotted line is my terminology.

3. Semology

But all this leaves the question of the lexemic or semantic or referential hierarchy

unsettled. In particular, some may wonder whether box 3 of the grammatical tagmeme, with its labels 'actor', 'undergoes', and 'dative', does not really belong to semantics rather than grammar. This suspicion, however, is due mostly to the rather unsatisfactory terms 'actor' and 'dative'. In Fillmore (1968:24-25) terms like 'agentive' and 'dative' designate "deep" cases which owe as much to semantic as to grammar. By contrast, my definitions above specify that the 'actor' class is determined primarily by the existence of an active-passive transformation; that is, by a relation of agnateness holding constant the major vocabulary items. This need not correspond to a semantic relation "in the real world." Normally, one will find some correlation between grammar and semantics. But one also finds exceptions.

For example, consider

(1) Bill's humor gave the company a surprise.
(2) Bill's humor surprised the company.

In both 1 and 2, 'the company' is, in the real world, the "patient" or semantic "undergoer" of the action. But grammatically, it is in the one case dative (1), in the other undergoer (2). Some may want to call grammatical boxes 3 and 4 a kind of "semantics." I have no real quarrel with them, but I wish to reserve a separate term for structure which is invariant under paraphrase of the type occurring between (1) and (2). Pike (1974a) chooses the word 'lexemic'. I prefer 'semological'.

Thus, semological classes are classes which ignore differences like the following.

(3) The man gave *the beggar* his coat.	*IO / NP*
	datv / vl
(4) *The beggar* received the man's coat from	*S / NP*
the man himself, the giver.	a / vl
(5) The man's coat was received by *the beggar*	*AxPrep / NP*
from the man himself, the giver.	a / vl
(6) By a gift from the man, his over-garment	*AxPrep / NP*
came into possession of *the mendicant*.	mod? / n pl
(7) In an act of giving, the man furnished	*O / NP*
the beggar with his coat.	u / vl

In the sentences 3-7 the referent of 'the beggar' in each case has the same semological description; but the grammatical descriptions (including grammatical box 3) are very different.

Problems may, of course, arise in saying where grammatical regularities end and paraphrase begins. Moreover, paraphrase almost always results in subtle changes in meaning. How far must the meaning change before we say that we have stopped paraphrasing and begun reinterpreting or altering meaning? Nevertheless, I hope that the difference between grammatical regularity and paraphrase is sufficiently clear to result in a good separation of grammar and semology most of the time.

Now I turn to the exploration of the four semological boxes. The relation among

the four boxes is to be similar to the relation among the four boxes of grammar. Thus we may summarize what we need as in Figure 2.

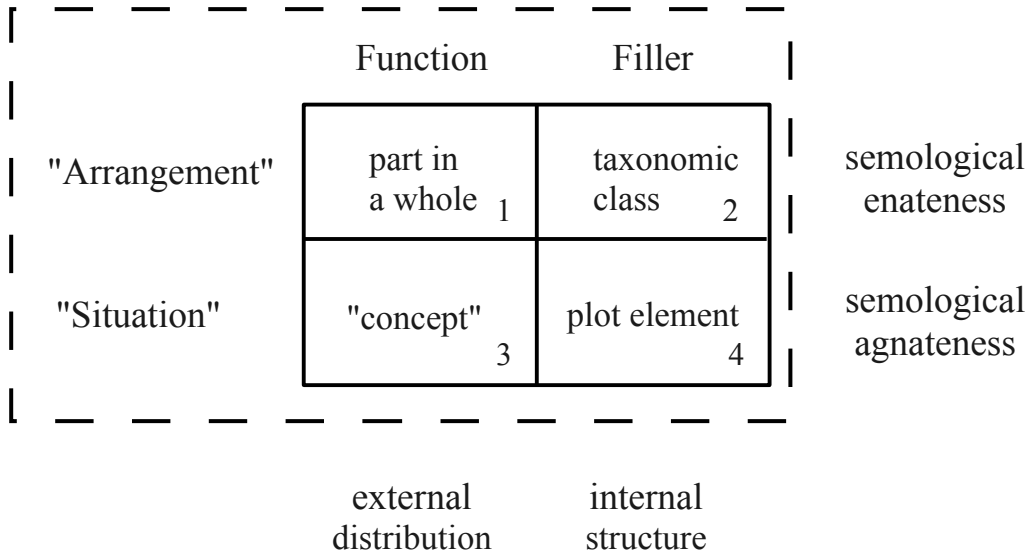|	Function	Filler	
"Arrangement"	part in a whole ₁	taxonomic class ₂	semological enateness
"Situation"	"concept" ₃	plot element ₄	semological agnateness
	external distribution	internal structure	

Figure 2
The Semological Tagmeme

First, box 2 of semology is to be filled by a class label for some semological class. Membership in the class is to be determined primarily by *internal* semological structure. Typical semological classes in this box will be Anim(ate), Inan(imate), Event, Prop(osition), etc. The relation between members of the same class may be thought of as a relation of semological partial enateness, analogous to grammatical partial enateness. Paraphrases of an item belong, in general, to the same semological class of box 2.

Let us say, in general, that two units are semologically enate if they have identical internal semological structure, one being obtained from the other by replacement of units by others of the same semological classes. Two units are semologically partially enate if the "nuclear" parts of their internal structure are semologically enate. Two units that are paraphrases of one another are semologically enate.

Next, what is to be the content of box 1 of the semological tagmeme? Pike (1974a) describes this as "place of a part in a whole," but such language is vague. I prefer to say that this box describes sets of semological frames which are partially enate to one another. For example, the label 'Agent' could designate the set of all frames semologically partially enate to '_____ ran', '_____ kicked the can', '_____ built the house', The house was built by the work of _____', etc.

In order to deal with boxes 3 and 4, we must consider the relation of semological agnateness. In analogy with grammar, I suggest thinking of this as the relation between two constructions each of which involves the same major semological units, but involving changes of the relative arrangement governed by a general rule. For example,

given a construction involving Agent, Event, and Patient, one may reverse the roles of Agent and Patient. 'The man surprised the company' becomes 'The company surprised the man'. Of course, this rule is blocked if the Patient is Inanimate. But the rule is still general enough for my purposes.

Box 4, then, is to be filled with sets, each of which consists of units whose internal structures are partially agnate to one another. Box 3 is to be filled with sets, each of which consists of frames which are partially agnate to one another. As in grammar a morpheme has no internal structure, so in semology a sememe (the minimal unit, or 'term') has no internal structure. Hence box 4 in this case may be represented simply by a paraphrase set. For higher level units, however, box 4 can contain what are more like "plot elements" or "motifs." A plot element may be something like 'murder between A and B' where it is not specified which will murder which; or 'conversation plus travel' where the order of events is not yet specified. It seems to me that this comes near to the idea of "function" in V. Propp's (1958: 24-59) analysis of the folktale.

Finally, box 3 will contain sets which represent what is invariant about the frames when one shifts participants around. It seems to me that this comes hear to the idea of a constant role in discourse, such as "hero," "villain," or "victim," as explored by Propp (1958: 79-82).

The content of the different boxes is semi-independent, as the following examples show.

(8) The witch gave *the boy* a magic ring.	*IO / NP* datv/ n pl	*Ben / Anim* hero / (the young man, etc.)
(9) *The boy* was given a magic ring by the witch.	*S / NP* datv/ n pl	*Ben / Anim* hero / (the young man, etc.)
(10) *The boy* received a magic ring from the witch.	*S / NP* a / n pl	*Ben / Anim* hero / (the young man, etc.)
Etc.		
(11) The witch gave *the boy* a surprise.	*IO / NP* datv/n pl	*Pat / Anim* hero / (the young man, etc.)
(12) The witch surprised *the boy*.	*O / NP* u / n pl	*Pat / Anim* hero / (the young man, etc.)
Etc.		
(13) The witch gave *Ivan* a magic ring.		*Ben / Anim* hero / canonical heroic actor
(14) The witch gave *Ivan* a surprise.		*Ben / Anim* hero / canonical heroic actor

(15) The boy gave *the witch* his egg in   *Ben / Anim*
    return for the magic ring.   donor / (sorceress, etc.)
(16) The boy tricked *the witch* into giving   *Pat / Anim*
    him the magic ring.   donor / (sorceress, etc.)
(17) The boy gave *the witch* a deadly poison,   *Ben / Anim*
    (and that was the end of her).   villain / (sorceress, etc.)

(18) The boy killed *the witch*.   *Pat / Anim*
                                                    villain / (sorceress, etc.)

4. Phonology

It remains to specify the relationship among the 4 boxes of the phonological tagmeme. This is best done in analogy with the procedure in grammar and semology. The difference between boxes 1 and 3 on the one hand and 2 and 4 on the other must be the difference between internal structure and external distribution, as before. Two phonological structures are enate if they have the same structure and if the individual elements belong to the same phonological classes such as consonant, vowel, closed syllable, open syllable, and the like. Boxes 1 and 3 contain classes whose members are related to one another by the relation of phonological partial enateness.

    The most difficult task is to specify the nature of phonological partial agnateness. Once again, we can retain the same type of formal definition and say that two phonological units are agnate if they contain the same major phonological items, and if the relation between the two can be specified by general rules. However, this formal definition is not as clear as in the case of grammar. Grammar supplies us with an abundance of transformations like passivization, relativization, and nominalization, which can be at least approximately specified by general rules. Do analogous transformation occur in phonology? If so, what are they like?

    I believe that, in general, phonological transformations of this type are both simpler and fewer in number than grammatical transformations. Nevertheless, they do exist in English, as I hope to show.

    Transformation 1: pause introduction. This transformation converts a phonological pause group (PauseG) consisting of two or more phrase groups (PG) into two pause groups.

      PauseG = + *Mar/PG₁* + *Nuc/PG₂* →
      BreathGroup = + *Mar/PauseG₁* + *Nuc/PauseG₂*

Examples of Transformation 1.

    (1) When 'John came 'home we 'had a 'party.
                  o2-3:   o2-4//

Utterance 1 is transformed to utterance 2.

(2) When 'John came 'home, we 'had a 'party.
            o2-3/   o2-4//

The phonological notation in utterances 1 and 2 follows Eunice Pike (1974). The four emic intonation levels of English are marked, from high to low, by 1, 2, 3, 4. o designates phrase nucleus, and : designates length. 'Phonological phrase group' is here the name given to a phonological unit of next larger size above the phonological word. Phonological words have, generally speaking, a single stressed syllable. Phonological phrase groups are (in American English) marked by contrastive intonation contours such as discussed by Kenneth Pike (1945) and Eunice Pike (1974). Phonological pause groups are the next larger unit after phonological phrases. In English, they are marked by tentative (/) or final (//) pause at the end. The next larger unit is either the Breath Group or the Phonological Paragraph. The exact dimensions of this level unit do not matter for my purposes.

Transformation 2: Postposition. This transformation moves a phonological phrase group or pause group to the end of a breath group, and changes the intonation to level 4.

$$PauseG = + Mar/PG_1 + Nuc/PG_2 \rightarrow$$
$$PauseG = + Nuc/PG_2' (+ Mar/W_i \text{n} + Nuc/W_2 + Mar/WordCl)$$

where W_i are phonological words on the premargin of PG_2, W_2 is the phonological word in the nucleus of PG_2, and WordCl is the complex word cluster of intonation level 4 into which PG_1 has been transformed.
Example of Transformation 2.

(3) He 'said 'confidently, We'll 'have a 'party.
          o2-3:   o2-4//

This transforms to:

(4) We'll 'have a 'party, he 'said 'confidently.
              o2-4:   4//

The following examples of occurrences of *when 'John came 'home* illustrate the semi-independence of the four boxes of the phonological tagmeme.

(5) When 'John came 'home we 'had a 'party.   *PauseGMar / PG₁*
            o2-3:   o2-4//   ps marl / p gl₁
(6) When 'John came 'home, we 'had a 'party.   *BreathGMar / PG₁*
            o2-3/   o2-4//   ps marl / p gl₁
(7) When 'John came 'home we 'had a 'party.   *PauseGMar / PG₂*
            o243:   o2-4//   ps marl / p gl₂
(8) When 'John came 'home, we 'had a 'party.   *BreathGMar / PG₂*

$$o243/ \qquad o2\text{-}4// \qquad \text{ps marl / p gl}_2$$
(9) We 'had a 'party when 'John came 'home.   *PGMar / WordCl*
$$o2\text{-}4: \qquad\qquad 4// \qquad \text{ps marl / p gl}_1$$
$$\text{(or p gl}_2)$$

In example 5, 'when John came home' is a Phonological phrase group PG_1 marked by the contrastive intonation contour 2-3. It fills the margin slot on the pause group level (PauseGMar). In boxes 3 and 4, notations like p gl_1 (= phrase groupal one) and ps marl (= pause marginal) define the relation of 'when John came home' to various transforms.

The semi-independence of the four boxes of the phonological tagmeme can also be illustrated at the level of the syllable. Rime is a convenient device for this purpose, as Pike (1974a) has already pointed out. Rime is not usually thought of as a phonological transformation. But it can be treated as a syllable transformation that changes a given syllable, say with structure CV_1C_1, into another with the same V_1C_1 ending but with an arbitrary premargin $C'V_1C_1$, CCV_1C_1, $CCCV_1C_1$, etc. Thus 'died' (/daɪd/) is phonologically agnate to all syllables ending with /-aɪd/.

On another level, rime in poetry can be treated as a transformation between whole lines, such that restriction is placed only on the basic rhythmic pattern of the line and on the rime form of the final syllable or syllables. Hence a poetic line is phonologically agnate to any line with which it rimes. With such an understanding of rime, we can exhibit the following examples of semi-independence.

(10) There was an old lady of Clide,   *WNuc / CVC*
    Who ate some green apples and *died*.   rime / (/-aɪd/)
(11) There was an old lady of Rhodes,   *WNuc / CVC*
    Who ate some green apples and *died*.   no rime / (/-aɪd/)
(12) There was a young man of Clide,   *WNuc / CCVC*
    Whose heart was inflated with *pride*.   rime / (/-aɪd/)
(13) There was a young man of Rhodes,   *WNuc / CCVC*
    Whose heart was inflated with *pride*.   no rime / (/-aɪd/)
(14) There was a young lady from Straus,   *WNuc / CVC*
    Who dreaded the squeak of a *mouse*.   rime / (/-aᴜs/)
(15) There was a young lady from Rhodes,   *WNuc / CVC*
    Who dreaded the squeak of a *mouse*.   no rime / (/-aᴜs/)
(16) The apples fermented   *WMar / CVC*
    Within the Lamen*ted*.   rime / (/-təd/)
(17) The apples are rotting   *WMar / CVC*
    Within the Lamen*ted*.   no rime / (/-təd/)

'(/-aɪd/)' denotes the class of syllables phonologically agnate to /daɪd/. WNuc = word nucleus designates the class of frames for the phonological word nucleus. 'Died' is the nuclear (stressed) part of the phonological word 'and died'; similarly 'pride' is the nucleus of the phonological word 'with pride'. By contrast, /-təd/ fills a word margin slot (WMar) in the phonological word 'the Lamented'.

5. Conclusion

One of the more stimulating postulates of Kenneth Pike's tagmemics is the insistence on similarity of structure among three independent but interlocking hierarchies: phonology, grammar, and lexicon (Pike, 1967). The third hierarchy is now "semology" rather than lexicon, but in this revised form Pike's postulate is confirmed by the way in which it has encouraged, in the above development of 12 boxes, the uncovering of further structural similarities among the three hierarchies.

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