where the ANTE is marked by the CO sp suffix -a and is expounded by a complementative clause: *mend réa-mé dám-1e* 'The pig is dying with hunger'.

6.23 Alternative Sentences (salt)

Alternative sentences consist of two nuclear tagmemes: Consideration (CNS) and Option (OPT). The particle pae relates the two tagmemes unless the first one is expounded by certain complementative clauses, in which case yapae occurs. The balance between the two clauses is most frequently one in which one or the other tagmem is questioned, negated, or in some other manner given the semantic interpretation of an alternative choice. If the CNS is specified twice it is also marked both times by pae; the whole sentence then has the meaning of uncertainty:

(52) *rote-mé tā-a pae ake-me tā-a pae* (stick-AGN, hit-it did, or, what-AGN, hit-it did, or = 'A stick hit him, or what was it that hit him?')

\[\text{salt} \rightarrow \text{CNS} : \text{cltr} + \text{pae} + \text{CNS} : \text{cltr} + \text{pae}\]

(53) *mend yapae ake yapae* (pig, or, what, or, or = 'Is it a pig, or what is it?')

\[\text{salt} \rightarrow \text{CNS} : \text{clcomp} + \text{yapae} + \text{CNS} : \text{clcomp} : \text{yapae}\]

When the OPT is stated but marked as a question by the interrogative mood suffix the whole sentence is interpreted as an alternative question:
(54) kddtor yapae kdbore-yaa (red, or, dark-ques = 'Is it a European or a native?')

talt —> CNS : clomp + yapae + OPT : clomp

(55) go fpa-re nd-pe ipa yapae na-nâ-pe ipa-yaa (this, water-top, drink, for, water, or, neg-drink, for, water-ques = 'Is this water for drinking or not?')

In every instance the clauses which are expounded by the CNS and OPT tagmemes are of the same syntagmeme pattern, although ellipsis is common:

(56) go-re go yad-nu-ri epâ yad-nu yapae wad yad-nu yapae (this-top, this, something-coll-top, good, something-coll, or, bad, something-coll, or = 'All right, concerning these things, they are either good or they are bad')

In (56) the sentence introducer and the topic (go re go yadnu-ri) are deleted in the clause which expounds the OPT tagmeme. In the following sentence the introducer and topic are deleted and a substitute also occurs:

(57) go-re ada-re pâa-pe yapae ake paa-pe yapae (this-top, house-top, sleep, for, or, what, do, for, or = 'Concerning this house, is it for sleeping or what is it for?')

Both (56) and (57) have the following structure:

talt —> CNS : clomp + yapae + CNS : clomp + yapae
In other sentences the CNS tagmeme may appear only once:

(58) go buk!

salt → CNS : cltr + pae

where the OPT is deleted because the CNS includes a substitute 'what' (ake) and therefore no option is semantically possible.

In such instances the question as CNS tagmeme is frequently supplied by one speaker and the OPT response is by another speaker. Note the following paired sentences (the first expounded by a CNS, the second by an OPT):

(59) go-re ake pae-pe yapae (that-TOP, what, do-for, or = 'What is that for?')

(59a) yae täd-ne yaè (something, hit, for, something = 'It is something for writing')

(60) go yaè-re ake yapae (this, something-TOP, what, or = 'What is this thing for?')

(60a) penasole kône su-lo (pencil, behaviour, put-I am = 'I think that it is a pencil')

The frequent question sentence ake yapae 'What can it be?' is accordingly built upon the CNS tagmeme as supplied in the fuller examples of (59) and (60).

6.24 Causal Sentences ($s_{cas}$)

Causal sentences consist of two nuclear tagmemes: the
Cause (C) which is marked by the general clitic -pulu\textsuperscript{21} and the Effect (E). Notice the following examples (which consist only of the obligatory tagmemes):

(61) ṝpo 14-lo-pulu ṭrikal ṝpa-lia (whistle, say-I am-CAS, dog, come-he will = 'I am whistling so that the dog will come')

\[s_{\text{cas}} \rightarrow C : \text{clint} + -\text{pulu} + E : \text{clint}\]

(62) ṿf maapf 144po ṭa-pulu mede ne ṿmadd ṝpa-lia (I, garden, two, there are-CAS, another, you, able, give you-I will = 'I have two gardens so I will be able to give one to you')

\[s_{\text{cas}} \rightarrow C : \text{clomp} + -\text{pulu} + E : \text{cltr}\]

(63) Ṿdā ṝia-pulu ꜏ ꜏ (odor, neg-sit it does-CAS, bad, say-it does = 'It doesn't have an odor so it is bad')

\[s_{\text{cas}} \rightarrow C : \text{clomp} + -\text{pulu} + E : \text{clomp}\]

(64) ṿf ṿmadd ṝa-lдра-lua ṿaapf ḝke ṝa-aeva-pulu (I, able, neg-cut-I will, knife, sharp, neg-stand it does-CAS = 'I will not be able to cut it since the knife is not sharp')

Example (64) demonstrates how the C and E tagmemes may be permuted, but the C is still marked by -pulu. It also shows the juxtaposition of dependent type clauses which is characteristic of sentence structure.
6.25 **Thematic Sentences** (sthem)

Sentences which are thematic consist of two nuclear tagmemes: the Topic (TOP) marked by -re (~-rl) and the Comment (COM).

On the one hand -re appears to act simply as an optional subordinator, e.g. when the clause which expounds the TOP is verbal. On the other hand, and as already outlined (e.g. §4.5), -re as a clitic marks a clause-level tagmem which also functions as the topic. One advantage of considering -re as such a sentence-level connector is that it allows several consecutive Topics to be introduced. Thus it is not uncommon to find sentences such as the following:

(65) áá meda-ná infágaas-para-re kóbere áá meda-ná

infágaas-para-re píí peá (man, another-pos, face-loc-TOP, black, man, another-pos, face-loc-TOP, light, it makes = 'On the face of a man, i.e. on the face of a native, there is light')

sthem → TOP + -re + K + COM, where

TOP: áá medadá infágaapara-re 'on a man's face'.

; kóbere áá medadá infágaapara-re 'on the face of a native'

COM: píí peá 'there is light'.
Constructions such as (65) and (66) can be analysed as consisting of simple conjoined phrase-level tagmemes by the use of a K rule. However, much more embedding occurs in the topic than is characteristic of a sentence-level tagmem.

For example, the second topic marked in (66) [n'para...l'ere] is expounded by an embedded quotative sentence. By introducing Thematic Sentence types, the analysis would be:

\[(65') \text{s} \text{them} \rightarrow \text{TOP}_\alpha + \text{nPloc} + \text{TOP}_\alpha : \text{nPloc} + \text{COM} + \text{itr} \]

where, $\alpha$ indicates TOPIC identity.

\[(66') \text{s} \text{them} \rightarrow \text{TOP}_\alpha + \text{nPdes} + \text{TOP}_\alpha : \text{squot} + \text{COM} + \text{nppos} \]

It must be further stated then that any stheme whose TOP and COM are expounded by verbal clauses, has the semantic interpretation of condition. This would seem to be the structure underlying all conditional sentences. For example:

\[(67) \text{k'gono} \ \text{dípárdul} \ \text{pa-lima-re} \ \text{k'gono} \ \text{díi} \ \text{ya-líia} \]

(work, quickly, make-we will-cond, work, no, it-will = 'If we work quickly, the work will be done')

\[(68) \text{dípm} \ \text{díloma} \ \text{pa-líia-re} \ \text{lásá} \ \text{mád-lía} \]

(who, quickly, go-he will-cond, rice, get-he will = 'Whoever goes quickly will receive the rice')
In (67) and (68) the TOP has a sub-function of Protasis; the
CON a sub-function of Apodosis. The sentence has a condi-
tional interpretation and the analysis is:

\[ s_{\text{cond}} \rightarrow \text{PROT} \rightarrow \text{RE} : \text{ocltr, intr} + \text{APOD} : \text{oclmp, tr} \]

Such sentences imply that \text{RE} may not be a true sentence
connector in that it cannot be freely moved when verbal
clauses are juxtaposed. It marks only the PROT.\textsuperscript{24}

7.26 Quotative Sentences (sqt)

Quotative sentences consist of two tagmemes: the Identifi-
cation (ID) and the Quote (Q). The Identification is
typically discontinuous, i.e. it appears on both sides of
the Q. The Q is, in turn, unlimited in its range of syn-
tagmemic exponents. The functional pattern of a quotational
sentence is similar to that of a ditransitive clause where
the Object tagmem is analogous to the Q and expounded by an
embedded construction. However, the Predicate tagmem in a
sqt is expounded by a limited set of verbs.

The ID tagmem has exponents which may signal who the
quoter is, the time when the Q is made, to whom the Q is made,
whether the Q is direct or indirect, whether it is reported,
and so on. The nuclear exponents of the ID are (where square
brackets mark the interrupting Q tagmem):

\[ \text{ID} : \text{SAGN} + (\text{OREC}) + \{P, [Q] P\} \], where P must
be identical if it occurs on both sides of \( Q \) and is expounded by quotative verbs \( (v_q) \).

The \( v_q \) are of a small set, including the following: \( \text{lā} \) 'to say'; \( \text{yāld} \) 'to yell'; \( \text{lācθ} \) 'to tell (to a 1st or 2nd person)'; \( \text{lākāλa} \) 'to tell (to a 3rd person)'; and \( \text{ āgaa mād} \) 'to ask'. This set also includes a sub-set of verbs which are perceptive in nature: \( \text{kōne sā} \) 'to think'; \( \text{kōne ṭuθuθa} \); \( \text{kōne saṣṭhra} \) 'to remember'; \( \text{rā} \) 'to lie'; \( \text{nāmvanaa} \) 'to understand'; \( \text{mākrama} \) 'to lie'; and in certain instances perhaps \( \text{pāhrā} \) 'to hear' and \( \text{aḍa} \) 'to look'.

Some examples (where the \( Q \) is enclosed in brackets) are:

(69) \( \text{go āc-mā \[ne-mā aṣpā ṭa \] ta} \) (that man-AGN, he says, you-pos, father, good, he is, he says 'That man says "Your father is good"')

\( \text{sqt} \rightarrow \text{ID} + Q \), where \( Q \) : clomp and the \( P \) occurs twice, each time expounded by the \( v_q \) ta 'he says'.

(70) \( \text{nīpā-mā lāc-lō \[nī pū-lū \] ta} \) (he-AGN, say alo-des, [I go-I am] say-he is = 'He says that he is going')

\( \text{sqt} \rightarrow \text{ID} + Q \), where \( Q \) : ecline meaning 'I am going' and the first \( P \) : \( \text{lāc-lō} \) (say alo-des) identifies the \( Q \) as indirect.

(71) \( \text{nīpā-mā \[nī pū-lū \] ta} \) 'He said: "I am going"'
In example (71) the embedded clause is exactly the same as (70) but the sentence is a direct quote. In direct quotes one form of the verb 'to say' is optional, but if both occur they must be the same form.

(73) né-md kóne I [nindo ópé nd] kóne I (I-AGN, thought, put-I have [he good man] thought, put-
I have = 'I think 'he is a good man''.

(74) né-md kóne st-la-lo [nindo ópé ñd] kóne sá-wa 'I thought that he was a good man'.

In examples (73) and (74) the embedded form is a npdes.

In other words, to form an Indirect Quote the verb which expounds the P immediately before the Q co-occurs with the desiderative suffix -lo. Notice also:

(69a) go nd-md lā-lo ne-ná aapd ópé ta ta 'That man
said that your father is a good man'.

The final ta may also be deleted without any change in the meaning of the sentence, but it is usually retained so that the tense of the Q can be signalled. Some further examples of indirect quotes are:

(75) nda mada-md lā-lo go pór-a-re adalu tæ tæ (man, another-AGN, say-des, that, road-TOP, long, it has, he says = 'Another man says that the road goes on for a long ways').
\[ s_{\text{quot}} \rightarrow \text{ID} + Q, \text{ where } \text{ID} : S_{\text{me}} + l_{\text{a-lo}} \ldots \text{tea} \]

\[ Q : s_{\text{them}} \text{ where } s_{\text{them}} \rightarrow \text{TOP} : np-re + \text{COM} : \text{clomp} \]

(76) \[ \text{\textit{Ad meda-me la-lo no-ro vad-nd\textit{e} keda-re s\textit{ke-pu-vaa te}} } \]

(man, another-AGN, say-des, that, something-pos, heavy-TOP, what-qan-ques, he says = 'A man says that (he wonders) how much that thing weighs')

The Q in (76) is expounded by a \textit{s\text{them}}, similar to (75).

It appears that all perceptive notions are to be semantically interpreted as indirect, regardless of the fact that they have no special pre-Q verb forms (and thus parallel the direct quote in (77) structurally):

(77) \[ \text{\textit{Ad-me la-a ny p\text{\textit{a-lua l\text{\textit{a-a}}}}}} \text{ (man-AGN, say-he did, I, go-I will, say-he did = 'The man said 'I will go'')} \]

(78) \[ \text{\textit{Ad gad\text{\textit{e} k\text{\textit{one sa-a ny p\text{\textit{a-lua k\text{\textit{one sa-a}}}}}}}} \text{ (man, like this, behaviour, put-he did, I, go-I will, be-}

\textit{behaviour, put-he did = 'The man decided that he would go')}

(79) \[ \text{\textit{nimp-m\text{\textit{ei nimp p\text{\textit{da-a \text{\textit{ade}}}}}} \text{ (he-AGN, he, go-he did, look-he has = 'He can see (perceive) that he has gone')} } \]

In (78) \text{\textit{k\text{\textit{one sa}}} 'to think' and in (79) \text{\textit{ade}} 'to look' parallel the verb la\text{\textit{a}} 'to say' (77) in direct quotes. The desiderative suffix -lo does not occur. It should be remembered that
postulating these verbs as \( v_q \) is only in relation to the syntagmemic pattern which characterises a \( s_qt \), not in respect to every instance when they occur. Usually \( k'one \) \( sd \) is a simple complement in sentences. Note again its use in a Coordinate Sentence:

(80) \( mataa-m\acute{e} \) \( nipp \) \( k'one \) \( sd-a \) \( irikai \) \( r\acute{a}tu \) \( tea \) (cassowary-AGN, he, behaviour, put-C0 sp, dog, anger, say-it will = 'The cassowary is one which knows how to frighten dogs')

\[ s_{seq} \rightarrow ANTE : cl\text{omp} + CO : sp \text{ ego} + SEQ : cl\text{omp} \]

Both \( sd \) 'to put' from \( k'one \) \( sd \) 'to think' and \( ld \) from \( r\acute{a}tu \) \( tea \) (or \( r\acute{a}tu \) \( l\acute{a}m \) for the past) are in this sentence complement verbs.

In an indirect quote number is indicated only by the \( v_q \) at the end of the sentence:

(81) \( \ddash-m\acute{e} \) \( nipp-parra \) \( l\acute{a}-lo \) \( akep \) \( pi-a \) \( p\text{ima}-\text{line} \) \( yapae \) \( sf-m\acute{a} \) (man-AGN, he-rec, say-des, what, make-C0 sp, portion out-we will, or, say-they did = 'The man said that they did not know how to portion out the things')

In (81) although \( \ddash-m\acute{e} \) is ambiguously 'man' or 'men', the number of the quoter is indicated in the final \( v_q : sf\text{m} \) 'they said'.

An additional type of \( s_qt \) is one which is reported to someone else. It appears to always consist of some form of
the verb 'to say', according to the tense desired plus -Ha.

An example is:

(82) áá-mu pé-na-loa sana níúá onáá lákelo-a pawá pf-
lupaa-pe sa (man-col, go-Co dp 3-ser, report, he, people, tell-Co sp, slowly, go-pl-imm imp, he said = "After the men were said to have gone he told the people "Go slowly"."

However, the whole sentence is also coordinate and consists of three Bases:

ANTE₁ : áá-mu pé-na-loa 'after the men had gone'
ANTE₂ : níúá onáá lákelo 'and he told the people'
SEQL : pawá pf-lupaa-pe sa 'he said "go slowly"

The function of sana may be more than one; in addition to marking reported speech, it may be the same form as the -Ha in the preceding clause [...pé-na-loa], or the similarity in form may be coincidence.

6.3 Multiple Functions

There are often examples of sentence-level tagmemes which are marked for more than one function. In particular, coordinated Bases may have more than one marker. Note the function of sequential coordination occurring in combination with the normal topic marker in the following sentences: 27
(83) fra-baa-wa-re espa-lua (cook-cont-CO sp alo-TOP, come-I will = 'After I leave it cooking for him, then I will come')

(84) ni ̬ da-no-loa-re ne-na walé mèè (I, look-CO dp 1 sg-ser-TOP, you-pos, again, take=imp = 'After I have seen it, you may have it again')

Instead of a simple conjoining (and...then) or condition (if...then), the meaning is a combination akin to 'contingent upon...then'.

Other sentences have been noted which are simultaneously marked for coordination and reason:

(85) kárá-para oná pφrs-na-qa nipd-ná pea pae (car-in, people, sit-CO dp 3-RE, it-pos, it does, or = 'Since people are in the car (it goes), or is it done by itself')

sre/seq → RE/ANTE + RS/SEQL, where the tagmemes are expounded respectively by a clint and cltr. Some of the problems inherent in such an analysis may in fact be resolved when the discourse features of Kwa are examined in more detail.

Any sentence is also marked for mode. Most sentences which have been given thus far have been declarative, i.e. unmarked, or subjunctive. Sentences may also be marked as interrogative or emphatic. The imperative mood is marked formally by a series of terminal suffixes which have been
described in Chapter 3 on word classes.

Sentences which have the clitic -vaa attached to the
exponent of their final tagmeme may either indicate a yes-no
type of response, or simply make emphatic the normal ques-
tion form:

(86) pé-lua-vaa (go-I will-inter = 'Shall I go?')
(87) oná-vaa (woman-inter = 'Is it a woman?')
(88) aa-rábó-vaa (ques-time-inter = 'When?')
(89) Áápf-ná-vaa (who-pos-inter = 'Whose?')

Sentences which are not interrogative, but which indi-
cate emphasis, can be marked with the clitic -ræa:

(86a) pé-lua-ræa 'I shall go!'
(87a) oná-ræa 'It's a woman!'

(86a) and (89a) are not permissible: *aa-rábó-ræa;
*Áápf-ná-ræa.

6.4. Pre- and Post- Posed Sentence Tagmemes

At any given level certain tagmemes are nuclear (diag-
nostic to the syntagmeme type, but not necessarily obliga-
tory), while others are pheripheral. Longacre (1967) out-
lines what he calls Pre-posed tagmemes, which are pheripheral
to any sentence type and fill a marginal slot, analogous to
a clause-level tagmeme such as Adjunct. These have not been
examined in detail in Kewa but the following seem to illustrate
Pre-posed tagmemes (enclosed in square brackets):
Here the pre-posed tagmeme is expounded by a sentence which is re-identified as the topic by go áre 'that man', i.e. 'the man who is coming over there'. The following sentence has a pre-posed pheriphery with a cl_tr exponent, but the function is one of reason or cause:

The rain comes in at the peak of this house so let us go quickly, pull some grass and carry it here!
NOTES

1. See, for example, Longacre (1967b) for illustrations of some of these in English. The description of a sentence given in this chapter has followed Longacre's work. On the other hand, in "Kewa Sentence Structure", (published in 1967 but written in 1963) I analysed East Kewa sentences in terms of reference and sequence markers, principal and subordinate clauses. The former were usually function point (tagmeme) markers, the latter exponents; together they should have constituted a sentence-level tagmeme. At the time I did not see this very clearly and the article must accordingly be viewed as preliminary. In "Kewa Clause Markers" (1965a) I briefly mentioned sentences as simple, compound and complex. The latter included all subordinate relationships.

2. P. Healey's terms (1966:144f) for the opposing sets of suffixes are homopersonal and heteropersonal, finite and non-finite. These terms come closer to describing the semantic nature of the Kewa markers, but again (similar to the other terms mentioned above) refer to the relationship of the subjects between clauses.

In a recent study, A. Loving and H. McKeoughan (1964) describe dependent medial and dependent final verbs in Awa (Eastern Family). Their medial verbs anticipate a second clause and/or its subject. R.A. Young (1964:46) calls secondary verbs those which occur in sequence within one sentence (i.e., in the medial position), while primary verbs have "no formal dependent relationship with another clause in the sentence". The terms primary and secondary are also used in McCarthy (1965), but in reference to subject markers between clauses. See also Chapter 3, notes 13 and 14 for other references.

3. Where person means the grammatical categories 1, 2 or 3. The markers alone never indicate the number of the 3rd person (free pronouns must be used) and in addition the number of the person may vary across clauses, but the grammatical function of Subject is identical from clause to clause regardless. For this reason I do not use the terms same-subject vs. different-subject. The two sets are Egocentric and Altocentric.

4. In narrative texts the Antecedent has been repeated up to five times, and a reasonable upper limit could probably be defined. On the theoretical problem of adding units infinitely in a system, see C.F. Hockett (1968; Chapter 3).
5. F. Healey (1966) therefore concludes that clauses which are "chained" with person-number-tense specified only in the finite verb are on a different grammatical level which she terms the "dependent level. For counter arguments and an alternate analysis of her materials see R.E. Longacre (n.d.).

6. In KVM (1964:109ff) and also in § 8.3.2 the suffixes for E. Kewa are listed as showing change of subject, but it is pointed out that it is the change in the person of the actor which is important. Cf. § 3.22.2 for the total array of W. Kewa forms, as well as NP rules which apply to them.

7. Those which can are given in § 3.24; see also KVM for co-occurrence restrictions in E. Kewa.

8. See Chapter 3, note 15 for an explanation on the "irregularities" of the verb 'to go'.

9. In E. Kewa (Franklin 1964:112) the form is -longa or -longa corresponding to ego and alo benefaction. In W. Kewa the alo benefactive form is -la.

10. Imperative is signalled by a special set of terminal suffixes (§ 3.21.1). However, the verb may still also be subcategorised as intransitive.

11. In E. Kewa (KVM 1964:125-9) the corresponding form is -longa. However, there I incompletely identified it simply as a dp Nonparticipant Benefactive [=altrocentric] marker.

12. In E. Kewa the same form is called 'apposition' (KVM, p. 124), mainly because the related actions appear contrary. The actions are opposite only in the sense that they cannot be carried on at the same time.


14. If this is the case, -nana parallels such forms as yana or sana, where the action is reported by someone else (a dp, hence -na). Such actions which are reported are thus affirmed (by yan, quoted with sa-, la- or ta-), or supposed (by using pa-).

The relationship between such clauses is asymmetrical and an adequate semantic explanation may require entailment rules (as outlined in Fillmore 1965). For example, 'lest you fall, go slowly' would entail (where the symbol \(\rightarrow\) means 'entails' or 'supposes').
15. Note that this form is similar to the normal non-
singular imperative morpheme (-lepea). These dp markers
appear to be the only instance of any sort of an exclusive-
inclusive dichotomy in the language. Again entailment rules
might provide for (31):

\[ \text{expectation (future (you will fall \( \Rightarrow \))}
\text{imperative (go slowly))}
\text{purpose (future (you will fall \( \Rightarrow \))imperative
(go slowly))}
\text{negative (do not fall)}\]

In other words, entailment rules provide the logical SEQUEL
to many coordinate constructions.

16. The form -*ga is equivalent to E. Kewa -le (~-li) des-


18. This sentence also illustrates the fact that many, if
not all, so-called equational clauses (4-3) in context
can actually be based upon fuller clause types; 66-re pemasi
'men (or men) is slow', e.g. upon the intransitive clause:
66-re pemasi paman 'men travel slowly'.

19. Comparatives can be formed in at least two other ways:
(1) by juxtaposition of the compared elements where the
superlative is marked by an ora 'true', an Adjunct of Degree:
Abali riddu pana riddu fora ora riddu 'Abali is short, Kande
is short, Pora is the shortest'; (2) by a nppos construction:
yalpi su nppos-nu-mu riddu 'yallpu is the shortest of all
snakes', where the structure is TOPIC + COMMENT (Cf. 6.25)
and COH: nppos where nppos 'make' is marked as Possessor
by -nu and riddu 'short' functions as the Head.

20. As indicated, *ya is a special verb form which expounds
the Predicate with certain Complement exponents. The forms
nalo and yapalo are used in the East (Cf. Franklin 1965a:283;
1967:36, where it is called one type of 'coordinate link').
The East forms are occasionally heard in the West.

21. In KSS (1967b:30) I called this the reason marker and
-le (the equivalent of -*ga, Cf. 4-7, 31) the result marker. In
1965a:282, I changed the meaning of -*ulu from reason to
cause. I now feel that in both instances I was only partly
correct; both signal (as I pointed out) a relationship between clauses and the clauses may be independent or dependent, as exponents of sentence-level tagmeme functions. The markers simply signal similar inter-clause relationships so that in many instances the semantic interpretation was confused by me. The proper representation appears to be:
Reason -go + (Result) (where RE may be expounded by X)
Cause -nulu + Effect (where C is expounded only by verbs).

22. Anything which has a k44 has an agreeable odor. The antonym is pugu 'bad smell' or 'stink'. The k44 can be rede 'sweet', dpe-rupe 'in a good manner', and so on.

23. Longacre (n.d.b) states that "it is not required that constructions necessarily manifest a higher-level unit [be exponent of], if we find extensive recursion on a level." The necessity of defining a Topic tagmeme in Kawa is clear; what level it marks is not always clear.

24. Roberts (1969:384-91) discusses the differences between sentence conjunctions, connectors and subordinators. The marker -pe, according to his definition, is more like a subordinator; it often effects (although does not replace) the NP of the main sentence (in such examples as 65) and is therefore similar to a relative such as 'who', 'that' or 'which'.

25. The te 'it says' following dpe 'good', although the same verb is in a complement relationship (cf. §4.5).

26. The claire has the shared NP between it and the TOP exponent deleted, so that pora 'road' does not occur twice. So pora-re pona adaa-ku fe would also be acceptable.

27. Rather than being marked for more than one sentence-level grammatical function, some of the notions such as conditional may be semantic co-functions and range over various sentence types. For a discussion of multiple tagmeme function, see for example, Reid (1966:8-11).
Chapter 7
ON TAGMEMIC RULES

7.0 Introduction

This chapter briefly discusses the nature and format of
tagmemic rules, in particular the rules of Longacre, Merri-
field and Dik. While Dik's are based on a different premise
than those of "tagmemicists", his rules may be the most rele-
vant and applicable to a grammar such as this one. Follow-
ing the discussion on rules, one sentence from a text is
given and tagmemic rules are applied to it. The chapter
closes with a short text.

7.1 Longacre's Rules

Longacre's rewrite operations (1964a) consist of three
steps: Reading, Permutation and Exponence. Reading rules
(=operations) apply to any tagmemic formula (which in turn
represents a set of contrastive structures, i.e. a syntag-
meme). The formula is a series of symbols depicting the
optional or obligatory status of a string of function points
any one of which may be superscripted to indicate linear
recursion. A reading rule removes the signs and superscripts
and retains only the function point symbols.

Permutation rules reorder the symbols according to the
sum of the values of the signs and superscripts for each
reading of the formula.
Exponence rules replace each symbol with a category label or formula of one of the symbol's exponents. This is done in two stages: (a) the substitution of category labels for function point symbols; and (b) the substitution of the formula which corresponds to the category label of the exponent. In the rules which follow (b) is considered a type of reading rule (see Chart 12).

In the first full-scale application of Longacre's rules, Reid (1966) encountered difficulty in carrying out the above operations (=rules) in the order just described. This was because many exponents are context-sensitive, that is, their occurrence is conditioned by surrounding syntactic environments which must be stated. To overcome this problem Reid ordered his operations so that permutation rules take place between stages (a) and (b) of the exponence operation. Permutations may then also be context-sensitive such that stage one exponents (labels, not formulas) may be stated as environments.1 Reid also formally incorporated Pike's (1963a) citation and structure (formal) paradigms into his grammar apparatus.

The most thorough attempt to formulate tagmemic rewrite rules for a New Guinea language grammar has been by Bee (1965). Below the level of the clause all of her rules are equivalence rules which expand a given category symbol in terms of its nucleus and co-occurring affixation. On the
clause-level the correlative aspect of the tagmeme is developed so that functions are expounded by categories. Both category and function symbols are rewritten, e.g. $S \rightarrow \{\text{Seq;} \text{Str;} \text{Sintr}\}$ denotes a Subject which functions diagnostically in equational, transitive, and intransitive clause types. Basically her rewriting of the S function corresponds to our Subject-as-Topic, Subject-as-Agent, or Subject-as-Actor.

Longacre's rules have been applied to one aspect of English by Becker (1967b). He concludes that Longacre's model does not provide enough information about tagmemes and also that it obscures many important grammatical insights because it does not distinguish between deep and surface structure. For this reason he has proposed the type of notation for tagmemes that I have outlined in §1.5. He has also pointed out that it is necessary to include a conjoining operation (symbolised as $K$) following Longacre's Reading and Permutation operations.

The abstraction and subsequent interleaving of the more traditional kind of tagmeme rules (i.e. formulae) to elaborate syntagmeme-tagmeme correlations in phrases and clauses of Tzotzil is given in Jacobs and Longacre (1967).

7.2 Merrifield's Rules

Merrifield (1967; Cowan and Merrifield, 1968) considers the basic problem of tagmemics has been "the attempt to
operate without the rules of the semantic component" and not "providing a means of relating the elements of adjacent components" (1967:44). To correct this failure he formulates two kinds of rules for each component: phrase rules and class-membership rules. Rules which operate between components are called correspondence rules; these may include transformational as well as realisational rules. Rules are ordered from component to component, but unordered within components.

Merrifield uses the term component instead of hierarchy; semantic and syntactic rather than lexical and grammatical. His minimal unit of the semantic component is a sememe (from Lamb 1966), along with other concepts such as realisation rules). Merrifield's most controversial contribution is to place the notion of slot within the semantic component as a relational expression. The association of function (slot) and set is by rules which relate sememes of the semantic component to strings of morphemes on the syntactic component (p. 49). The sememes are primitives of the semantic component and are of two types: (1) relational, which are functions such as Subject, Actor, Goal, Modifier, and so on. In general these are similar to our notion of Grammatical and Semantic Functions; (2) referential, which consists of subclasses such as Objects, Qualities, Events and Speech Events. The latter includes certain Modes and Aspects and
is similar to our notion of Semantic Function.

His system of rules is the first formal attempt to relate the three tagmemic hierarchies.

7.3 Dik's Rules

Dik's rules differ from those already mentioned mainly in accounting separately for grammatical functions and categories. Dik (1968:171) considers both of these as separate grammatical primitives, i.e. not as together comprising a tagmemic unit, and has four rule-types which apply to them: subcategorisation, function, category and specification rules. All are of the general rewrite form: \[ A \rightarrow Z/X \rightarrow Y, \]
following the base component of a transformational grammar.\(^3\)

Subcategorisation rules specify subcategories included in categories and include rules such as:

\[ \text{np} \rightarrow \text{np}_{\text{singular}} \]

Function rules specify functional patterns for non-ultimate categories and include such rules as:

\[ \text{np} \rightarrow \text{MODIFIER} + \text{HEAD} \]

Category rules specify a single category which fulfills a function and include such rules as:

\[ \text{SUBJECT} \rightarrow \text{np} \]

Specification rules specify ultimate constituents for any ultimate category and include such rules as:

\[ \text{noun}_{\text{proper}} \rightarrow \text{John} \]
Dik's rules must be applied in a specific order and are context-sensitive. Therefore the context-free rules which will be needed for environments must apply first.

In addition Dik allows discontinuous rules which can be visualised as lines which cross in a given tree structure, i.e. discontinuous constituents. These rules are also context-sensitive.

One of his most important considerations is a rule-schema which allows a functional pattern to consist of an indefinite number of such identical functions, but all assigned to a single category (p. 186). He also distinguishes between recursive elements, recursive rules, and recursive rule-systems and has no recursive rules as such in his functional grammars.

Dik's rules are similar in many respects in their application to those of Longacre.

7.4 Some Tzamemic Rules Applied

In this section the type of rules which are necessary in a grammar such as ours are applied to a Kewa sentence. The sentence is keyed to the short illustrative text which follows.

Our rules incorporate aspects of both Longacre's and Dik's rules. To begin with, initial derivational rules, called Reading Rules (RR), present the functional pattern of
the particular category being introduced. These rules are level-oriented and are equivalent to Uik's function rules. They are of the form \( c \rightarrow F_1 + (F_2) \), i.e. given a category \( c \) on some grammatical level, the functional pattern of \( F_1 + (F_2) \) occurs.\(^5\) For example, in the sentence:

(6) \( \text{go yadhre répêa-adwa rédpe yad rébâd rôpdāadda râbunâ yad} \)

'That is something for causing lights when it travels at night'

the category (contrastive syntagmeme) is a thematic sentence. As such it consists of:

RR 1. \( \text{sthem} \rightarrow \text{TOP} + \text{COM} \)

If there were two TOPs marked, a \( K \) (see below) would follow the first TOP. In any case, in the most general RR an optional \( K \) would follow the TOP.

Subsequent sub-RRs are necessary when the functional pattern contains optional elements or if there are other context restrictions. This is more apparent below the level of the sentence.

Following the RRs for categories, those which operate upon functions now apply, if there are overt forms which specify functional rules:

RR 2. \( \text{TOP} \rightarrow -\text{Pa} \)

Exponence rules (ER) now expound function symbols with category symbols:
ER-1. **TOP**: \( \text{n} \text{pdes} \), i.e. \( \text{go yafre} \) 'that thing'

**COM**: \( \text{n} \text{pdes} \text{ + nppos} \), i.e. \( \text{répona-ásaa rāpne yad} \) 'the thing with headlights' + \( \text{rībaa pōna-lique rābunā yad} \) 'something for travelling at night'

Category exponent rules only apply to categories whose ultimate constituents are morphemes, i.e. they are relevant only at the lowest level, or in the case of level-skipping directly to the lowest level.

Lexical Rules (LR) are class-membership rules and provide sub-categories and sub-functions which are included in the main categories or functions. For functions these are more relevant at the clause-level, but also apply as follows:

**LR-1.** **COM = CONJG, CONQG**, i.e. Comments which function as statements as opposed to those which function as questions, and so on.

**LR-2.** \( s = \text{them, simple, go, here, and so on, i.e.} \) such rules provide the class membership of all categories on a particular level.

On the word-level of the grammar sub-categorisation will be much more complex. Even on higher levels, such as the clause, the membership in two separate classes of clauses must be determined by the occurrence of such clauses in radically different sentence-level slots. In other words, determining the membership is not a simple matter.
Transformational rules re-order or adjoin elements and as such incorporate Longacre's permutation and Becker's K rules. They can apply to either function or category symbols and are either optional or obligatory. For example:

TR-1. TOP-$re$ + COM $\rightarrow$ COM + TOP-$re$

illustrates that a topic marked by $re$ may be permuted from pre- to post-COM position.

There are several conventions which could be introduced in a more complete presentation: first of all, rules which apply to functions can be capitalised, those which apply to categories can be listed in small Roman type; secondly, rules can be marked for example, as sRR-1 for the sentence-level, cRR-1 for the clause-level, pRR-1 for the phrase-level, wRR-1 for the word-level, or they can simply begin as RR-1 on the sentence-level and end as RR-n on the word-level; finally, Lexical (Class-membership) Rules can be given first. The diagnostic functional formula for the members will be given in Reading Rules.

It will be noted that our RR's include Longacre's stage 2 RR's, i.e. his expounding of categories (syntagmeme types) as lower-level (or recursive) functional patterns. This is because it is an equivalence or rewrite rule which operates upon categories and gives them a functional pattern, not an expotence rule. The difference can be seen in Chart 12, where examples of all the rule types mentioned are given.
<table>
<thead>
<tr>
<th>Primitives</th>
<th>Reading Rule</th>
<th>Exponence Rule</th>
<th>Lexical Rule</th>
<th>Transformational Rule</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUNCTIONS F → X*</td>
<td>F : c</td>
<td>F = F_a, F_b</td>
<td>F_1 + F_2 → F_2 + F_1</td>
<td></td>
</tr>
<tr>
<td>categories c → F_1 + F_2</td>
<td>c : X**</td>
<td>c = c_a, c_b</td>
<td>c_1 + c_2 → c_2 + c_1</td>
<td></td>
</tr>
</tbody>
</table>

* where X is a function marker, e.g. a case marker
** where X is a morpheme or formative

Chart 12: Rule Types

We now carry the rules through each descending grammatical level illustrated in sentence (8): Phrase-level LRs would include, for example:

| LR-3 | ph = npdes, nppos, npnbb, vppos, vppur, vppger |
| LR-4 | M = Ks2, Mcol, Mval, Mpos, etc. |
| LR-5 | H = Hagn, Htip, tin, Htop, etc. |

In sentence (8) we are concerned with two main types of np:

| RH-3 | phdes → ksub + (mval) + Htop |
| RH-4 | phpos → mpos - na + Htop |

The ERs which follow are:

| ER-2 | Ksub : de | dem |
| ER-3 | de | dem : go 'that' |
| ER-4 | mval : coltr-be , i.e. an embedded transitive clause marked by the nominaliser -be |
| ER-5 | Htop : ng |
| ER-6 | ng : nad 'something' |
ER-7. \( \text{POS} : \text{eph-des} \), i.e. an embedded descriptive phrase.

We now return to the clause-level for, LRs which apply before giving RRs and ERs of the embedded clauses:

LR-6. cl = cltr, clint, clcomp, cld-tr
LR-7. S = S_{AGN}, S_{ACT}, S_{GOL}, O\overline{BEN}, etc.
LR-9. P = P_{GD}, P_{NDT}, P_{STA}, etc.

RR-5. \( e^{cltr} \rightarrow S_{IN} + P_{STA} + \text{NOMZ} \)
RR-6. \( \text{eph-des} \rightarrow M_{QAL} + H_{TM} \)

ER-8. \( S_{IN} : n \)
ER-9. \( P_{STA} : v_{tr} \)
ER-10. \( \text{NOMZ} : -de \ 'for' \)
ER-11. \( M_{QAL} : \text{eolintr-de} \), i.e. an embedded intransitive clause marked by the nominaliser -de.

ER-12. \( H_{TM} : \text{par} \)
ER-13. \( \text{par} : râbât 'time' or 'when' \)

The RR for the eolintr follows RR-5 and 6 (embedded structures) above:

RR-7. \( \text{eolintr} \rightarrow ATM + P_{NDT} + \text{NOMZ} \)

ER-14. \( ATM : nt \)
ER-15. \( nt : rîbâd 'night' \)
ER-16. \( P_{NDT} : v_{intr} \)
ER-17. \( \text{NOMZ} : -de '(punct)' \)
Only elements on the word-level are yet to be accounted for:

LR-10.  \( n = ng, nt \)

LR-11.  \( v = v_{tr}, v_{exis}, v_{int}, v_{ditr} \)

RR-8.  \( ng \rightarrow \text{NBASE} + k + \text{(COLL)} + \text{(DIM)} \)

RR-18. \( \text{NBASE} : \text{répema-ágaa} \) (fire-mouth = 'headlights')

RR-18 is the result of a conjoining rule (a TR) which will be
given later, but which follows RR-8 in this example:

RR-9.  \( v_{intr} \rightarrow \text{(NEG)} + \text{VNUC} + \text{(ASP I)} \)

RR-19. \( \text{VNUC} : \text{avs} \)

RR-10. \( \text{avs} \rightarrow \text{BASE} + \text{SET I} \)

RR-20. \( \text{BASE} : \text{ndpá} \) 'to move'

RR-21. \( \text{SET I} : -\text{lin} \) '(3 sg Fu)'

There are two transformation rules necessary in the derivation
of example (8):

TR-1.  \( \text{TOP} + \text{COM} + k \rightarrow \text{TOP} + \text{COM} + \text{COM} \),

where the Comment tagmeme on the sentence-level
is conjoined by simple juxtaposition. Alternately
if overt coordinators occur, the TR would be
introduced on the phrase-level. For example:

(8a) \( \text{COM} : \text{répema-ágaa} \)rá"apa \( \text{vad-PARA} \)

\( \text{rőbaö} \) ndpá"i\( \text{nde} \) \( \text{rá"a} + \text{vad-(PARA)} \).
For a discussion of such conjoining in Kewa see §4.1.

**TR-2.** N NUC + K \(\Rightarrow\) N NUC + N NUC, so that
	noun compounds are also provided for by con-
joining on the word-level, before optional af-
fixes or clitics are attached.

There is, of course, a great deal of grammatical infor-
mation lacking in the generation of this one sentence. It
presupposes in particular context-sensitive rules in the
verb syntagms such as those mentioned in §3.24. In addi-
tion, the LRs for verb categories such as vtr, vintr, vcmp,
vtr-alo, vintr-alo, vcmp-alo cannot be established without
the functions of S\_AGN, O\_COL, O\_SEN, and so on to serve as
environments. For this reason a sentence without complica-
tions in the verb structure was chosen.

### 7.5 An Illustrative Text

The following textlet is a dialogue between two teenage
Kewa informants, Krapeaasi and Orope, both from Usa. I
taught them to use pictures to illicit information from each
other spontaneously while I tape-recorded their conversa-
tion. From over sixty such textlets, I have chosen this one
to illustrate certain features of the language. It differs
from normal conversational text only in the frequent use of
interrogatives with accompanying intonational contours.
However, it is short enough for the reader to trace the
trend of thought from one topic of the discourse to another and at the same time to see that a full treatment of Kew grammar cannot end, as this one does, at the sentence-level.

(1) Q. go  yaé-re  ake  ya-pae ?
    that something-TOP what affirm-or

(2) A.  káárá  kááne  saá-lo-raj
    car behaviour put-1 an-emp

(3) Q.  go  káárá-re  goa-para  ake  ya-pae ?
    that car - TOP that-LOC what affirm-or

(4) A.  go  káárá  mëí  pëmu-a  pëa-raa
    that car taking go-C0 sp it is-emp

(5) Q.  káárá  ya-pae  káábere  ya ?
    red man affirm-or native: affirm

(6) A.  káábere-ga  nímu-ná  ráguna-ru  waru  ádí
    native-HE he-POS hat-coll really fastening
    yu-a  sd  yu-á  sá  saap-í-a
    make-C0 sp that(up) something that(up) holds-it is
    ya-raa  affirm-emp

(7) Q.  go-re  go  yaé-re  ake  ya-pae ?
    that-TOP that something-TOP what affirm-or

(8) A.  go  yaé-re  yepena-ágaa  rá-pe  yaé
    that something-TOP fire-mouth burn-FOR something
    ríbáá  pópá-la-de  rébat-áng  nímp  lópa-pe
    night moves-it will-pun time-POS it fall-FOR
    yu-á  ré-la-níaa  pópá-la-í-lo  pëa-raa
    something burn-pur-down goes-pur-des make-it does-emp

(9) Q.  go-nane  ádíp  përa-í-pe  ya-pae ?
    that-DIR who sit-FOR affirm-or

(10) A.  onáá  përa-í-pe  ya-raa
    people sit-FOR affirm-emp
Free Translation

1. What is that?
2. I think that it is a car.
3. What is the car for?
4. It is for travelling.
5. Is that a white man or a native?
6. It is a native, since his hat is really up in the air and it has things held in it.
7. All right, what is that?
8. That is for causing a light when it travels at night; so that it won't fall down they shine as it goes along.
9. Who sits in that place?
10. It is for seating people.
11. What will the people do so that they can be told to come and sit down?
12. When the people want to go someplace they come to stop the car; they then lift up their hand like that and the driver says to come and sit down.
13. If they do that will he allow them to be seated?
14. At that time he lets them come and sit down.
1. Now, for example, in tagmemics proper P-markers can be assigned according to context. Structures such as listed in Bach (1964:43) would be still generalized in tagmemics as $X = +A+B$ but exponence rules could now state formally separate sets of exponents, the latter set according to the environment of the first: (1) $B : B,b^c$; (2) $A : a^c/b$, $a^c/b$. The exponence rules would be (in this case) ordered so that exponents of $B$ could serve as environments of $A$. Ney has argued that this context restriction "is built into each tagmemic formula and needs no further restatement" (1967:43).

As mentioned, Reid first (1966:5-8) pointed out the necessity to order Longacre’s operations. Matson (1967:106) makes the same point, i.e. that exponence rules must come last, in his restatment of the simple Spanish problem from Elson and Pickett’s textbook. Postal (1964:49ff) had used this problem to show that tagmemic formulae can not adequately handle agreement. More recently Hollenbach has challenged Postal on this point (1968:54-5).

2. The distinction between class-membership rules and phrase rules is not as carefully provided for in the rewrite rules by Bee (1965). Her rewrite rules in effect rewrite functions as well as categories. However, the arrow which follows function symbols specifies the class-membership, i.e. the kind of construction in which the functions are diagnostic, rather than simply showing an equivalence or phrase structure relation.

3. By redefining the notion of derivation as a sequence of labelled bracketing of symbols where each line of a derivation contains a record of previous rule applications Dik is able to dispense with the necessity of transformational rules (p. 193ff).

4. This presentation is preliminary and there will doubtless be many modifications necessary before it can be carried through consistently and formally.

5. Except that Dik’s function rules are always one-many (p. 186). In addition, exponents such as personal pronouns never function in noun phrases; rather they expound higher-level functions and are rewritten by category rules, e.g. OBJECT → personal pronoun (p. 180).
6. In Reid's grammar sub-categorisation rules are patterned after Chomsky (1965:95ff), but are not included in the tagmemic rule presentation. By including co-function labels consistently throughout the grammar some lexical sub-categorisation is already provided for.

7. All transformations used in a grammar such as this one are local, i.e. they do not apply to any tree which may happen to have the phrase structure indicated by a reading and exponence rule. They thus apply only to specific trees which depict specific surface representations, although some transformations may turn out to be more general in their application.

8. The structure of this noun is a compound base and is described on the word-level.

9. From the Pidgin word *pasim* 'to stop something'.
PACIFIC LINGUISTICS

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SERIES B - MONOGRAPHS

No. 10

THE DIALECTS OF KEWA

by

K. J. FRANKLIN

CANBERRA 1968

THE AUSTRALIAN NATIONAL UNIVERSITY
The page contains a table with columns and rows. The table includes data such as dates and possibly numerical values. The content is not clearly legible due to the quality of the image. The table appears to be structured with headers and possibly contains dates and values.
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Note: The table above shows the financial data for the years 1955, 1956, and 1957.
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