

where the ANTE is marked by the CO sp suffix -a and is expounded by a complementive clause: mená réa-mé ómá-la 'The pig is dying with hunger'.

6.23 Alternative Sentences (s_{alt})

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 complementive clauses, in which case yapae occurs.²⁰ The balance between the two clauses is most frequently one in which one or the other tagmeme 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) roto-mé tá-a pae ake-me tá-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?')

salt → CNS : cl_{tr} + pae + CNS : cl_{tr} + pae

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

salt → CNS : cl_{cmp} + yapae + CNS : cl_{cmp} : 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) kádĩpĩ yapae kóbere-yaa (red, or, dark-ques =
'Is it a European or a native?')

^{salt} → CNS : cl_{comp} + yapae + OPT : cl_{comp}

- (55) go ĩpa-re ná-pe ĩpa yapae na-ná-pe ĩpa-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 yaé-nu-ri épé yaé-nu yapae waé yaé-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 (gore go yaénuri) 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 páta-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:

^{salt} → CNS : cl_{comp} + yapae + CNS : cl_{comp} + yapae

In other sentences the CNS tagmeme may appear only once:

- (58) go bukú mááá ake pa-limí pae (this, book, on top, what, do-they will, or = 'What will they do on top of the book?')

Salt → CNS : cl_{tr} + 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 paa-pe yapae (that-TOP, what, do-for, or = 'What is that for?')

- (59a) oyaé táá-pe yaé (something, hit, for, something = 'It is something for writing')

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

- (60a) penasole kóne sá-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 (scas)

Causal sentences consist of two nuclear tagmemes: the

Cause (C) which is marked by the general clitic -pulu²¹ and the Effect (E). Notice the following examples (which consist only of the obligatory tagmemes):

- (61) épo lá-lo-pulu irikai épa-lia (whistle, say-I am-CAS, dog, come-he will = 'I am whistling so that the dog will come')

scas → C : cl_{int} + -pulu + E : cl_{int}

- (62) ní maapú láápo ía-pulu meda ne madá gíá-lua (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')

scas → C : cl_{cmp} + -pulu + E : cl_{tr}

- (63) káá na-píá-pulu o ta (odor, neg-sit it does-CAS, bad, say-it does = 'It doesn't have an odor so it is bad'²²)

scas → C : cl_{cmp} + -pulu + E : cl_{cmp}

- (64) ní madá na-lóra-lua naapí éke na-aeyá-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 (~ -ri) 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 tagmeme 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 iníágaa-para-re kóbere áá meda-ná iníágaa-para-re paa pea (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 medaná iníágaapara-re 'on a man's face'

: kóbere áá medaná iníágaapara-re 'on the face of a native'

COM : paa pea 'there is light'

- (66) go áá-re ní-para ágaá lá-ina lá-a-re ní-ná aapá
 (that, man-TOP, I-rec, talk, say-CO dp 2 sg,
 say-he did-TOP, I-pos, father = 'That man, the
 one who told me to speak, is my father')

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 tagmeme.²³ For example, the second Topic marked in (66) [nípara...láare] is expounded by an embedded quotative sentence. By introducing Thematic Sentence types, the analysis would be:

- (65') $s_{them} \rightarrow TOP_{\alpha} : np_{loc} + TOP_{\alpha} : np_{loc} + COM:cl_{tr}$
 where α indicates TOPIC identity

- (66') $s_{them} \rightarrow TOP_{\alpha} : np_{des} + TOP_{\alpha} : s_{quot} + COM:np_{pos}$

It must be further stated then that any s_{them} , 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) kógono áípápúlú pa-lima-re kógono díá ya-lia
 (work, quickly, make-we will-cond, work, no, it-
 will = 'If we work quickly, the work will be done')
- (68) áápí alóma pá-lia-re lasá méá-lia (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 COM a sub-function of Apodosis. The sentence has a conditional interpretation and the analysis is:

$s_{cond} \rightarrow \text{PROT } \underline{-re} : cl_{tr, intr} + \text{APOD} : cl_{cmp, tr}$

Such sentences imply that -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.²⁴

7.26 Quotative Sentences (s_{qt})

Quotative sentences consist of two tagmemes: the Identification (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 syntagmatic exponents. The functional pattern of a quotational sentence is similar to that of a ditransitive clause where the Object tagmeme is analogous to the Q and expounded by an embedded construction. However, the Predicate tagmeme in a s_{qt} is expounded by a limited set of verbs.

The ID tagmeme 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 tagmeme):

$\text{ID} : \text{SAGN} + (\text{OREC}) + \{ P \quad [Q] \quad P \} , \text{ where } P \text{ must}$

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: lá 'to say'; yalá 'to yell'; lágíá 'to tell (to a 1st or 2nd person)'; lákála 'to tell (to a 3rd person)'; and ágaa méá 'to ask'. This set also includes a sub-set of verbs which are perceptive in nature: kóne sá 'to think'; kóne ^{'to forget'} rugulaa; kóne saapíra 'to remember'; íní ria 'to lie'; nímínaa 'to understand'; mákíraa 'to lie'; and in certain instances perhaps págá 'to hear' and áda 'to look'.

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

- (69) go áá-mé ta [ne-ná aapá épé ta] ta (that man-AGN, he says, you-pos, father, good, he is, he says 'That man says "Your father is good"')

$s_{qt} \rightarrow ID + Q$, where $Q : cl_{cmp}$ and the P occurs twice, each time expounded by the v_q ta 'he says'.²⁵

- (70) nípú-mí láá-lo [ní pú-lu] ta (he-AGN, say alo-des, [I go-I am] say-he is = 'He says that he is going')

$s_{qt} \rightarrow ID + Q$, where $Q : e_{clint}$ meaning 'I am going' and the first P : láá-lo (say alo-des) identifies the Q as indirect.

- (71) nípú-mí ta [ní pú-lu] 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-mé kóne í [nipú épé áá] kóne í (I-AGN, thought, put-I have [he good man] thought, put-I have = 'I think 'he is a good man'').

- (74) né-mé kóne sú-la-lo [nipú épé áá] 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 áá-mé lá-lo ne-ná aapá épé 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) áá meda-mé lá-lo go pora-re adaalu ía tea (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')

$s_{quot} \rightarrow ID + Q$, where $ID : S\text{-}\underline{mé} + \underline{lá-lo...tea}$
 $Q : s_{them}$, where $s_{them} \rightarrow TOP : np\text{-}\underline{re}$
 $+ COM : cl_{comp}$ ²⁶

- (76) áá meda-mé lá-lo mó-go yaé-ná keda-re ake-pu-yaa ta
 (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 s_{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) áá-mé lá-a ní pá-lua lá-a (man-AGN, say-he did,
 I, go-I will, say-he did = 'The man said "I will go"')

- (78) áá gúpá kóne sá-a ní pá-lua kóne sá-a (man, like
 this, behaviour, put-he did, I, go-I will, be-
 haviour, put-he did = 'The man decided that he
 would go')

- (79) nipú-mí nipú púa-a ádea (he-AGN, he, go-he did,
 look-he has = 'He can see (perceive) that he has
 gone')

In (78) kóne sá 'to think' and in (79) ádea 'to look' parallel the verb lá '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 kóne sá is a simple complement in sentences. Note again its use in a Coordinate Sentence:

- (80) mataa-mé nipú kóne sú-a irikai rátu tea (cassowary-AGN, he, behaviour, put-CO sp, dog, anger, say-it will = 'The cassowary is one which knows how to frighten dogs')

$s_{seq} \rightarrow$ ANTE : cl_{cmp} + CO : sp ego + SEQ : cl_{cmp}

Both sá 'to put' from kóne sá 'to think' and lá from rátu tea (or rátu lää 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) áá-mé nipú-para lá-lo akea pú-a rúmaa-lima yapae sí-mi (man-AGN, he-rec, say-des, what, make-CO sp, portion out-we will, or, say-they did = 'The men said that they did not know how to portion out the things')

In (81) although áá-mé is ambiguously 'man' or 'men', the number of the quoter is indicated in the final v_q : sí-mi '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 -na.
An example is:

- (82) áá-nu pé-na-loa sana nipú onáá lákelo-a pawá pú-
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 : áánu pénaloa 'after the men had gone'
ANTE₂ : nipú onáá lákeloa 'and he told the people'
SEQL : pawá púlupaape sá '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 -na 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 épa-lua (cook-cont-CO sp alo-TOP,
come-I will = 'After I leave it cooking for him,
then I will come')

(84) ní áda-no-loa-re ne-ná walá méá (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) káará-para onáá píri-na-ga nipú-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')

$S_{re/seq} \rightarrow RE/ANTE + RS/SEQL$, 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 Kewa are examined in more de-
tail.

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 -yaa attached to the exponent of their final tagmeme may either indicate a yes-no type of response, or simply make emphatic the normal question form:

(86) pá-lua-yaa (go-I will-inter = 'Shall I go?')

(87) oná-yaa (woman-inter = 'Is it a woman?')

(88) aa-rábó-yaa (ques-time-inter = 'When?')

(89) áápí-ná-yaa (who-pos-inter = 'Whose?')

Sentences which are not interrogative, but which indicate emphasis, can be marked with the clitic -raa:

(86a) pá-lua-raa 'I shall go!'

(87a) oná-raa 'It's a woman!'

(88a) and (89a) are not permissible: *aa-rábó-raa;

*áápí-ná-raa.

6.4 Pre- and Post- Posed Sentence Tagmemes

At any given level certain tagmemes are nuclear (diagnostic to the syntagmeme type, but not necessarily obligatory), while others are peripheral. Longacre (1967) outlines what he calls Pre-posed tagmemes, which are peripheral 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):

- (90) [áá meda mó-pare ipu-la] go áá-re áápi-yaa ([man, another, over there-at, come-he is], that, man-TOP, who-ques = 'A man is coming over there--who is that man?')

Here the pre-posed tagmeme is expounded by a sentence which is re-identified as the topic by go áá-re '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:

- (91) [go ada suba-para yaí ipu-la] yági rásu ríaa ipu-a aló pa-mina-paa ([that, house, peak-LOC, rain, come-it is], grass, pull-ger ego, carry-ger alo, come-CO sp, quickly, do-CO dp 1 pl-excl = '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 (1966:14ff) 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. McKaughan (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 Altrocentric.

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. P. 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 alternant analysis of her materials see R.E. Longacre (n.d.b).
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 MP rules which apply to them.
7. Those which can be 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 -loaa or -toaa corresponding to ego and also benefaction. In W. Kewa the also benefactive form is -ta.
10. Imperative is signalled by a special set of terminal suffixes (§ 3.21.1). However, the verb may still also be sub-categorised as intransitive.
11. In E. Kewa (KVM 1964:128-9) the corresponding form is -loma. 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.
13. Cf. KVM, p. 122 for the parallel form in E. Kewa.
14. If this is the case, -pana 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 ya), 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 $\supset$ means 'entails' or 'supposes'):

expectation (future (you will fall >
 imperative (go slowly)
 purpose (future (you will fall >imperative
 (go slowly)))
 negative (do not fall)

15. Note that this form is similar to the normal non-singular imperative morpheme (-lepaa). 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):

expectation (future (we two will eat >
 imp (you won't)))
 negative (do not eat it)

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

16. The form -ga is equivalent to E. Kewa -le (~-li) described in 1965a:282 and 1967b:30.

17. Cf. Longacre (1967:18ff) for observations on English.

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: áá-re pawási 'man (or men) is slow', e.g. upon the intransitive clause: áá-re pawási pámea '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: Abáli rúdu Káádé rúdu Pora ora rúdu 'Abali is short, Kaade is short, Pora is the shortest'; (2) by a nppos construction: yálipu-ri paaka-nu-ná rúdu 'yalipu is the shortest of all snakes', where the structure is TOPIC + COMMENT (Cf. §6.25) and COM: nppos where paaka 'snake' is marked as Possessor by -ná and rúdu 'short' functions as the Head.

20. As indicated, ya is a special verb form which expounds the Predicate with certain Complement exponents. The forms palo 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. §7.31) the result marker. In 1965a:282, I changed the meaning of -pulu 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 -ga + (Result) (where RE may be expounded by X)
Cause -pulu + Effect (where C is expounded only by verbals).

22. Anything which has a káá has an agreeable odor. The antonym is pugu 'bad smell' or 'stink'. The káá can be rede 'sweet', épe-rupa '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 Kewa is clear; what level it marks is not always clear.
24. Roberts (1967:384-91) discusses the differences between sentence conjunctions, connectors and subordinators. The marker -re, according to his definition, is more like a subordinator: it often effects (although does not replace) the np of the insert sentence (in such examples as 65) and is therefore similar to a relative such as 'who', 'that' or 'which'.
25. The ta 'it says' following épe 'good', although the same verb, is in a complement relationship (Cf. 4.5).
26. The cl_{omp} has the shared np between it and the TOP exponent deleted, so that pora 'road' does not occur twice. go pora-re pora adaa-lu ia 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 relevant and applicable to a grammar such as this one. Following 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. $S \rightarrow \{S_{eq}; S_{tr}; S_{intr}\}$ 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 tagmemic 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.² 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: $A \rightarrow Z/X \text{ --- } Y$, following the base component of a transformational grammar.³

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

$np \rightarrow np_{\text{singular}}$

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

$np \rightarrow \text{MODIFIER} + \text{HEAD}$

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

$\text{SUBJECT} \rightarrow np$

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

$noun_{\text{proper}} \rightarrow \text{John}$

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-schemata 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 Tagmemic Rules Applied⁴

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 Dik'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:

- (8) go yaére répena-ágaa ráape yaé ríbaá pópáliade rábuná yaé
 '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. $S_{them} \rightarrow TOP + COM$

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. $TOP \rightarrow \text{-re}$

Exponence rules (ER) now expound function symbols with category symbols:

ER-1. TOP : np_{des} , i.e. go yaére 'that thing'

COM : np_{des} + np_{pos} , i.e. répena-ágaa ráápe yaé
'the thing with headlights' + ríbaá pópa-
liade rábúna yaé 'something for travelling
at night'

Category exponence 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 = COM_{st}, COM_{qs}, i.e. Comments which function as statements as opposed to those which function as questions, and so on.

LR-2. S = S_{them}, S_{simple}, S_{co}, S_{rea}, 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.⁶

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.⁷ 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 RRs include Longacre's stage 2 ERs, 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 exponence rule. The difference can be seen in Chart 12, where examples of all the rule types mentioned are given.

Primitives	Reading Rule	Exponence Rule	Lexical Rule	Transformational Rule
FUNCTIONS	$F \rightarrow X^*$	$F : c$	$F = F_a, F_b$	$F_1 + F_2 \Rightarrow F_2 + F_1$ $F_1 + K \Rightarrow F_1 + F_1$
categories	$c \rightarrow F_1 + F_2$	$c : X^{**}$	$c = c_a, c_b$	$c_1 + c_2 \Rightarrow c_2 + c_1$

* 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. $ph = np_{des}, np_{pos}, np_{nb}, vp_{pos}, vp_{pur}, vp_{ger}$

LR-4. $M = M_{SZ}, M_{COL}, M_{QAL}, M_{POS}, \text{etc.}$

LR-5. $H = H_{AGN}, H_{TM}, H_{IN}, H_{TOP}, \text{etc.}$

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

RR-3. $ph_{des} \rightarrow M_{SUB} + (M_{QAL}) + H_{TOP}$

RR-4. $ph_{pos} \rightarrow M_{POS} - \underline{na} + H_{TOP}$

The ERs which follow are:

ER-2. $M_{SUB} : \underline{dei}_{dem}$

ER-3. $\underline{dei}_{dem} : \underline{go}$ 'that'

ER-4. $M_{QAL} : \underline{ecltr-pe}$, i.e. an embedded transitive clause marked by the nominaliser -pe.

ER-5. $H_{TOP} : \underline{ng}$

ER-6. $\underline{ng} : \underline{yae}$ 'something'

ER-7. $M_{\text{POSR}} : e_{\text{ph}_{\text{des}}}$, 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. $cl = cl_{\text{tr}}, cl_{\text{int}}, cl_{\text{cmp}}, cl_{\text{d-tr}}$

LR-7. $S = S_{\text{AGN}}, S_{\text{ACT}}, S_{\text{GOL}}, S_{\text{BEN}}, \text{etc.}$

LR-9. $P = P_{\text{GD}}, P_{\text{MOT}}, P_{\text{STA}}, \text{etc.}$

RR-5. $e_{cl_{\text{tr}}} \rightarrow S_{\text{IN}} + P_{\text{STA}} + \text{NOMZ}$

RR-6. $e_{\text{ph}_{\text{des}}} \rightarrow M_{\text{QAL}} + H_{\text{TM}}$

ER-8. $S_{\text{IN}} : n^8$

ER-9. $P_{\text{STA}} : v_{\text{tr}}$

ER-10. $\text{NOMZ} : -pe \text{ 'for'}$

ER-11. $M_{\text{QAL}} : e_{cl_{\text{intr-de}}}$, i.e. an embedded intransitive clause marked by the nominaliser -de.

ER-12. $H_{\text{TM}} : \text{par}$

ER-13. $\text{par} : \underline{r\acute{a}b\acute{u}}$ 'time' or 'when'

The RR for the $e_{cl_{\text{intr}}}$ follows RR-5 and 6 (embedded structures) above:

RR-7. $e_{cl_{\text{intr}}} \rightarrow \text{ATM} + P_{\text{MOT}} + \text{NOMZ}$

ER-14. $\text{ATM} : nt$

ER-15. $nt : \underline{r\acute{y}b\acute{a}\acute{a}}$ 'night'

ER-16. $P_{\text{MOT}} : v_{\text{intr}}$

ER-17. $\text{NOMZ} : -de \text{ '(punct)'}$

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. $ng \rightarrow NBASE + K + (COLL) + (DIM)$

ER-18. NBASE : répena-ágaa (fire-mouth = 'headlights')

ER-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. $v_{intr} \rightarrow (NEG) + VNUC + (ASPl)$

ER-19. VNUC : avs

RR-10. $avs \rightarrow BASE + SET I$

ER-20. BASE : pópá 'to move'

ER-21. SET I : -lia '(3 sg Fu)'

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

TR-1. $TOP + COM + K \Rightarrow TOP + COM + COM,$

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) COM : répena-ágaa ráspe yaé-PARA
ríbaá pópóliade rábú-ná yaé-(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 conjoining on the word-level, before optional affixes or clitics are attached.

There is, of course, a great deal of grammatical information lacking in the generation of this one sentence. It presupposes in particular context-sensitive rules in the verb syntagmeme such as those mentioned in §3.24. In addition, the LRs for verb categories such as V_{tr} , V_{intr} , V_{comp} , V_{tr-alo} , $V_{intr-alo}$, $V_{comp-alo}$ cannot be established without the functions of $SAGN$, $OGOL$, $OBEN$, and so on to serve as environments. For this reason a sentence without complications in the verb structure was chosen.

7.5 An Illustrative Text

The following textlet is a dialogue between two teenage Kewa informants, Kfrapeaasi and Órópe, both from Usa. I taught them to use pictures to illicit information from each other spontaneously while I tape-recorded their conversation. 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 Kewa 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. káará kóne sá-lo-raa
car behaviour put-I am-emp
- (3) Q. go káará-re goa-para ake ya-pae ?
that car - TOP that-LOC what affirm-or
- (4) A. mo káará méa pámu-a píra-raa
that car taking go-CO sp it is-emp
- (5) Q. kádipí ya-pae kóbere ya ?
red man affirm-or native affirm
- (6) A. kóbere-ga nipú-ná ráguna-nu waru ádr
native-RE he-POS hat-coll really fastening
pu-a só yaé só saap-ia
make-CO 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 repena-ágaa rá-pe yaé
that something-TOP fire-mouth burn-FOR something
ríbaá pópá-lia-de rábú-ná nipú lópa-pe
night moves-it will-pun time-POS it fall-FOR
yada rá-la-niaa pópá-la-lo pea-raa
something burn-pur-down goes-pur-des make-it does-emp
- (9) Q. go-nane áápi píra-pe ya-pae ?
that-DIR who sit-FOR affirm-or
- (10) A. onáá píra-pe ya-raa
people sit-FOR affirm-emp

- (11) Q. onáá-re ake pá-limi rábú épaa
people-TOP what go-they will time coming(alo)
píra-lepa tea-pae ?
sit-pl imp say he will-or
- (12) A. onáá nimi yada-para pó-la-lo épaa
people they something-LOC go-pur-des coming(alo)
páásimi⁹ pá-limi rábú kí pa gúpá
holding go-they will hand just like that
misa-limi rábú épaa píra-lepa ta
lift-they will time coming(alo) sit-pl imp he says
píra-raa
he is-emp
- (13) Q. go rábú-ri madá méáá
that time-TOP enough bringing(alo)
ma-píraa-lia-pae ?
cas-sit-he will(alo)-or
- (14) A. go rábú-ri épaa píra-lepa ta píra-raa
that time-TOP coming sit-pl imp he says he is-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.

NOTES

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 generalised 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) $B : b, b'$; (2) $A : a/_b, a'/_b$. 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 restatement of the simple Spanish problem from Elson and Pickett's textbook. Postal (1964:43ff) 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 $\rightarrow$ personal pronoun (p. 180).

6. In Reid's grammar sub-categorisation rules are patterned after Chomsky (1965:95ff), but are not included in the tag-memic 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'.

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8. THE DIALECTS OF KENA¹

8.0. INTRODUCTION

8.0.1. GENERAL COMMENTS

Empirically, the Kewa language can be defined in terms of the dialects outlined in this chapter. The evidence is basically linguistic in nature and reflects certain geographical and historical factors which are synchronically portrayed. Socially, the Kewa language does not represent any political or national group. In fact, many speakers from separate dialects will deny that they speak the same language.

This, of course, means that what we define linguistically as the same speech community, and what a native speaker would intuitively define, are not always the same. There are many reasons for this. First of all, even today a large percentage of the Kewa people do not travel widely outside of their immediate areas. Those who do are usually traders or, more recently, casual laborers. Secondly, regional factionalism and warfare have tended to keep clan areas bounded in some directions by antagonistic neighbours. In many cases these boundaries are actually zones of continuous debate and therefore areas of dispute. Finally, there is a great deal of regionalism within the language so that few clans ever speak exactly the same as their neighbours. This diversity is true of most languages and although, as languages go, Kewa is small, the clan territories have preserved many regionalisms. This is often reflected in their mimicry of how a group nearby speaks, when it is different than their own. For example, if such a nearby group has vowel nasalisation and the focal group does not, the latter will deliberately nasalise all vowels, showing their recognition (in some sense) of one point of difference. This is much like someone

¹ Chapter 8, of a forthcoming dissertation on the Kewa language. References within chapter 8 drop the first digit, e.g., 8.2.21, 8.2.22, 8.2.23, 8.2.24, 8.2.25, 8.2.26, 8.2.27, 8.2.28, 8.2.29, 8.2.30, 8.2.31, 8.2.32, 8.2.33, 8.2.34, 8.2.35, 8.2.36, 8.2.37, 8.2.38, 8.2.39, 8.2.40, 8.2.41, 8.2.42, 8.2.43, 8.2.44, 8.2.45, 8.2.46, 8.2.47, 8.2.48, 8.2.49, 8.2.50, 8.2.51, 8.2.52, 8.2.53, 8.2.54, 8.2.55, 8.2.56, 8.2.57, 8.2.58, 8.2.59, 8.2.60, 8.2.61, 8.2.62, 8.2.63, 8.2.64, 8.2.65, 8.2.66, 8.2.67, 8.2.68, 8.2.69, 8.2.70, 8.2.71, 8.2.72, 8.2.73, 8.2.74, 8.2.75, 8.2.76, 8.2.77, 8.2.78, 8.2.79, 8.2.80, 8.2.81, 8.2.82, 8.2.83, 8.2.84, 8.2.85, 8.2.86, 8.2.87, 8.2.88, 8.2.89, 8.2.90, 8.2.91, 8.2.92, 8.2.93, 8.2.94, 8.2.95, 8.2.96, 8.2.97, 8.2.98, 8.2.99, 8.2.100, 8.2.101, 8.2.102, 8.2.103, 8.2.104, 8.2.105, 8.2.106, 8.2.107, 8.2.108, 8.2.109, 8.2.110, 8.2.111, 8.2.112, 8.2.113, 8.2.114, 8.2.115, 8.2.116, 8.2.117, 8.2.118, 8.2.119, 8.2.120, 8.2.121, 8.2.122, 8.2.123, 8.2.124, 8.2.125, 8.2.126, 8.2.127, 8.2.128, 8.2.129, 8.2.130, 8.2.131, 8.2.132, 8.2.133, 8.2.134, 8.2.135, 8.2.136, 8.2.137, 8.2.138, 8.2.139, 8.2.140, 8.2.141, 8.2.142, 8.2.143, 8.2.144, 8.2.145, 8.2.146, 8.2.147, 8.2.148, 8.2.149, 8.2.150, 8.2.151, 8.2.152, 8.2.153, 8.2.154, 8.2.155, 8.2.156, 8.2.157, 8.2.158, 8.2.159, 8.2.160, 8.2.161, 8.2.162, 8.2.163, 8.2.164, 8.2.165, 8.2.166, 8.2.167, 8.2.168, 8.2.169, 8.2.170, 8.2.171, 8.2.172, 8.2.173, 8.2.174, 8.2.175, 8.2.176, 8.2.177, 8.2.178, 8.2.179, 8.2.180, 8.2.181, 8.2.182, 8.2.183, 8.2.184, 8.2.185, 8.2.186, 8.2.187, 8.2.188, 8.2.189, 8.2.190, 8.2.191, 8.2.192, 8.2.193, 8.2.194, 8.2.195, 8.2.196, 8.2.197, 8.2.198, 8.2.199, 8.2.200, 8.2.201, 8.2.202, 8.2.203, 8.2.204, 8.2.205, 8.2.206, 8.2.207, 8.2.208, 8.2.209, 8.2.210, 8.2.211, 8.2.212, 8.2.213, 8.2.214, 8.2.215, 8.2.216, 8.2.217, 8.2.218, 8.2.219, 8.2.220, 8.2.221, 8.2.222, 8.2.223, 8.2.224, 8.2.225, 8.2.226, 8.2.227, 8.2.228, 8.2.229, 8.2.230, 8.2.231, 8.2.232, 8.2.233, 8.2.234, 8.2.235, 8.2.236, 8.2.237, 8.2.238, 8.2.239, 8.2.240, 8.2.241, 8.2.242, 8.2.243, 8.2.244, 8.2.245, 8.2.246, 8.2.247, 8.2.248, 8.2.249, 8.2.250, 8.2.251, 8.2.252, 8.2.253, 8.2.254, 8.2.255, 8.2.256, 8.2.257, 8.2.258, 8.2.259, 8.2.260, 8.2.261, 8.2.262, 8.2.263, 8.2.264, 8.2.265, 8.2.266, 8.2.267, 8.2.268, 8.2.269, 8.2.270, 8.2.271, 8.2.272, 8.2.273, 8.2.274, 8.2.275, 8.2.276, 8.2.277, 8.2.278, 8.2.279, 8.2.280, 8.2.281, 8.2.282, 8.2.283, 8.2.284, 8.2.285, 8.2.286, 8.2.287, 8.2.288, 8.2.289, 8.2.290, 8.2.291, 8.2.292, 8.2.293, 8.2.294, 8.2.295, 8.2.296, 8.2.297, 8.2.298, 8.2.299, 8.2.300, 8.2.301, 8.2.302, 8.2.303, 8.2.304, 8.2.305, 8.2.306, 8.2.307, 8.2.308, 8.2.309, 8.2.310, 8.2.311, 8.2.312, 8.2.313, 8.2.314, 8.2.315, 8.2.316, 8.2.317, 8.2.318, 8.2.319, 8.2.320, 8.2.321, 8.2.322, 8.2.323, 8.2.324, 8.2.325, 8.2.326, 8.2.327, 8.2.328, 8.2.329, 8.2.330, 8.2.331, 8.2.332, 8.2.333, 8.2.334, 8.2.335, 8.2.336, 8.2.337, 8.2.338, 8.2.339, 8.2.340, 8.2.341, 8.2.342, 8.2.343, 8.2.344, 8.2.345, 8.2.346, 8.2.347, 8.2.348, 8.2.349, 8.2.350, 8.2.351, 8.2.352, 8.2.353, 8.2.354, 8.2.355, 8.2.356, 8.2.357, 8.2.358, 8.2.359, 8.2.360, 8.2.361, 8.2.362, 8.2.363, 8.2.364, 8.2.365, 8.2.366, 8.2.367, 8.2.368, 8.2.369, 8.2.370, 8.2.371, 8.2.372, 8.2.373, 8.2.374, 8.2.375, 8.2.376, 8.2.377, 8.2.378, 8.2.379, 8.2.380, 8.2.381, 8.2.382, 8.2.383, 8.2.384, 8.2.385, 8.2.386, 8.2.387, 8.2.388, 8.2.389, 8.2.390, 8.2.391, 8.2.392, 8.2.393, 8.2.394, 8.2.395, 8.2.396, 8.2.397, 8.2.398, 8.2.399, 8.2.400, 8.2.401, 8.2.402, 8.2.403, 8.2.404, 8.2.405, 8.2.406, 8.2.407, 8.2.408, 8.2.409, 8.2.410, 8.2.411, 8.2.412, 8.2.413, 8.2.414, 8.2.415, 8.2.416, 8.2.417, 8.2.418, 8.2.419, 8.2.420, 8.2.421, 8.2.422, 8.2.423, 8.2.424, 8.2.425, 8.2.426, 8.2.427, 8.2.428, 8.2.429, 8.2.430, 8.2.431, 8.2.432, 8.2.433, 8.2.434, 8.2.435, 8.2.436, 8.2.437, 8.2.438, 8.2.439, 8.2.440, 8.2.441, 8.2.442, 8.2.443, 8.2.444, 8.2.445, 8.2.446, 8.2.447, 8.2.448, 8.2.449, 8.2.450, 8.2.451, 8.2.452, 8.2.453, 8.2.454, 8.2.455, 8.2.456, 8.2.457, 8.2.458, 8.2.459, 8.2.460, 8.2.461, 8.2.462, 8.2.463, 8.2.464, 8.2.465, 8.2.466, 8.2.467, 8.2.468, 8.2.469, 8.2.470, 8.2.471, 8.2.472, 8.2.473, 8.2.474, 8.2.475, 8.2.476, 8.2.477, 8.2.478, 8.2.479, 8.2.480, 8.2.481, 8.2.482, 8.2.483, 8.2.484, 8.2.485, 8.2.486, 8.2.487, 8.2.488, 8.2.489, 8.2.490, 8.2.491, 8.2.492, 8.2.493, 8.2.494, 8.2.495, 8.2.496, 8.2.497, 8.2.498, 8.2.499, 8.2.500, 8.2.501, 8.2.502, 8.2.503, 8.2.504, 8.2.505, 8.2.506, 8.2.507, 8.2.508, 8.2.509, 8.2.510, 8.2.511, 8.2.512, 8.2.513, 8.2.514, 8.2.515, 8.2.516, 8.2.517, 8.2.518, 8.2.519, 8.2.520, 8.2.521, 8.2.522, 8.2.523, 8.2.524, 8.2.525, 8.2.526, 8.2.527, 8.2.528, 8.2.529, 8.2.530, 8.2.531, 8.2.532, 8.2.533, 8.2.534, 8.2.535, 8.2.536, 8.2.537, 8.2.538, 8.2.539, 8.2.540, 8.2.541, 8.2.542, 8.2.543, 8.2.544, 8.2.545, 8.2.546, 8.2.547, 8.2.548, 8.2.549, 8.2.550, 8.2.551, 8.2.552, 8.2.553, 8.2.554, 8.2.555, 8.2.556, 8.2.557, 8.2.558, 8.2.559, 8.2.560, 8.2.561, 8.2.562, 8.2.563, 8.2.564, 8.2.565, 8.2.566, 8.2.567, 8.2.568, 8.2.569, 8.2.570, 8.2.571, 8.2.572, 8.2.573, 8.2.574, 8.2.575, 8.2.576, 8.2.577, 8.2.578, 8.2.579, 8.2.580, 8.2.581, 8.2.582, 8.2.583, 8.2.584, 8.2.585, 8.2.586, 8.2.587, 8.2.588, 8.2.589, 8.2.590, 8.2.591, 8.2.592, 8.2.593, 8.2.594, 8.2.595, 8.2.596, 8.2.597, 8.2.598, 8.2.599, 8.2.600, 8.2.601, 8.2.602, 8.2.603, 8.2.604, 8.2.605, 8.2.606, 8.2.607, 8.2.608, 8.2.609, 8.2.610, 8.2.611, 8.2.612, 8.2.613, 8.2.614, 8.2.615, 8.2.616, 8.2.617, 8.2.618, 8.2.619, 8.2.620, 8.2.621, 8.2.622, 8.2.623, 8.2.624, 8.2.625, 8.2.626, 8.2.627, 8.2.628, 8.2.629, 8.2.630, 8.2.631, 8.2.632, 8.2.633, 8.2.634, 8.2.635, 8.2.636, 8.2.637, 8.2.638, 8.2.639, 8.2.640, 8.2.641, 8.2.642, 8.2.643, 8.2.644, 8.2.645, 8.2.646, 8.2.647, 8.2.648, 8.2.649, 8.2.650, 8.2.651, 8.2.652, 8.2.653, 8.2.654, 8.2.655, 8.2.656, 8.2.657, 8.2.658, 8.2.659, 8.2.660, 8.2.661, 8.2.662, 8.2.663, 8.2.664, 8.2.665, 8.2.666, 8.2.667, 8.2.668, 8.2.669, 8.2.670, 8.2.671, 8.2.672, 8.2.673, 8.2.674, 8.2.675, 8.2.676, 8.2.677, 8.2.678, 8.2.679, 8.2.680, 8.2.681, 8.2.682, 8.2.683, 8.2.684, 8.2.685, 8.2.686, 8.2.687, 8.2.688, 8.2.689, 8.2.690, 8.2.691, 8.2.692, 8.2.693, 8.2.694, 8.2.695, 8.2.696, 8.2.697, 8.2.698, 8.2.699, 8.2.700, 8.2.701, 8.2.702, 8.2.703, 8.2.704, 8.2.705, 8.2.706, 8.2.707, 8.2.708, 8.2.709, 8.2.710, 8.2.711, 8.2.712, 8.2.713, 8.2.714, 8.2.715, 8.2.716, 8.2.717, 8.2.718, 8.2.719, 8.2.720, 8.2.721, 8.2.722, 8.2.723, 8.2.724, 8.2.725, 8.2.726, 8.2.727, 8.2.728, 8.2.729, 8.2.730, 8.2.731, 8.2.732, 8.2.733, 8.2.734, 8.2.735, 8.2.736, 8.2.737, 8.2.738, 8.2.739, 8.2.740, 8.2.741, 8.2.742, 8.2.743, 8.2.744, 8.2.745, 8.2.746, 8.2.747, 8.2.748, 8.2.749, 8.2.750, 8.2.751, 8.2.752, 8.2.753, 8.2.754, 8.2.755, 8.2.756, 8.2.757, 8.2.758, 8.2.759, 8.2.760, 8.2.761, 8.2.762, 8.2.763, 8.2.764, 8.2.765, 8.2.766, 8.2.767, 8.2.768, 8.2.769, 8.2.770, 8.2.771, 8.2.772, 8.2.773, 8.2.774, 8.2.775, 8.2.776, 8.2.777, 8.2.778, 8.2.779, 8.2.780, 8.2.781, 8.2.782, 8.2.783, 8.2.784, 8.2.785, 8.2.786, 8.2.787, 8.2.788, 8.2.789, 8.2.790, 8.2.791, 8.2.792, 8.2.793, 8.2.794, 8.2.795, 8.2.796, 8.2.797, 8.2.798, 8.2.799, 8.2.800, 8.2.801, 8.2.802, 8.2.803, 8.2.804, 8.2.805, 8.2.806, 8.2.807, 8.2.808, 8.2.809, 8.2.810, 8.2.811, 8.2.812, 8.2.813, 8.2.814, 8.2.815, 8.2.816, 8.2.817, 8.2.818, 8.2.819, 8.2.820, 8.2.821, 8.2.822, 8.2.823, 8.2.824, 8.2.825, 8.2.826, 8.2.827, 8.2.828, 8.2.829, 8.2.830, 8.2.831, 8.2.832, 8.2.833, 8.2.834, 8.2.835, 8.2.836, 8.2.837, 8.2.838, 8.2.839, 8.2.840, 8.2.841, 8.2.842, 8.2.843, 8.2.844, 8.2.845, 8.2.846, 8.2.847, 8.2.848, 8.2.849, 8.2.850, 8.2.851, 8.2.852, 8.2.853, 8.2.854, 8.2.855, 8.2.856, 8.2.857, 8.2.858, 8.2.859, 8.2.860, 8.2.861, 8.2.862, 8.2.863, 8.2.864, 8.2.865, 8.2.866, 8.2.867, 8.2.868, 8.2.869, 8.2.870, 8.2.871, 8.2.872, 8.2.873, 8.2.874, 8.2.875, 8.2.876, 8.2.877, 8.2.878, 8.2.879, 8.2.880, 8.2.881, 8.2.882, 8.2.883, 8.2.884, 8.2.885, 8.2.886, 8.2.887, 8.2.888, 8.2.889, 8.2.890, 8.2.891, 8.2.892, 8.2.893, 8.2.894, 8.2.895, 8.2.896, 8.2.897, 8.2.898, 8.2.899, 8.2.900, 8.2.901, 8.2.902, 8.2.903, 8.2.904, 8.2.905, 8.2.906, 8.2.907, 8.2.908, 8.2.909, 8.2.910, 8.2.911, 8.2.912, 8.2.913, 8.2.914, 8.2.915, 8.2.916, 8.2.917, 8.2.918, 8.2.919, 8.2.920, 8.2.921, 8.2.922, 8.2.923, 8.2.924, 8.2.925, 8.2.926, 8.2.927, 8.2.928, 8.2.929, 8.2.930, 8.2.931, 8.2.932, 8.2.933, 8.2.934, 8.2.935, 8.2.936, 8.2.937, 8.2.938, 8.2.939, 8.2.940, 8.2.941, 8.2.942, 8.2.943, 8.2.944, 8.2.945, 8.2.946, 8.2.947, 8.2.948, 8.2.949, 8.2.950, 8.2.951, 8.2.952, 8.2.953, 8.2.954, 8.2.955, 8.2.956, 8.2.957, 8.2.958, 8.2.959, 8.2.960, 8.2.961, 8.2.962, 8.2.963, 8.2.964, 8.2.965, 8.2.966, 8.2.967, 8.2.968, 8.2.969, 8.2.970, 8.2.971, 8.2.972, 8.2.973, 8.2.974, 8.2.975, 8.2.976, 8.2.977, 8.2.978, 8.2.979, 8.2.980, 8.2.981, 8.2.982, 8.2.983, 8.2.984, 8.2.985, 8.2.986, 8.2.987, 8.2.988, 8.2.989, 8.2.990, 8.2.991, 8.2.992, 8.2.993, 8.2.994, 8.2.995, 8.2.996, 8.2.997, 8.2.998, 8.2.999, 8.3.000, 8.3.001, 8.3.002, 8.3.003, 8.3.004, 8.3.005, 8.3.006, 8.3.007, 8.3.008, 8.3.009, 8.3.010, 8.3.011, 8.3.012, 8.3.013, 8.3.014, 8.3.015, 8.3.016, 8.3.017, 8.3.018, 8.3.019, 8.3.020, 8.3.021, 8.3.022, 8.3.023, 8.3.024, 8.3.025, 8.3.026, 8.3.027, 8.3.028, 8.3.029, 8.3.030, 8.3.031, 8.3.032, 8.3.033, 8.3.034, 8.3.035, 8.3.036, 8.3.037, 8.3.038, 8.3.039, 8.3.040, 8.3.041, 8.3.042, 8.3.043, 8.3.044, 8.3.045, 8.3.046, 8.3.047, 8.3.048, 8.3.049, 8.3.050, 8.3.051, 8.3.052, 8.3.053, 8.3.054, 8.3.055, 8.3.056, 8.3.057, 8.3.058, 8.3.059, 8.3.060, 8.3.061, 8.3.062, 8.3.063, 8.3.064, 8.3.065, 8.3.066, 8.3.067, 8.3.068, 8.3.069, 8.3.070, 8.3.071, 8.3.072, 8.3.073, 8.3.074, 8.3.075, 8.3.076, 8.3.077, 8.3.078, 8.3.079, 8.3.080, 8.3.081, 8.3.082, 8.3.083, 8.3.084, 8.3.085, 8.3.086, 8.3.087, 8.3.088, 8.3.089, 8.3.090, 8.3.091, 8.3.092, 8.3.093, 8.3.094, 8.3.095, 8.3.096, 8.3.097, 8.3.098, 8.3.099, 8.3.100, 8.3.101, 8.3.102, 8.3.103, 8.3.104, 8.3.105, 8.3.106, 8.3.107, 8.3.108, 8.3.109, 8.3.110, 8.3.111, 8.3.112, 8.3.113, 8.3.114, 8.3.115, 8.3.116, 8.3.117, 8.3.118, 8.3.119, 8.3.120, 8.3.121, 8.3.122, 8.3.123, 8.3.124, 8.3.125, 8.3.126, 8.3.127, 8.3.128, 8.3.129, 8.3.130, 8.3.131, 8.3.132, 8.3.133, 8.3.134, 8.3.135, 8.3.136, 8.3.137, 8.3.138, 8.3.139, 8.3.140, 8.3.141, 8.3.142, 8.3.143, 8.3.144, 8.3.145, 8.3.146, 8.3.147, 8.3.148, 8.3.149, 8.3.150, 8.3.151, 8.3.152, 8.3.153, 8.3.154, 8.3.155, 8.3.156, 8.3.157, 8.3.158, 8.3.159, 8.3.160, 8.3.161, 8.3.162, 8.3.163, 8.3.164, 8.3.165, 8.3.166, 8.3.167, 8.3.168, 8.3.169, 8.3.170, 8.3.171, 8.3.172, 8.3.173, 8.3.174, 8.3.175, 8.3.176, 8.3.177, 8.3.178, 8.3.179, 8.3.180, 8.3.181, 8.3.182, 8.3.183, 8.3.184, 8.3.185, 8.3.186, 8.3.187, 8.3.188, 8.3.189, 8.3.190, 8.3.191, 8.3.192, 8.3.193, 8.3.194, 8.3.195, 8.3.196, 8.3.197, 8.3.198, 8.3.199, 8.3.200, 8.3.201, 8.3.202, 8.3.203, 8.3.204, 8.3.205, 8.3.206, 8.3.207, 8.3.208, 8.3.209, 8.3.210, 8.3.211, 8.3.212, 8.3.213, 8.3.214, 8.3.215, 8.3.216, 8.3.217, 8.3.218, 8.3.219, 8.3.220, 8.3.221, 8.3.222, 8.3.223, 8.3.224, 8.3.225, 8.3.226, 8.3.227, 8.3.228, 8.3.229,

8.0.3. PRESENTATION

Diagnostic forms are presented in terms of an underlying form upon which dialectal realisations are based. If the underlying form has not been observed in any dialect it is starred. The rules which operate on the underlying forms are strictly-ordered such that each rule is applied to each form with the result noted in the appropriate dialect column, before proceeding back to the form again. Because certain rule applications are ordered for a particular dialect these are enclosed in square brackets as a sub-set. The forms are grouped (when possible) according to those which show sound changes and word geography diagnostic of a particular dialect. The form considered basic is in the left-hand column, as are any variant forms, the English gloss, and the particular rule which applies.¹

In most cases the rule format is similar to that used in transformational grammar for morphophonemic rewrite rules. Here, unless capitalised and thus otherwise noted, the input on the left-hand side of the arrow are phonemes rather than morphophonemes.²

Finally, some grammatical and cultural diagnostic particulars are also given as well as some general comments on particular problems such as nasalisation and word taboo. All maps follow the main body of the paper.

The villages where diagnostic lists have been collected are assigned sets of numbers according to their location within a given dialect, sub-dialect, or separate language. All sound change rules and lexical distribution rules refer to particular villages, or village areas as determined by their code number in Table 1. The village sites where data were collected are shown by numbers in Map 1 but specific details are assigned to Appendix A.³

¹ Dialect rules begin and are explained in detail in § 2.21(58.2.21).

² See, for example, A. Koutsoudas (1964).

³ In some cases I used materials collected before I had devised or narrowed-down the diagnostic list. Between 1958 and 1962 the author and his wife lived in Mull (Village 4 on Map 1) for periods totalling 30 months, under the auspices of the Summer Institute of Linguistics. At that time I had access to several short lists of words supplied to me by Rev. R. Imbeck of the Lutheran Mission (Village 50 of the West dialect) and to a pedagogical grammar prepared in Erave (Village 30) by K. and J. Rule of the Unvangelised Fields Mission. During May 1967-February 1968 we lived in Usa (Village 57) where I have been a Research Scholar for the Australian National University. I spent one week of this time in Erave gathering materials and have also had an informant from Erave in Usa for a week of extensive comparison. Other (continued on next page)

Village Numbers on Map	Areas Represented
1-29	Eastern Dialect
30-49	Southern Dialect
(45-49)	(Southeastern Sub-dialect)
50-89	Western Dialect
(70-89)	(Northwestern Sub-dialect)
90-100	Separate languages

TABLE 1

The diagnostic list was devised after a preliminary comparison of materials collected in Mull (the East) with those from other areas. The final list, upon which many of the conclusions set forth here are based, has been designed to elicit linguistic forms which show variations in sound or lexical structure. It contains 100 lexical items and twelve grammatical structures.

However, additional materials have been gathered at one main point in each major dialect: Mull (4, East), Usa (57, West), and Erave (30, South). The materials include a three-dialect dictionary of almost 1800 stems, about 100 verb paradigms, and extensive phonological materials. For the East and West extensive materials are in hand, including concordances of native texts.

8.1. OVERVIEW

8.1.1. BOUNDARIES

(1) The Kewa language consists of three major dialects and at least two minor sub-dialects, as outlined in Map 2.

(2) The Kewa language is bounded by the following mutually

(3) (continued from previous page)

shorter trips have been taken to outlying areas.

I am indebted to C.L. Voorhoeve, T.E. Dutton, and S.A. Wurm for helpful comments on an earlier draft of this chapter and especially to the Department of Geography, A.N.U., for the preparation of the maps.

unintelligible languages: northwest and west by Mendi (West Central Family); north and northeast by Medipa (Central Family); east by Miru (West Central Family); southeast by Polopa (Mikaruan Family); south by Sau (West Central Family); southwest (perhaps) by Foe (Kutubuan Family); west by Magi (West Central Family).¹

(3) Geographically, one major river network drains the whole Kewa area. To the northwest, the Mendi River flows south into Kewa territory just south of the town of Mendi and some nine miles later it is joined by the Ankura, a swift-flowing river draining the southern slopes of Mt. Giluwe to the north west. Three miles later the Ankura is joined from the east by the Kagua which drains the southern slopes of the Vakari range and the Kagua valley. This river (now called the Ankura) also drains the Lai and Nembi to the west before it becomes the Erave. The Sugu River drains the valley by the same name and originates some twenty miles east before joining the Erave River. The Erave extends southeast, south and east for another 125 miles or so before it becomes the Purari and flows into the Gulf.

The only other river complex of major consequence which is environmental to the Kewa area is the Iapo and its tributaries, originating in the Giluwe slopes of the Ialibu basin, running south and then east, and eventually joining the Erave.

(4) The Kewa are part of the Highland community which extends from the Strickland divide at the west to the Kaimantu shelf at the east.² The altitude of the area varies from 6,300' around Ialibu to

¹ Polopa and Magi have never been reported before and have been discovered in this survey. Polopa appears to be related to the Mikaru language on the basis of data supplied by George Macdonald of the S.I.L. He in turn previously discovered a language called Kevah which appears to be in an area around the junction of the Twa and Erave Rivers. Preliminary comparison yields the following shared percentage relationships (based on the S.I.L. list): Kevah-Mikaru 40%; Polopa-Kevah 45%; Polopa-Mikaru 25%; Polopa-Kewa or Miru 5% or less. More recently, by comparing word lists in the Territory of Papua Annual Reports between 1900-25, I find several languages related to Polopa and Mikaru. A new family designated as Mikaruan is therefore necessary; other details will appear in my "Languages of the Gulf District" (in press).

² Magi lies north of the Ankura River and between the Ka and Mendi Rivers. As far as I can determine the villages of Del, Iaria, Magi, Pabaranga and perhaps one or two others, speak this language; it seems to be the more obvious link between Central Mendi and West Kewa.

³ The general ecology of the Highland area can be found in H.G. Brookfield, (1964).

3,500' in the Erave valley and the land includes swamp areas around Ialibu and Kuare, short grasslands in the Kagua, and Sugu valleys, as well as limestone ridges in the Southern areas.

Malaria has probably restricted population south of the Sugu River area and southeast, but it would seem to be limited to that area and farther south. Malaria is, in fact, often called Pole Yanya, i.e., a sickness from Erave (Pole), and this fear of sickness has undoubtedly inhibited more migration into the area.

(5) The East Dialect is bounded north by the base of Mt. Giluwe (14,000' and extending across the western end of the Ialibu basin), east by the wooded slopes of Mt. Ialibu (11,000') and the Poru Plateau (where the Miru generally live east of the Miru River), south by the Kuare River and swamp area, as well as the ridges north of the headwaters of the Sugu River, and west by the vast wooded Vakari range and the range between the Kagua and Sugu valleys.

(6) The South Dialect extends north from Erave across the Erave valley and river to the Kuare area, southeast into dense bushland (mainly the Southeastern Sub-dialect), and west to the headwaters of the Sugu River.

(7) Although the West Dialect has a natural river boundary to its west and south, beginning near Mendi and extending beyond the junction of the Sugu River, the Northwestern Sub-dialect straddles the area westward for an undetermined distance. This sub-dialect shows considerable influence from the adjacent Mendi language. It goes as far south as the Sugu River, always remaining close to the Mendi-Ankura Rivers. It also follows the Ankura River east for a distance but generally is north of this same river.

8.1.2. POPULATION FIGURES

The Census Districts represented below in Table 2 are from the "Reference Book to enable Polling Officials to Identify Voter's Domicile", issued by the Chief Electoral Office, Port Moresby (January, 1964). In this book electorates are arranged alphabetically, Kewa language areas being included in the following electorates: Ialibu (pp. 85-6), Kutubu (pp. 102-5), and Mendi (pp. 152-5).

The census figures are doubtlessly low in that they range in chronology from July/August, 1965 until only as recent as December, 1966.¹

Census District	Speakers	Languages	Dialects	Speakers
Undiri	1,434 3,611 1,950	Kewa Mendi Mugi	NW	
Kambiri	4,812	Kewa	NW West	3,941 871
West Kagua	4,490	Kewa	West	
South Kagua	3,959	Kewa	West East	3,670 289
West Sugu	3,585	Kewa	West NW	4,490 688
East Kagua	4,347	Kewa	East	
Kuare	2,974	Kewa	East	
Kari-Tiburu	1,659	Kewa	South East	981 678
Fore-Tsimberigi	969	Kewa	South SE	705 264
Kerabi	140 661 1,577	Kewa Sau Polopa	SE	
Imbong'Eu	431 12,145	Kewa Medipa	East	
Kewabe	6,949	Kewa	East	
Wiru	2,090 14,197	Kewa Wiru	East	

TABLE 2

I am indebted to Mr D.R.M. Marsh, former District Commissioner of the Southern Highlands District, for access to these figures. I would also like to thank Mr J. Hicks, A.D.O. Erave, Mr R. Andrews, A.D.O. Kagua, and Mr N. Cavenagh, A.D.O. Kagua for their cooperation in this survey.

A summary of the figures in Table 2 yields 39,453 Kewa speakers with dialect totals as follows: 17,921 in the West Dialect, including 6,864 in the Northwestern Sub-dialect; 17,756 in the East Dialect; 3,774 in the South Dialect, including 404 in the Southeastern Sub-dialect. There are 3,652 speakers located on the putative boundary of the East and South, all of which are classed as East Dialect speakers. This line actually represents an imagined transition zone between the two dialects.

8.2. PHONOLOGY

In this section we deal with regional phonetic details before setting forth the phonemic system and sound changes operating in each dialect area.

8.2.1. PHONETIC DETAILS

The maximum phonetic representation for our defined Kewa Language area includes the following variations (see Map 1 for geographical sites of villages indicated here by numbers).

8.2.1.1. STOPS

In general, within Kewa all stops tend to be prenasalised. Two notable exceptions are /t/ and usually /g/. In one area (46) the word for 'tree root' is *pinj*, rather than the expected *pita*. This may be due to the feature of vowel nasalisation gradually actualising as the prenasalisation of stops in certain areas of the South (for specific details see 52.3). Throughout the East and West (except at the extreme northern tip of the Northwest Sub-dialect, which borders the Mendi language) /g/ is never prenasalised. The change to prenasalisation is one of the defining characteristics of the South (cf. 52.23).

There is also evidence that certain forms have simple bilabial voiced stops in one area which become prenasalised in others. Two examples are *saiuba*, an alternate form for 'sweet potato' found only in areas of the West (especially 60-62) which becomes *saiumba* farther toward the south (65, etc.) and *arobo* 'father's sister', mainly only in the Erave area, which is *arombo* everywhere else.

The palatal stop /tʃ/ does not occur in any dialect area except the East. In one area bordering the East (5) words which would normally be expected to employ this sound use the variant [tʃ], as for

example in (25), 'to hit' and 'undressed' 'to sleep'. There is a tendency for the same sort of variation in other areas, e.g., (77a). In other areas corresponding forms employ either [e] or [i].¹

In the South the variance of ϵ/ω would unfortunately, but not fundamentally, be often pronounced as $[\epsilon^{\text{h}}\text{h}]$.

8.2.12. **FR. LOUIS WEE**

Notwithstanding the differences in theme tend to be widely literary-conventionality (Franklin and Franklin, 1982:32), there are areas where common ground and qualities are also displayed.

One common phonetic quality of /w/ in variation and [ʍ] or [ɸ] in the latter fewer area (111-155), or even as [h] as (495). In the latter area there were borders like Stan Imongas (114) in the South coast area (21) and (35). In one area (35) a phonetic characteristic /w/ often does become /w/. In one area (35) a phonetic characteristic /w/ in heavy aspiration word initially.

Example 67 / 68' described phonetically in [67'] have also been noted in the same [12] as 68'-[67']¹⁴ 11/12/2017.

The phoneme /s/ shows considerable phonetic variation at different points, from slight rounding changes (e.g., Ez. 21) to complete q assimilation. The decreased phonetic quality of [s] causes the preceding vowel to be /a/ or, at least, the variant [a₁], as noted in Ez. 15 .

62-13, 2-16-66

Registration is the most common pinwheel quantity at address //v/
 00 /v/ (unconstrained here). Usually there are eight, but in one area (the
 13-15 string) another 16 match either by the likelihood of any speaker
 from the region. Some examples are: [laɪt "eye"], [twɪl "twice"] and
 [ɹaɪt "clearway"].

THESE DATA HAVE $/r/$ IN [rʰ] SPOKE INITIALLY AND TENDS TOWARD [ʁ] FOLLOWING THE SPOKE MOVES $/r/$. TOWARD THE HONNINITE AND IN AREAS OF THE EXTREME SOUTH AND EASTED PROMOTE QUALITY BECOMES MORE OF A SPOKE-ASSOCIATED STOP [rʰ], WHICH ACTUALLY AS AN $/r/$ IN EARLY SPEECH. HOWEVER, IT IS REVER PROMOTED AND THEN CLEARLY DEACTIVATING IN THE SPOKE $/r/$.

in the Southern area // and at times been noted as having a moderate to mild quality.

was directed to investigate a credit problem, and indicated that the Government had no interest in the Government's intervention.

243 [22]

B.2.14. NKS415

Whenever /f/ occurs it is fricative, as is common with all alveopalatal sounds in Hawai. In one area of the West /s/ does not occur (see Chap 6 and also §2.22).

B-2-75- KOWALLS

There are two major vowel features which help to distinguish Kewa regions. One is vowel nasalisation (cf. §2.3) and the other is a tendency to de-vocalise certain vowels word finally, if the words are in final syllable and of more than one syllable. The former is widespread and becomes a phonemic feature in the South; the latter is confined to the Northwest and areas of the West bordering it, and is phonetic in nature. However, the phonetic de-vocalising of certain vowels is of importance historically because the Mandi language contains many words of 'coloured syllable' structure which are doubtless a reflection of the loss of final vowels. Some examples of voiceless vowels (area 57) are: [a:ka:k0] 'civet', [rəng0] 'tiger', [tə:n] 'tree', and [0e:] 'wood'.

Another regional but historically important characteristic of vowels is the glide from central position to higher and farther toward the front, i.e., [ai] or [ae] in the Northwest Sub-dialect. Both appear to be equivalent to the vowel /e/ in Hindi. A more careful and detailed study of this glide and vowel length (or alternatively that the low central vowel may also occur as a *Samānāre* cluster) should help explain why Hindi has five vowels and Hindi has seven.

8.2.15. TONE

Thene is outlined elsewhere (Franklin and Franklin, 1962b:34-5; J. Franklin, 1965) and will not be mentioned or written here because most forms when illustrated in isolation fail to portray basic stem bones in any satisfactory manner due to some morphonemics (cf. Ch. 2).

8.2.2. FINANCIALS

The maximum non-existent phenomenon system¹¹ for the Xena dialects is

1) Maximum and minimum non-existent phonemic systems for the Yari-Central Family, of which Kewa is a member, were calculated by Muru (1968:16). He also did the same for the Mandi Sub-family (p. 15) based on the inventories of Mandi, Kewari (our Kewa), Pote (our Sooth Kewa) and Sauu. His inventory of Kewa (p. 14) should include /q/ or /ɣq/ but not both.

as follows (patterned after Franklin and Franklin, 1962b:30):

CONSONANTS	Labial	alveolar	palatal	velar
Obstruents				
Stops				
Simple	^m b	^t d	^j ɟ	^g g
Complex		ⁿ ɲ		^ŋ ŋ
Fricatives	p	s		k
Sonorants				
Nasals	^m m	ⁿ n	^ɲ ɲ	
Non-nasals	^w w	^l l	^y y	
VOWELS	front	central	back	
High	i		u	
Med	e	ə	o	
Low	a	ə		
Glides	ae	ai		

SUPRASEGMENTALS-

Nasalization: all vowels, except the sequence *ae*.

Tone: high and low.

In this maximum system /g/ and /ŋ/ are /ae/ and /ai/; and nasalization or its absence, are each mutually exclusive, according to the particular dialect involved.

We will now deal with observed sound changes which are diagnostic of certain areas and have therefore been used as criteria in establishing dialect boundaries.

3.2.21. THE EAST DIALECT

The unidirectional relation of many forms, so that the West has forms which can be mapped from the East but the reverse is not possible, suggest that it is simpler to describe the East first. It may also suggest a time factor such that the East and West are not equal descendants from an earlier form of speech.

One unique feature of the East dialect, the velarized alveopalatal dental stop (/ɟ/), corresponds to either a voiceless dental stop /t/ or a voiced lateral /l/ in the other dialects. Examples of this change (portrayed on Map 3) are 68, 69 and 71 below (where the number of the

form is irrelevant, but is maintained as a reference to its sequence on the original diagnostic list).

68. plicya "root"	^t ɟ	10	32	X
69. bya "to hit"	X	-	South	-
70. macya "to carry in a bag"	X	34	X	-
71. macya "to carry in a bag"	X	31, 32, 34	-	-
	^t ɟ	-	I	X
	^t ɟ	-	-	71

The rule for form 68 "root" should be read as follows: plicya occurs everywhere in the East except in area 10 where it becomes t; in the South it occurs at 32 only, and never in the West. In the South tɟ elsewhere becomes t, except that in the Southeast it becomes tɟ; tɟ becomes t everywhere in the West.

There are two additional features to be noted: (a) the initial vowel (actually a phonetic glide [ɟ]) tends to be realized in the South; (b) the village area 5 (E) is unique, tɟ corresponding to /l/ in the case of 68 and to [ɟ] in examples 69 and 71.

We now turn to sounds which occur in the East (and usually) the South, but which are lost in the West. The first set of examples illustrates the loss of the voiceless velar stop /k/ word initially:

23. Kani "banana"	X	14, 15	X	-
k → ɟ	-	-	-	470
ai → ae	-	-	-	51, 70, 71, 76
epelle	-	-	-	64
32. Kunda "star"	X	16	X	-
k → ɟ	-	-	-	64
naill	-	-	-	64

The symbol X means that the form derived from the rule occurs everywhere in the particular dialect, except at village areas marked above. Some must be read as an addition to the more general rule above, in some cases more than one form has been elicited; this is shown by a to b; and so to a. Orthographically tɟ corresponds to ts.

34. kura 'skirt'	X	-	-
k → ∅	18	-	X
35. kamaa 'outside'	X	-	-
k → ∅	18	-	X
37. kira 'to cook'	X	-	-
k → ∅	18	-	X
r → s	2,3	-	-
39. kaana 'stone'	X	-	-
k → ∅	-	-	X
40. kope 'vine'	X	-	-
k → ∅	-	-	X

Map 4 traces the isoglosses involved in this sound change. It should be noted that:

- (a) Exceptions to the norm tend to occur, as would be expected, along the borders of dialects or within sub-dialect areas.
- (b) Variants which occur in sub-dialect areas are often related to adjacent separate languages, although in other cases the variants may be the direct result of innovations due to word taboo (See 55.21).

(c) The substitution of s for r (phonetically [d] in these particular environments) in example 37 also occurs in other forms of this same general area and elsewhere in the language area when word initially. For example:

55. rekere 'pearl shell'	X	-	-
#r → #s	-	X	X
umaku	-	-	70,71

The alternate form at 70 and 71 has also been recorded as omaku and umaku in these areas. It seems to be borrowed directly from the Mendi language.

In the following example there is almost a direct dialect or geographical reversal of the usually loss of k:

24. kala 'give him'	N. of Iaro	-	X
	R. and S	-	-
k → ∅	X	-	-

In a further extensive comparison of 236 stems beginning with k in the East, 36% of them (85) lost the sound in the West. In 151 stems k occurs in both the East and West. In one stem in the West, Kagana 'row of garden' is agana in the East.

The loss of the bilabial semi-vowel /w/ word initially occurs less frequently between dialects and often occurs in a particular area of a given dialect.

31. weno 'forehead'	X	X	NW, 54, 66, 67
w → ∅	10, 13-17	34	X
no → ∅	-	33, 35-	-
83. werepe 'later'	X	X	-
e → o	-	-	-
w → ∅	+10, 13-17	+34-135	+X
85. were 'wife'	X	X	-
e → o	-	-	-
w → ∅	+10, 13-17	+34	+X
'var. of woman'	-	35, 45, 47	67
	SE	-	-

26. waraa

w → ∅	X	X	-
#a → o	-	-	X
0 → ∅	-	-	+70
w → p	-	-	53, 71

Map 4 also traces only the isoglosses involved in the loss of w, i.e., it omits all other changes.

The final type of sound loss (cf. Map 4) involves the loss of voiced laterals /l/ plus, if syllable final, the vowel which follows it. In examples given later /l/ is replaced by /n/ or /ny/ [ŋ].

45. waali 'sugar cane'	X	X	-
ll → ∅	-	-	X
47. ali 'man'	X	X	-
ll → ∅	-	-	X
49. lema 'lice'	X	X	-
l → ∅	-	-	X
e → i	-	-	-

+S of Kagua
R., except
60, 63-4

An example of phoneme substitution between the East and the West is form 54:

Double arrows represent metathesis.

54. enda 'food'	X	X	66,67
nd → t	-	-	X
na	-	-	NW, 51

There is evidence of another type of sound change cross-cutting the West-South boundary. This is most clearly seen in the following examples (cf. Map 6):

78. bakua 'Bird of Paradise'	X	-	X
k → s	11-17	X	62-7
bara	-	-	50,52,59; 64-70,71

The form bauwa was recorded at 47 (extreme Southeast) and also at 34 as a variant.

29. kakua 'Grandfather'	X	-	NW, 51-60
k → s	14-17, 11	X	X
#k → Ø	-	-	+X

8.2.22. THE SOUTH DIALECT

The skewing of the voiced velar stop /g/ to either /ŋg/ or /ŋg/ is a sound change which is characteristic of the South dialect and also of the extreme northern part of the Northwest dialect (closest to Mendi). The following examples are summarised on Map 5:

51. lega 'embers'	X	34-33	-
l → Ø	-	-	X
g → ŋg	-	X	+71
rita	-	-	70,71-
72. nogo 'girl'	X	34-	X
o → ɔ	11	32-34	66
g → ŋg	-	X	70,71
73. agaa 'mouth'	X	-	X
#a → #ɔ	11	32,33	50,66
g → ŋg	-	X	70,71
0aa → 3aa	-	-	50,65,67
74. paga 'to hear'	X	-	X
a → ɔ	11	32,33	50,67
g → ŋg	-	X	70,71

Where a tilde over any vowel indicates nasalisation in the text; on maps it is represented by a hook under the appropriate vowel.

76. roga 'to blind'	X	-	X
o → ɔ	11	32,33	50,67
g → ŋg	-	X	70,71

In many instances when recording the above forms the choice between a prenasalised velar stop or a nasalised vowel preceding a velar stop is indeterminate. The village areas involved are 34, which is on the border of East and South; 45, at the border of the South-eastern area; and 32, at the border of the South and West.

Map 5, which traces the distribution of the choices based on the underlying velar stop, points out:

- (1) A middle belt of nasalisation cross-cutting the southern part of the East and West dialects and occurring throughout the South;
- (2) The absence of vowel nasalisation in any part of the northern Kewa area.

There are also a number of simple lexical items which are diagnostic of the South dialect and are presented in Section 4 on word geography.

8.2.23. THE WEST DIALECT

We have already presented (in §2.21) evidence for the dialect boundary between the West and the remainder of the Kewa language. There are in addition a number of diagnostic sound changes which occur within the West and, in some cases, the Northwest.

The most frequent is the substitution of /N/ (representing a morphoneme) for /l/ of the East and South, as shown in the following examples (cf. Map 6 and see also note 1 of the next page):

3. *ile 'eye'	-	-	-
l → N	-	-	NW and S. of Kewa R; 50,63,X
l → Ø	X	X	-
44. kaale 'ear'	X	X	-
k → Ø	-	18	X
l → N	-	-	+X
	-	-	+50-1, 54-5, 63,71

In addition to the above rules, a generalised rule of nasalisation is needed throughout the South, and also in several areas of the West (for details see Table 3, §2.3).

48. kuli 'bone'	X	X	-
k → ∅	-	34-	X
l → <ny>	-	-	+52-5, 60, 63
wini	-	-	+X
	-	-	70-1-

The exception at 70 and 71 can be accounted for by reconstructions between Mendi and Kewa, rather than in terms of dialect rules.

52. aali 'husband'	X	31-34	-
l → <ny>	-	34-, X	X
	-	-	50, 52-6, 60, 63

In the Southeast the initial vowel tends to be nasalised.

Example 41 follows the same pattern, with additional rules to account for vowel changes and prenasalised stops:

41. *yogvie 'skin'	X	32, 33, 31	-
v → <ny>	-	34, 36	-
g → ng	10, 14, 15	X	70, 71
l → <ny>	-	+X	+70, 71
	-	-	+X
olo	-	-	51-5, 71-70-

There are also examples of variation between /n/ in the West corresponding to either /n/ or /ny/ elsewhere. In such cases it is accompanied by a high front vowel:

65. yanya 'sick'	X	X	X
ny → <ni>	-	-	50, 57-9, 65
	-	-	70, 71, 76, 57

The considerable fluctuation from area to area regarding the phonemic status of /ny/ reflects the fact that this isogloss is not fixed in the West dialect.¹

¹ In Usa, village 57, there is fluctuation between speakers, although it seems all of the younger generation use the sequence ni in slow speech. This whole problem suggests the possibility of a quantitative approach of the type performed by William Labov (1964, 1965). This particular sound fluctuation could be set up as a variable to check degrees of palatalisation. It would satisfy the requirements for a linguistic variable mentioned, namely frequency, immutability from conscious suppression, a unit of a larger structure, and quantifiable on a (continued on next page)

There are also regular changes between the West and the rest of Kewa where a verb stem ending in the vowel sequence ua elsewhere often has the u → i in the West, e.g., wanda 'to miss' → wandi'a.

Several other examples reflect changes which occur mainly in isolated areas of the West:

11. tapanda 'men's house'	X	X	X
t → k	-	-	70, 71
atanda	-	-	55
42. endaa! 'bow'	-	-	-
ii → ∅	-	-	X
nd → t	-	-	except NW, 66-7

64. sup! 'saliva'	X	31-5	-
s → t	-	X	-
[u] → [o]	-	-	X
[y] → [e]	-	-	+55, 71, 76
s → r	-	-	70, 71
nemake	-	-	-

This rule accounts for s being represented either by t or r, by including the latter as a final step after the vowels are changed throughout the dialect, while the former is an initial rule without vowel change, and applies only in the Southeast area.

Another dominant vowel change is the replacement of the vowel a in the remainder of the West by e in the area of 70 and 71. Some examples are: onasa 'fat' → onesa; yagi 'kumal' → yengi; 'raguna 'hat' → rengi; alpa 'salt' → aepa; aai 'banana' → aei; mbera 'yam' → mberai; pasaa 'shoulder' → pesae; masaa 'back' → mesae; sapi 'sweet potato' → sepi; rai 'axe' → rei or rei.

The examples of ai → ae suggest that the phonemic interpretation of this as a two vowel sequence may be more realistic than setting up a separate phoneme ay, with a very limited distribution.¹

¹ (1) (continued from previous page) linear scale (1964:166). It is possible that such a technique would also reveal socio-linguistic attitudes such as group membership, age level, and style, although only to a minor degree when compared to Labov's findings regarding vowel centralisation and its correlates in Martha's Vineyard (Mass., U.S.A.) and the New York City area.

This is basically a historical problem and can only be solved by comparing Mendi and Kewa dialect correspondences. In preliminary comparisons the sequence ai in Kewa is often reflected by the separate vowel ae in Mendi.

One other vowel change which was noted is repona 'tree' in the East and South, but repona throughout the West. At the extreme corners of the Southeast and Northwest the forms r'a and r'l respectively are used.

An example which seems to clearly indicate metathesis is for 'armpl't', the distribution of which is as follows:

97. astorea 'armpl't'	X	X	X
16,17	30-2	70	67
o → e	-	32	50,58,64,
aa# → aa	-	-	67

The variant form aataaro was recorded at 13 (East).

8.2.3. NASALISATION

Although in previous examples we have chosen as basic the velar stop and then added the features of prenasalisation and/or vowel nasalisation, historically it may be more accurate to choose the prenasalised velar form as basic.

Some of the forms with phonemic vowel nasalisation in the South historically probably reflect the loss of prenasalised velar stops suffix initially which, with one exception (example 86, below), have been lost in Kewa. These suffixes in genetically related languages (e.g. throughout Sau, and also in a more limited way in Enga and Kyaka) mark a set of inalienable words, mainly consisting of body parts.

The only form noted which retains this suffix in some areas of Kewa is the following:

86. aage 'leg'	14,15,17	-	-
aa → aa	10,13	X	67
ge → ∅	-	32,34-5-	66
aa → aa	X	-	X
	+12,13,16	-	+50,58-60,
			65

The distribution of these changes is outlined on Map 7.

As a general feature prenasalisation accompanies the voiced bilabial and alveolar stops, although there is evidence in alternates of some forms that this has been replaced by a plain stop in some areas:

50. alembo 'afternoon'	X	X	-
mb → p	-	SE 31	66
le → ∅	-	-	51-5,57,60
a → aa	-	-	X

Another example is the word mbira 'yam' which, though generally prenasalised, tends to be a simple bilabial stop in the Southeast and extreme South.

Table 3 summarises nasalisation of vowels found on forms of the diagnostic list, other than those nasalised vowels contiguous to nasal sonorants or before those stops which are realised in some area of the language as prenasalised.

	Forms	E	S	N
10. r'	'drum'	-	-	66
17. peḡu	'nose'	-	-	64
wēle	'head'	-	47	-
25. āsumba	'palm'	-	-	50,59
26. orāḡ	'shoulder'	-	-	59
60. pasāḡ	'back'	-	-	50,59,62, 67
61. koḡu	'hand'	-	34,35	-
kāu	'leaf'	-	45-7	-
kuḡu	'to hit'	-	30	-
69. iḡ	'hand'	-	47	-
87. kī	'hand'	11,15 as var.	except 31-3	-
90. yō	'bush'	-	34 as var.	61,66-7
92. rāḡ	'calf of leg'	-	35,45	58,59
96. roāḡpe	'armpl't'	-	35	-
97. aarotāḡ	'thumb'	-	-	50,58, 64-7
98. sū	'I will talk'	-	except 33	-
109. toā		-	34,35	66,67
TOTALS:	14 forms	2 as var.	except 32-4	all S. of Kagua R. except 75-6

TABLE 3

Although there is phonemic vowel nasalisation throughout the South dialect, differentiating such pairs as ki 'hand' and ki 'four', or su 'thumb' and su 'ground', in our data only fourteen forms out of 112 show nasalisation and seven of these forms are represented in only one village each.

It is also worth noting that phonemic vowel nasalisation is present in the following border languages: Wiru, Sau, Foloopa and Foe so that some nasalisation may be an influence from these areas.¹

8.3. GRAMMAR

In this section grammatical differences which are diagnostic of dialect areas are illustrated. Although few grammatical categories were sampled over the total Kewa area, notes on the verb classification system in the three major dialects are included. Certain miscellaneous observations are also included in this section.

8.3.1. NARRATIVE PAST ENDINGS

Items 79-81 were included to elicit first person singular remote (or narrative) past endings for three verbs: 'to go', 'to hit', and 'to talk', so chosen because they represent three distinct verb classes in the East. Map 6 traces the distribution of these forms and their suffixes (with the provisional note that only regular past endings are used in the Southeast area).

In most cases verb stems undergo morphophonemic changes upon their combination with tense suffixes (except, in the regular past). The final vowel or syllable either changes or is replaced, according to the particular dialect and tense allomorph involved.²

79. pu 'to go' + 1st SG NP	E	S	W
puka	X	-	-
paka	2	-	-
pasa	11-18	X	67
pisu	-	-	X
pisua	-	33	63-5

¹Turn (1962:119) mentions this as a typological feature of the area. While this is so, Foloopa and Foe belong to language families only remotely related to the West-Central Family. Nasalisation is an areal feature, but it does not correspond to the general grouping postulated by Turn.

²Specific details for the East dialect may be found in Franklin, 1964 and 1965a; for the West in an earlier chapter which includes verb morphology.

80. 'to hit' + 1st SG NP¹

luka	X	-	-
lisua	11-18	X	-
tisu	-	-	X
tisua	-	-	63-66

81. 'to say' + 1st SG NP²

luka	X	-	-
lisua	11-18	X	-
su	-	-	X
sua	-	-	60, 63-7
isu	-	-	70

8.3.2. SUBJECT IDENTITY

Four sentences were included in the dialect survey to elicit forms which mark the identity of the subject as the same or different between two verbal actions. If the subjects are different between the clauses the forms remain remarkably constant throughout Kewa; if, on the other hand, the subject is the same, then the forms vary considerably as shown below (See also Map 9):

104. 'sit and ...'

piramea	11, 14	45	X
piruma	X	X	51-4, 66-7
pirua	-	-	55-6, NW

105. 'look and ...'

andomea	11, 14	45	X
andoma	X	X	51-4, 66-7
andoa	-	-	55-6, NW

¹The dialect varieties of 'to hit' are: tya (E), ta (W), and lla (S). (Cf. 3.2.2, word 69). The basic tones of the verbs of 80 and 81 are different, resolving most ambiguities.

²The sound changes in 79 and 81 are typical and can be accounted for most simply by positing forms such as *pivua, *pivua and *pivua respectively. The rules must also be ordered for the particular dialects, e.g.:

1. $\begin{matrix} \text{pivua} \\ \text{pivua} \end{matrix} \rightarrow \begin{matrix} \text{pivua} \\ \text{pivua} \end{matrix}$	E	S	W
2. $\begin{matrix} \text{pivua} \\ \text{pivua} \end{matrix} \rightarrow \begin{matrix} \text{pivua} \\ \text{pivua} \end{matrix}$	-	-	X
3. $\begin{matrix} \text{pivua} \\ \text{pivua} \end{matrix} \rightarrow \begin{matrix} \text{pivua} \\ \text{pivua} \end{matrix}$	11-18	X	70
4. $\begin{matrix} \text{pivua} \\ \text{pivua} \end{matrix} \rightarrow \begin{matrix} \text{pivua} \\ \text{pivua} \end{matrix}$	-	-	+50-9, 61-2

8.3.3. FREE PRONOUNS

Two forms were elicited: 'yours (pl.)' and 'we all', with variations as follows:

66. 'yours (plural)'			
nimina ¹	-	33	NW, 57-8, 61-2, 65-7
niminya	-	32-4, 16-18; 30	X
iminya	X	X	-
imina	-	13; 31	-
67. 'we all'			
naa ²	X	X	52, 55, 60, 63-7, 70-2
nyaa	-	-	50, 51, 54, 59, 63
nlaa	-	-	56-8, 61-2, 76

8.3.4. VERB CLASSIFICATION

Verb stems in Kewa may be partitioned on the basis of their combinatorial potential with two sets of suffixes. Stems which occur only with the set of suffixes depicting tense plus a particular type of benefaction are *static* stems. Phonologically, such stems invariably end in /aa/. Verb stems which combine with either of the two sets of suffixes are *active* stems.

The two sets of suffixes contrast: set I, which has been elsewhere³ called Egocentric or Personal Benefactive, combines with active verb stems such that certain morphophonemic changes of the stem accompany certain tense allomorphs; set II, elsewhere called Altracentric or Non-Personal Benefactive, combines with any verb stem. If the stem is active, the final vowel is lengthened. Although there are other details, both sets of affixes signal person-number-tense, but the set chosen (coupled with the verb stem) signals the types of benefaction.

¹ There is also considerable fluctuation between n/ny, perhaps reflecting the morphophonemic quality of the sound (cf. §2.23).

² The final vowel on this form is often nasalised in the areas mentioned previously (cf. §2.3 for details).

³ Franklin 1964:101ff. and 1965a:274ff.

The complete affix sets were sampled in one area of each major dialect 4 (E), 30 (S), and 57 (W). The similarities and differences of set I are:

- (1) The past tense has but one allomorph in each dialect: na 'to eat' + 1st Sg Pa = na-wa (E, S, W).
- (2) The future tense has up to three allomorphs for each person-number distinction:

na 'to eat' + 1st Sg Fu = na-lus (E, W); no-lia (S).
 pira 'to sit' + 1st Sg Fu = pi-tua (E, S); pira-lua (W).
 yala (W, E) or wila (S, E) 'to yell' + 1st Sg Fu = ya-tua or wila-tua.

- (3) The present tense in all dialects has only one allomorph in the 1st and 2nd Sg, but up to three for other person-number distinctions:

na 'to eat' + 1st Sg Pr = na-lo (E, S, W).
 + 2nd Sg Pr = na-le (E, S); na-e (W).
 pira 'to sit' + 3rd Sg Pr = pi-tya (E); pi-ta (S), pira-lia (W).

- (4) In each dialect the NP has different representations, the 1st Sg being very distinctive in the East (cf. §3.2):

na + 1st Sg NP = nu-ka (E); ni-sua (S); ni-tu (W).
 (5) The Perfect tense in the West has a set of allomorphs which are alien to the East or South:

ria 'to carry' + 1st Sg Pr = ri-li (E, S); ri-tu (W).

In addition to these differences a special form for the 1st Sg Fu occurs in the Northwest area: instead of the expected *co-lia* 'I will talk', the form *tauwa* occurs. It is possible that this could be represented phonemically either as *-tauwa* or *-towa*, both of which correspond more closely to other allomorphs of 1st Fu morpheme, viz., *-tua* or *-lua*.

Tense suffixes of set II are more similar across the three dialects. The only differences noted are:

- (1) The Past tense, where forms differ in several instances in the West:

1st Sg Pa = -ri-pu (E, S); -ru (W);
 3rd Sg Pa = -ri-pa (E, S); -ria (W);
 2nd Pl Pa = -pa (E, S); -ri-pa (W).

- (2) In the 2nd Sg Pr, where the West has the form *-eye*, rather than the *-e* used in the East and South.

8.4. WORD GEOGRAPHY

8.4.1. LEXICAL DISTRIBUTION

Lexical isoglosses which help distinguish Kewa dialects are now discussed. First, representative forms for each major dialect are given and illustrated with maps. Secondly, the problem of word taboo is shown to relate to lexical skewing.

8.4.1.1. THE EAST

The forms 'one' (1), 'father' (2), 'hat' (19), 'tomorrow' (84), and 'to do' (93) have been chosen as representative of the East and their ranges of distribution are diagrammed on Map 12.

There are also forms which depict a unique area, corresponding somewhat to the zone between the East and West (see Map 10). However, there do not seem to be enough words to mark this than more than a regional area which we may call the Kuare River area. In other cases words which are typical of the East extend through the Kuare area and dip well into the South (see Map 15).

8.4.1.2. THE SOUTH

For this dialect the forms 'fish' (28), 'to be sorry' (38), 'leaf' (90), 'bush' (92), and 'tomorrow' (84) have been chosen as representative (see Map 13). When other lexical isoglosses cross over into the West they are marked by phonological rules previously outlined.

Forms typical of the Southeast sub-dialect are also included on Map 13. Here one of the words 'axe' (75) skews into the central South area as well as having phonological variations in the extreme South-eastern tip.

8.4.1.3. THE WEST

In the West (see Map 14) the forms 'smoke' (6), 'drum' (10), 'tomorrow' (84), and 'fence' (100) illustrate boundaries.

The form 'smoke', although included on Map 14 as typical of the West, has an additional lexical variant which parallels other forms depicting the Northwest (see also Map 14 for the Northwest).

Certain lexical isoglosses suggest an area with unique features around the Sugu River - Mt. Sumi region. We have outlined these on Map 15. Both this area and the Kuare River area (East) will need to be studied more carefully.

8.4.2. LEXICAL DISTORTIONS

There are several factors to consider when a string of lexical variants occurs across a large area in Kewa. The problem centres around several varieties of word taboo and consequent borrowing.¹

Word taboo is a deliberate lexical substitution observed in the following instances:

- (1) during ceremonial rites involving the men's cult;
 - (2) at marriage;
 - (3) after a death.
- We will examine only the first two.

8.4.2.1. THE ARGOT OF THE MEN'S CULT

One ceremony which is widespread throughout the Kewa area is called the Andali Rambu 'the long spirit Rambu', actually a reference to either the cult itself, or to the sacred magical stones which have played an important part in many Kewa ceremonies. The ceremony, which is for men (including boy initiates), includes a sacred vocabulary. The selection of alternate lexical forms is conditioned by cultural factors such as sacrificed parts of pigs, objects used in the cult activities, and so on. The head men may receive words of the argot from the area where they have imported the cult, or new lexical forms may be coined by the cult leaders. In other cases, terms of everyday usage, such as body parts, are declared sacred during cult ceremonies. In any instance, once selected, the forms are taboo outside of the ceremonial area and anyone breaking the taboo must pay a pig or a pearl shell, or face the consequence (such as having a pig stolen or his house burned). The taboo forms do manage to drift outside somehow, often, perhaps, when lesser taboored items, such as names of certain types of wood used in building a spirit house, are gradually reintroduced back into the general vocabulary without fear. Usually this means the ceremony in question is no longer in vogue or that it has been passed on to another area.

The argot has been sampled in the East, West and South dialect areas. The participants claim that the ceremony was introduced from

¹ Have taboo is, of course, not unusual. Sir James Frazer many years ago (1927) summarised how personal names, names of relatives, names of the dead, names of gods, names of sacred persons, and even common words (by 'modern' civilisations and people, such as Scottish fishermen) are tabooed in many diverse cultural areas of the world.

the Southwest, particularly the Isant area (to the West), from the West, particularly the Tiri area (to the East), and from the North, particularly the Tibiri and Sumbura area (to the South). The terminology is well developed in the West, and much less (as far as I can now determine) in the South. Table 4 gives a few examples in each dialect.

SAMPLE CULT ARGOT TERMS

English gloss	East normal	East argot	South normal	South argot	West normal	West argot
'water'	ipa	erawe	(u)	u tall	(u)	sekelete-ma
'pipe'	sogo pe	sogo-ta	(u)	mi'u-pe	(u)	poanda
'container'	pe	aa-uni	(u)	kenange	(u)	
'pig'	mena	andasa	-	-	(u)	kugua
'flute'	remo	remo	-	-	(u)	ema
	agale	inyalu	-	-	remo	agaa

TABLE 4

(u) means the form is the same as in the East.

A deviation in the East from this standard practice occurred in 1960 when the clan at Muli imported a new spirit called Natome, again from the West. In this case the lexical forms which were tabooed were from the everyday man's vocabulary. In their place new alternate forms (many from the West dialect) were introduced by the cult members.

It can be seen that over a span of several years the same item may, in fact, be given several alternate taboo names, depending upon the cult and area involved. There are several words on our list which seem to indicate this fact: 'moba' (8), 'nose' (17), 'hat' (19), 'blood' (4), 'head' (25), 'tongue' (30), and 'back' (61). Although all of these are known to have been taboo in one area or another, there are also at least two others which can be assumed to have been taboo: 'rat' (7), and 'drum' (10). Several of these taboo words are illustrated on Maps 16-19.

8.4.22. WORD TABOO DUE TO MARRIAGE

Whenever a Kewa man marries he changes his name.¹ He changes his name because he enters into taboo relationships with affines who either cannot speak his name, or, in some cases, whose names cannot be spoken. To overcome this restriction it is necessary for a newly married male to receive a new name; in addition, his old name must not be spoken or heard by certain relatives. Because Kewa names usually have a real-world semantic referent the overall effect of marriage name taboo in a clan may result in considerable lexical skewing. For example, if the taboo affines of a man named kiri 'to laugh' or andano 'I should see' are near, a speaker must resort to circumlocution to express these concepts. It follows that synonyms are necessary and available for most words, and that alternate names are vital.

Name taboo is between Ego and his affines and involves the following relatives:²

(1) All the wife's clan consider Ego as their *lmaa niti*, that is, one whose name is taboo. On the other hand, he considers only those affines whom he called *ameke* (no. 25 in Appendix B) as his name taboo;

(2) Of all affinal relations arising through marriage by members of Ego's collateral kin, only his *yaa*ke (no. 11, Appendix B) are taboo to him, and none consider him as a name taboo;

(3) For any affine related to Ego by marriages of his children, he considers only his daughter's husband (no. 15) as his name taboo. None of his descendants consider him a name taboo.

In summary, the name taboos for a male Ego are any member of the same sex who is related through his own, his daughter's or his sister's marriage.

For a female Ego the name taboo is simpler:

(1) She considers only her daughter's husband (no. 15) as a name taboo, and this is not reciprocal.

(2) Only her brother's wife (no. 11) considers her a name taboo, and this is also not reciprocal.

¹ See K. Franklin (1967), *Kewa Names and Affines* for how the men or their wives select alternate names.

² Terms here are from the West, but the system has been checked, and is the same in all dialects.

8.4.3. MISCELLANEOUS OBSERVATIONS

The form 'what time' (word 21) was elicited throughout Kewa. The East and West have the closest equivalents (aarambo and aarambu) but there is a separate expression in the transitional area between East and South (Map 10). The expression throughout the South is andapele-

Undoubtedly the most complex item elicited was the expression for 'things' (word 53). Speaking in generalities the form is some version of olomole in the East and South and oyayae in the West, but note also: ollele (areas 2,3,10); olomole (much of the South); ale or alomole (much of Kware River area); alepole (34); alerale (47); oalecole (6,33); walewale (5,17,18); omo (64,67); owaewae (67); oveye (75); oyapayae (54,71).

Historically the form may be postulated as walewale in East and South, the distribution of this at 17 and 18 corresponding to the same areas as age 'foot' (cf. Map 7 and 12.22).

8.5. CULTURE

Certain differences in culture have been observed between dialect areas. In this section we:

- (1) trace the distribution of a large ceremonial house built in connection with Kewa (and nearby) festivals;
- (2) examine more closely the kinship and counting systems in an area representative of each major dialect;
- (3) make some observations on possible semantic shifts due to cultural focus.

8.5.1. CEREMONIAL HOUSES

There are two main types of houses built in preparation for Kewa festivals. The most significant is the neanda (East and South), or yawaanda (West), a series of up to six long houses (usually at least 100 yards long) built in the vicinity of the dance grounds. The second type of house is the rakua or rasua, a larger gabled house which is mainly a meeting house for strangers who come to observe and take part in the festivities. The distribution of the latter house is exclusive to the West or its borders and areas which have or have had this house are shown on Map 11.

It is outside the scope of this paper to describe the ceremonies,

but many studies within the culture area have appeared.¹

8.5.2. COUNTING SYSTEMS

There are two main systems employed in the East, one involving the naming of body parts as count units and the other based on counting fingers and thumbs (Franklin and Franklin, 1962a). As an analogy, the system which uses fingers and thumbs based on multiples of four may be compared with cardinal numbers; the body part system as ordinal numbers. In the latter case all named body parts are one in a sequence of a total finite unit, namely the counting cycle called a paapu.

The West also uses both systems, although in the body part system certain parts are different from those in other dialects. In addition the four base system is known, but is not used extensively.

In the South the body part system shows the least development, but its use of the four base system is the same as in the East.

The body part system for each of the three main dialects is presented in composite form in Table 5. Following this we summarise the similarities and differences.²

A complete cycle around the named body parts begins with the little finger of the left hand and ends with the same finger of the right hand. After the mid point is passed (rikaa for the East and West, meaning literally 'middle'; yegsaa 'jaw' in the South) each additional body part corresponding to the opposite side of the body is qualified with mendas 'another of the same'. The cycle totals 47 in the East and West, but only 35 in the South.

¹ The most complete list of references to anthropological materials for the Highlands is in J.B. Watson (ed.), 1966. Authors of special note for our area are: Paula Brown, R.N.H. Bulmer, R.M. Glasse, Louis J. Lutzewski, M.J. Meggitt, D.J. Ryan, and G.F. Vicedon and R. Tischner.

² The East Kewa materials are from Franklin and Franklin (1962a:108).

Seq- uence	East Gloss	West Gloss	South Gloss
1	kegali 'little finger'	egata (")	engali (")
2	kegali yame 'ring finger'	laspo (")	engali ame (")
3	andaa ki 'middle finger'	repo (")	andaa ki (")
4	maala 'index finger'	maala (")	maala (")
5	su 'thumb'	supu (")	su (")
6	su mindi 'heel of thumb'	oraapu 'palm'	su mindi (")
7	waraa 'palm'	kerepo 'wrist'	waraa (")
8	kerepo 'wrist'	palaa ki 'forearm'	kerepo (")
9	palaa ki 'forearm'	noae 'upper fore- arm'	noe (*)
10	noe 'large arm bone'	noae re pambu 'inside elbow'	noe repa (*)
11	noe luambu 'small arm bone'	komaa 'lower upper arm'	komaa (*)
12	komaa 'above elbow'	pinj 'mid upper arm'	wena ropo (*)
13	winya ropo 'lower upper arm'	pinj re pambu 'upper upper arm'	all ropo (*)
14	all ropo 'upper upper arm'	pasaa 'lower shoulder'	pasaa (*)
15	pasaa 'shoulder'	pasaa re pambu 'mid shoulder'	pasaa mindi (*)
16	pasaa kuil 'shoulder bone'	kalambe 'top shoulder'	kalambe (*)
17	pasaa mindi 'neck muscle'	ipa lo 'low neck'	maa 'neck'
18	maa 'neck'	maa (")	yaanga 'jaw'
19	yaanga 'jaw'	peae 'back of cheek'	-
20	kale 'ear'	peae re pambu 'temple'	-
21	pae 'cheek'	aane 'ear'	-
22	le 'eye'	ini (")	-
23	paki 'inside corner of eye'	paki (")	-
24	rikaa 'between eyes'	rikaa 'bridge of nose'	-
unit	paapu 'around the body parts'	paapu (")	paapu (")

TABLE 5

The symbol (") means that the gloss and sequence is the same as that of the East; (*) means the gloss and sequence is the same as the West.

An attempt to quantify the counting system comparisons can be done in at least two ways:

- (1) by considering those with an identical sequence in the counting unit as the same;
- (2) by disregarding the sequence and the gloss and comparing only the linguistic forms.

The first comparison procedure (Table 6) is probably unrealistic because it distorts the actual closeness of the East and West in terms of the same number of units in the counting cycle. It also makes the West and South appear much closer than other evidence. The reason for the apparent low similarity between East and West is because the former names an extra part at 6 which neither of the other dialects names. This then throws the East one step behind the West until they are the same again at 18.

PERCENTAGE OF SAMENESS BETWEEN SEQUENCES

E - W	E - S	S - W
33	44	72
38	33	54
		Counting 24 parts
		Counting 18 parts

TABLE 6

Part of this difficulty is solved when only linguistic forms are compared (Table 7). The results conform to other evidence that the East and South are closer in their relationship to each other than either is to the West.

PERCENTAGE OF SAMENESS BETWEEN LINGUISTIC FORMS

E - W	E - S	S - W
50	61	29
25	28	21
		Exactly
		Accounted for by Rules

TABLE 7

(1) In the West the first five referents and glosses are the same as those in the East, but the alternate forms 'aao 'two' and 'repo 'three' occurring in the West are used only in the four base systems in the East and South. The sequence of ear and then cheek is also reversed between the East and West.

(2) The difference between *Glosses* for *noe* (E) and *noe* (V) is arbitrary. The large arm bone is the *noe* (or *noe*), the part pointed to is the upper forearm.

(3) The suffix -pu 'continuing on' is optional on all parts and is not counted as a difference in either comparison.

The system employed at Iman (76) in the Northwest is identical, with that of the West, with the following exceptions:

(1) After pasaa re pambu 'mid shoulder - 15', the sequence is neck, below the ear, ear, cheek, eye, base at side of nose, bridge

(2) *kalambe* denotes below the ear, rather than the shoulder (West and South).

(3) pakl refers to the indentation at the side of the nose, rather than inside corner of the eye.

From the total number of body parts used in either counting system, seven were elicited throughout Kena. These terms with their distribution and any sound changes are as follows:

(1) 'one', that is, the first number of the four base counting system:

	E	S	M
1. pamenda 'one'	except		
komea	11-18	all	62-7
pandane	-	-	418e-

In one case (area 76) the form *egata* 'little finger' was preferred this may be a mistake in understanding. In another instance (area 15) *measi* was elicited.

(2) 'palm', form 26, which has been outlined on page 15 and Map 4.

(3) 'little finger', the first body part enumerated in the body parts system:

41. Kegait

6 7

—

(5) (4)

(6) ...

52.3).

the South.

3.5.3. KIN
Here we

between the three
other areas.

... (1) ...AL
...rines, rela

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(2) KIR

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PERCENTAGE OF SAMENESS BETWEEN
KINSHIP TERMS

E - W	E - S	W - S	
50	67	47	Exactly
33	23	37	By regular rules
83	90	84	TOTALS

TABLE 8

Only seven kinship terms were elicited throughout the Kewa area.

The terms and their distribution are as follows:

- (1) 'husband', the distribution of which has already been stated on page 18.
- (2) 'wife', which is outlined on Map 4 and page 15. The alternate terms are pamo in the Southeast and rena in the Northwest area adjacent to Mendi.
- (3) 'Grandfather', which is outlined on Map 6.
- (4) 'mother', which is ama throughout Kewa, except that in two instances (areas 54 and 76) it was recorded as amale.
- (5) 'sibling of opposite sex', which is either baii (with 1 → n/ny in the West; cf. form 48, 52.23) as a term of reference (3a) or anya (with ny → in; cf. 65, 52.23) as a term of address (17). In the South and in many other parts of the West anya is the preferred term, either for address or reference.

The distribution of other terms is as follows:

2. mava 'father' (kin term 18)	X	SE	58, 76
Y → i	-	-	-
m → Ø	-	-	-
kape (kin term 2)	11-18, X	X	58, 76

36. kaate '2-in-law' (term 11)	X	X	34	59-67
yaaka	-	-	-	-
kaateke	-	-	30; SE	-

8.5.4. SEMANTIC SHIFTS

There are several forms which suggest regional, cultural focus:

- (1) The word for mountain is exclusively kaari in the East and South of the Kuare River into the South dialect. Here, however, where mountains in much of the area are sharp limestone pinnacles, the word for mountain is kaana, which here and elsewhere in Kewa means 'stone'. This form is also found in scattered areas such as 52-3, 62, 64 (West, but k → Ø). Another alternate term is reia (area 67) which generally in Kewa means 'precipice'.

Throughout the West the term is generally pore, but in some areas (53, 63) rundu is preferred. Generally, the latter term denotes only a hill, or a flat-shaped smaller mountain.

- (2) A second word which is problematic is garden. Generally, any garden may be a mapu but if repeated plantings have depleted the soil or only greens are initially planted it becomes an e. In any case an e generally does not contain sweet potato, but only green vegetables. In some areas of the Southeast and extreme South any garden is an e. In other areas throughout Kewa any garden may be called an e-mapu.

(3) Generally throughout Kewa the word for sand is mu or ipa mu (ipa: 'water'), and the word for shale or gravel deposits is rote. The quartz deposits which sparkle along the river bed are kilikili (West, kilikili). However, in the Southeast the latter equivalent refers to sand only (or to both) and in two areas (6, 34) rote also means sand.

- (4) The word for 'to marry' is generally lamua, which may be a fossilised form of la 'to say' and mu 'to get and ...'. In the Northwest at 70-1 rumua is used for 'to marry', but elsewhere in Kewa this denotes the actual distribution of the bride price. In the extreme corner of the Southeast mea 'to get' is used and kea is also known in scattered areas of Kewa.

There are doubtlessly cultural and sub-cultural implications in all terms, but except for these which are quite striking, no attempt has been made to classify and study them.

8.5.5. STABLE FORMS AND MEANING

Certain items are represented throughout Kewa by the same linguistic form and by an identical semantic referent.

The following have variants only in the bilingual area 70, adjacent to Mendi:

- (1) 'cloud', which is *yaa* throughout. A variant at 70 is *saa*, but *s* → *y* is a regular sound correspondence between Kewa and Mendi.
- (2) 'native salt', which is *alpa*, except again at 70 where *al* → *ae*. The borrowed word from Police Motu, *tamena*, is also in use at 30 and 46.
- (3) 'flea' is *ete* except at 70 where it is *ere*.
- (4) 'calf of leg', which is *roape* throughout.
- (5) 'to chop' which is *poa* everywhere except 70 where the variant *po* also occurs.

8.6. CONCLUSIONS

8.6.1. DIALECTAL LEXICOSTATISTICS

Because our diagnostic list was designed primarily to elicit differences it has not been used solely to establish percentage relationships between dialects. Rather we have, in addition, compared a lexicon of stems collected from a central village in each major dialect area (East, 4; South, 30; West, 57). The tabulations are set forth in Tables 9 and 10. In Table 10 words which were found in one dialect but not the other were mainly names for local varieties of flora and fauna. All figures are rounded to the nearest percent.

DIALECT RELATIONSHIPS
(Diagnostic List)

E - S	E - W	W - S	
20%	20%	25%	Different
46%	29%	19%	Exactly Same
34%	51%	56%	Accounted by Rules

TABLE 9

DIALECT RELATIONSHIPS
(Lexicon)

E - S	E - W	W - S	
1588	1598	1475	Words Recorded
259	66	-	East only
70	-	40	South only
-	116	210	West only
1259	1416	1225	Words Compared
152 (12%)	220 (16%)	193 (15%)	Different
835 (66%)	710 (50%)	520 (42%)	Exactly Same
272 (22%)	486 (34%)	512 (43%)	Accounted by Rules
88%	84%	95%	% of Sameness

TABLE 10

A few observations are pertinent to Table 10:

(1) The percentage of words which do not require rule changes for mapping between dialects will undoubtedly affect the degree of mutual intelligibility. Between the West and South 42% of the words are exactly the same, while between the East and South the figure climbs to 66%. As this implies, intelligibility is (impressionistically) greater between the East and South. Our impressions on degrees of closeness of mutual intelligibility between dialects will have to be formally tested and proven.

(2) As a corollary, the number and kind of rules necessary to map words from one dialect to the next will also affect intelligibility. Thus, for example, it is not only important that between the East and West 34% of the words require rule mapping but it is also important that often more than one rule is required. Although Hindi (E, S) 'leech; story' is an obvious cognate with 'l' in the West following two regular sound changes (l → Ø; nd → t), the latter is infrequent enough so that native speakers classify them (intuitively) as different words.

(3) It would also be possible to assign phonemes in cognates numerical values according to dimensions of rank, and sum these as a means of determining degrees of phonological difference. This has been done in the Eastern Highlands but the results have shown no more or no less than other statistical comparative methods.¹

(4) Regardless of the criteria used, the evidence points to three main dialects. The East and South are the more closely related and these in turn are similarly related to the West.

8.6.2. POPULATION MOVEMENTS

If we are correct in following Dyen (1956) in his theory of diversity constituting a homeland for languages genetically related, the Enga language area can be assumed the homeland for the West-Central Family. There are reported to be twelve dialects of Enga, comprising over 100,000 speakers (Wurm, 1959). In addition Kyaka is of such close linguistic relationship that it can be safely considered a dialect depicting an Enga movement to the East.

There probably have been two distinct movements into the Kewa area. The first came from the Enga area and went as far south as where the Sau

¹McCaughan, (1964:102-3), following Grimes and Agard in methodology (1959) and E. Pike's criteria of phonological rank (1954).

language (around Samberigi) is now found. This is postulated for several reasons:

(1) Proto-Engan apparently had a fully developed set of suffixes which marked a particular set of Nouns, Numerals and Adjectives. The suffix had the shape of *-kV and this reflects quite consistently in present day Sau. It is less fully retained in present day Enga and (except for one or two examples) does not exist in Kewa. Although Kewa and Sau have a close lexical relationship (see Table 11), this is to be expected because Kewa now completely seals off Sau to the north.

(2) Pre-Kewa movements (Stage II, Map 20) went initially into the present day East and South area. The South alone has a full series of prenasalised stops retained, the velar missing in other areas of Kewa. The belt of nasalisation beginning in the southernmost part of the East and West dialects is postulated to reflect the more fully developed prenasalised velars in the South. The northernmost part of the East may still constitute a relic area with a few words retaining sounds completely lost in corresponding words elsewhere in Kewa.

(3) It is unclear at this point exactly from which area the Proto-Engan movement came. It seems natural to postulate that it came down the Mendi-Erave River valley. The movement into the Mendi valley area came at a separate date inferred from evidence such as the loss of final vowels in Mendi which are retained elsewhere in the language family. Further study is needed at this point.

There were also several other movements, many of them minor:

(4) At some point in Pre-Kewa a group moved down into the southeastern corner of the South (Stage II). This is a dense bush-land area making mobility and survival difficult, accounting for the low population and unique linguistic features. This area is, in fact, referred to as the Yankuri language by South Kewa speakers.

An initial movement into the West from the East may have followed one of the valleys (such as where the Mambu River lies) to the Mendi-Erave River and followed this north until it met the Mendi people on the one hand, and South until it met formidable limestone terrain around Urida on the other. This movement also crossed the Mendi-Erave River and followed the Mendi River valley for some distance. This whole area now constitutes a sub-dialect of the West (our North-west) and shows influences from the southernmost movement of the Mendi people.

(5) The bulk of the movement into West Kewa came from the East but around the same time (or later) a movement pushed up the Erave River area into the West. Thus, although most sound losses and certain changes follow the north-south vertical boundary between the West and the other two dialects, certain sound changes lie in the area between the Erave and River areas of the West.

(6) Some very early contact was made in the Lake Kutubu area by (apparently) pre-Kewa speakers. A positive lexical relationship of 10% can be demonstrated between Kewa-Pasu. Up to 16% can be found, but at this higher level plausible cognates are also included.

(7) The East Kewa have a strong cultural (and hence lexical) influence upon the Witu to the East. There has been a great deal of borrowing (H. Kerr, personal communication) so that the position of Witu as an aberrant Sub-Family of the West-Central Family (Wurm, 1961) must be re-examined. There have been no regular sound correspondences observed between Kewa and Witu in a preliminary examination. There is also no apparent relationship between Witu and Medipa, Polopa, Foe or Pasu.

We now present in tabular form the lexicostatistical relationships of Kewa and surrounding languages. All figures are based on the standard S.I.L. list of 170 words, unless otherwise noted. The dialect(s) used for the comparison are also noted. The range percentage varies from positive cognates (the lower figure) to possible or apparent cognates (the higher).

I am indebted to the following for word lists: Medipa, Ruth Pitt of S.I.L.; Foe and Hull, W.M. Rale (1965); Pasu, J. May and E. Loeveke of S.I.L.; Witu, H. Kerr of S.I.L.; Enga, O. H. Witte of Lutheran Mission (Missouri Synod); Wala, V. Schlatter of Apostolic Christian Mission; C. and S. Mendi, Margaret Higman Reeson of Methodist Overseas Mission. All Kewa materials as well as Polopa and Masi are my own. I have also collected supplementary materials in Witu, Medipa, and dialects of Mendi.

PERCENTAGE RELATIONSHIPS WITH KEWA

275 [43]

	East	South	West
Medipa (Iallou)	5-7	-	-
Polopa	4-6	6-8	-
Foe ^{1a}	-	11	9-13
Pasu	10-15	13-16	-
Witu	12-17	13-17	-
Enga (Yaramanda)	35-40	-	33-39
Hull ^{1b}	-	41	42-44
Wala (W. Mendi)	-	-	53-61
Sau	56-59	59-61	-
C. Mendi	-	-	65-70
Masi ²	-	-	73-76
S. Mendi	-	-	75-78

TABLE 11

8.6.3. SUMMARY

In this chapter we have presented phonological, grammatical, cultural, and lexical evidence showing that there are three distinct dialects in Kewa. Two of these dialects in turn have areas unique enough to be classified as sub-dialects. All dialects are mutually intelligible but the West is the most diverse of the three.

Internal movements have, in general, spread outward from the East toward the West and from the South to the southwest. The movement into South and East has been at a close point in time.

Three variations of sound loss, six sound changes involving consonant shift between dialects, as well as several within dialects, occur in our 112 words and phrases of the diagnostic list used throughout Kewa. Disregarding vowels, few other sound changes of importance have been noted.

Kewa is most closely related to Mendi and then Sau, but none are

¹ (a and b)

² Swadesh's 100 word list.

³ 245 words from Wurm's list.

Intelligible with each other. Future comparative work will reconstruct Proto-Mendic (the dialects of Kewa, Mendi [including Magi], and Sau). These in turn can then be compared with Proto-Iulic and Proto-Engic (and others at a similar horizon, if necessary) to arrive at Proto-Engan. Only then will the possibility of including Witu, Pasu, Foe (or others) within the Family be known for certain.

APPENDIX A

The following list corresponds to Map 1 and gives the village area name(s) for each code numeral:

1. Ialibu	2. Kumbeme-Paglunga	3. Kela-Mambi
4. Mull	5. Mendo	6. Tumbarere
7. Mangai-yate	8. Mondanda	9. Warababe
10. Timail	11. Kuare-Kilibimi	12. Karanda
13. Waruanda	14. Puri	15. Ida-Alenda
16. Kuari-Lombo	17. Kagua-Marili	18. Porane-Yame
30. Erave	31. Tibiri	32. Sumbura
33. Kaitaloma	34. Tasu	35. Batrl
45. Tebi	46. Waru	47. Kerabl
50. Wabi-Tidiru	51. Tiri-Mt. Utemi	52. Alsasa
53. Yebi	54. Mambu	55. Wariputi-Ipila
56. Fuci	57. Usa-Pawayaro	58. Aboba
59. Uma	60. Magura-Lakira	61. Bata
62. Sumi	63. Pira	64. Kira
65. Ragu-Sari	66. Sugiri	67. Wama
70. Umbim-Moisa	71. Putuma-Lumbi	72. Kore
73. Mogunda	74. Poroma	75. Imani
76. Urida	90. Pegal-Agu	91. Epapini
92. Keba	93. Koperi-Samberigi	94. Megi-Del
95. Mendi		

The names of informants and their clans are omitted. At the border areas (90-5) longer lists were collected, based on a word-finder designed for comparative purposes. In all cases except one the informants were men who had lived in their clan areas all of their life. The exception was a woman informant from area 31.

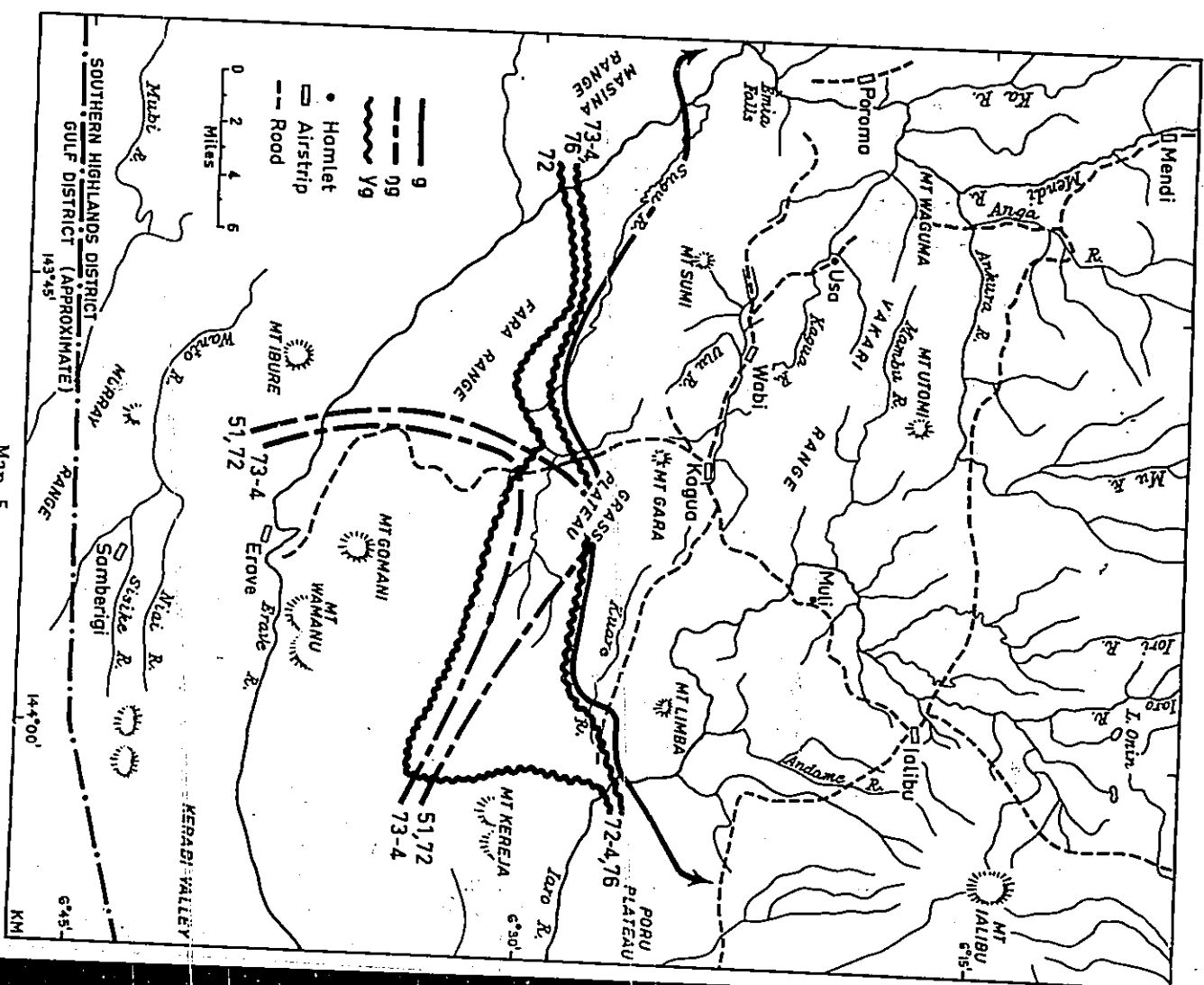
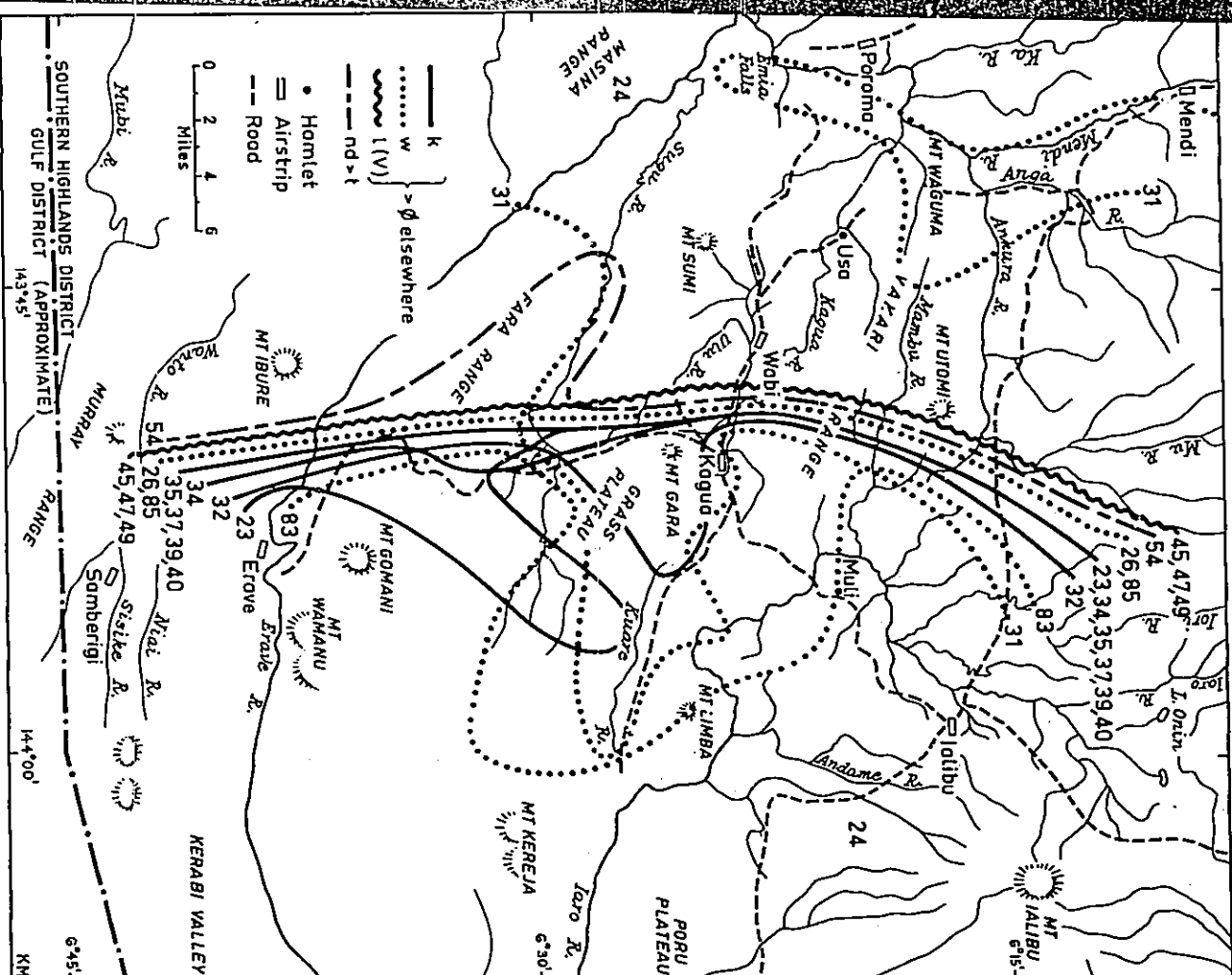
Initially, Pidgin English was tried as a vehicle of elicitation. However, so little Pidgin is spoken well in the area that this approach was abandoned (the assumption had been that responses would not be as conditioned if Pidgin was used) and the vernacular used. This was done by:

- (1) describing an item and asking questions about it, e.g., "the things in net aprons which itch" = fleas;
- (2) pointing and asking, e.g., body parts;
- (3) giving a choice, e.g., "of the words A,B,C, ... for dog, do you use one of these, or do you have (in addition) another one?"

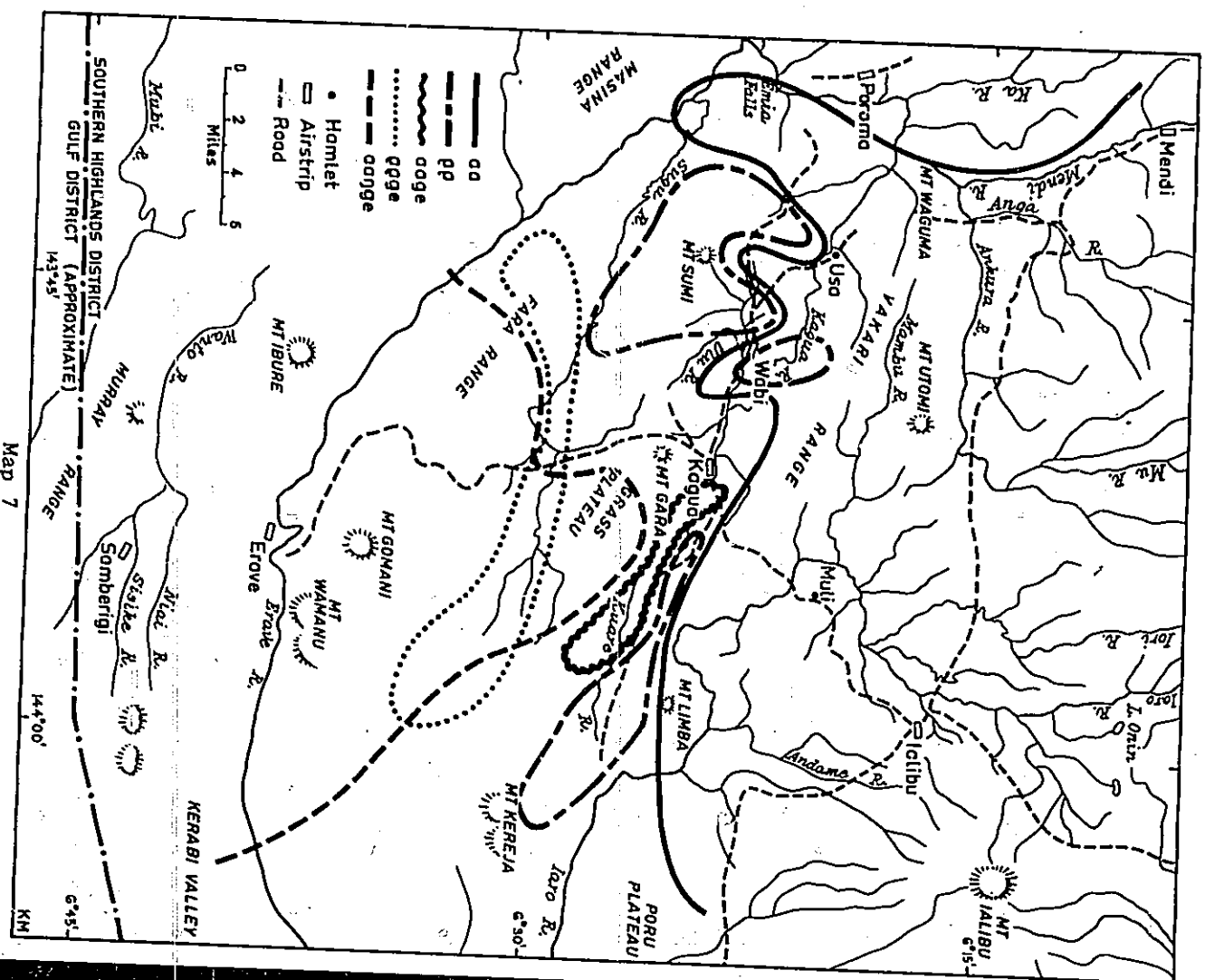
APPENDIX B

The kinship terms used in the three major dialects are given below, along with a reconstructed form. East Kewa materials can be found in K. Franklin (1965:411-12). Here we give only a generalized English gloss.

Numeral and Gloss	East	South	West	Pre-Kewa
1: Husband	aall	aall	aani	*aani
1a: Wife	were	were	ore	*were
2: Father	aape	aape	aape	*aape
2a: Mother	ama	ama	ame	*ama
3 (male speaking only): Brother	ame	ame	ame	*ame
3a: Sibling of opposite sex	mbali	anya or ball	mbani	*mbani
4 (female speaking only): Sister	aaki	aaki	aaki	*aaki
5: Parallel Uncle	mai	mae	mae	*mae
6: Parallel Aunt	papa	papa	papa	*papa
7: Cross Aunt	arombo	arobo	arombo	*arombo
8: Cross Uncle	yaake	yaake	yaake	*yaake
9: Cross Uncle	awa	awa	awa	*awa
10: Cross Cousin	kaal	kaani	aal	*kaani
11: Sister-in-law	kaate	kaaleke	yaake	
11a: (female speaking only): Sister-in-law	pamenda	mele	undupa	
12: Brother-in-law	paase	baase	paase	*paase
13: Son	si	si	si	*si



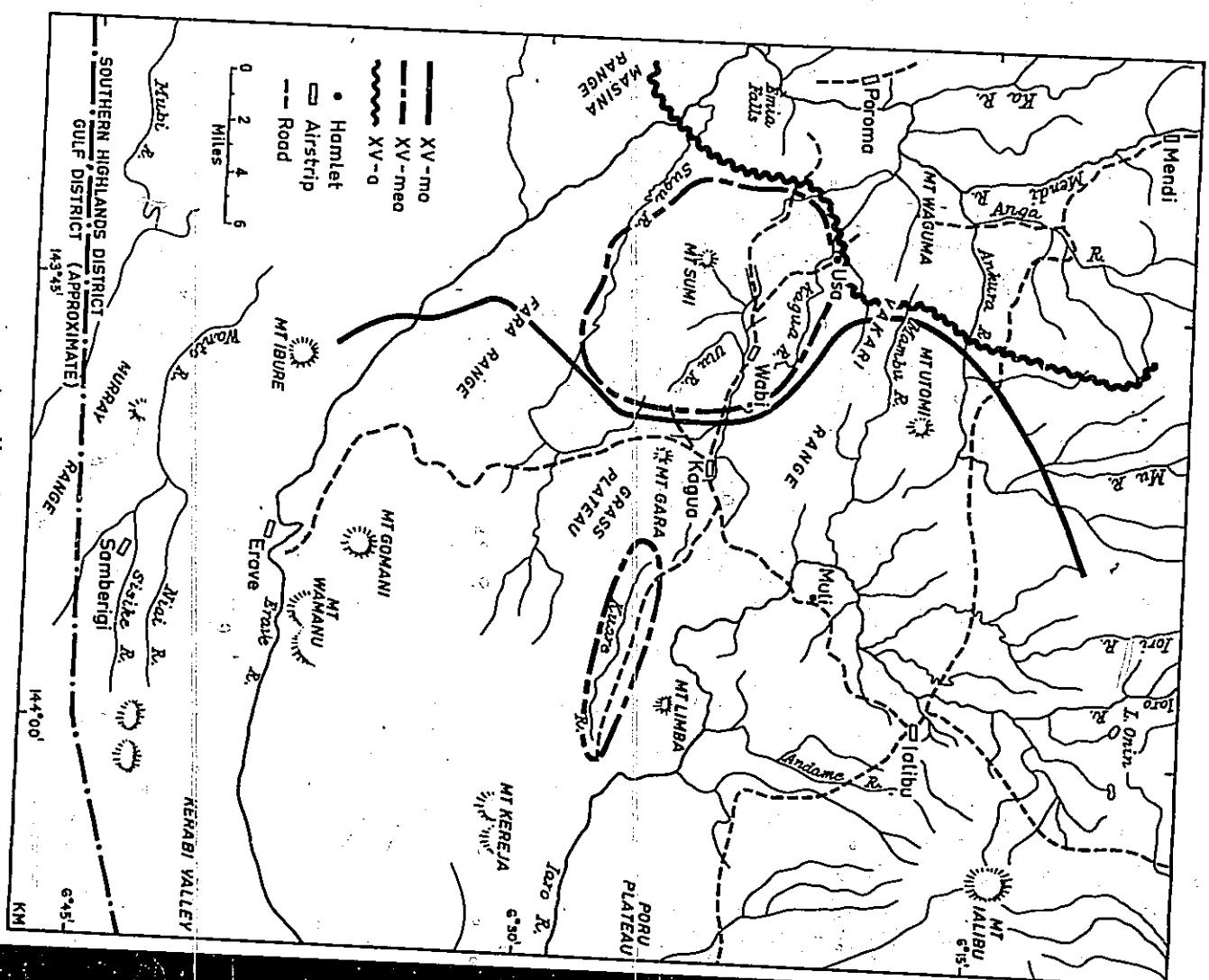
Map 6



Map 7

Map 8

ISOGLOSSES DEPICTING STEM + REMOTE PAST SUFFIX

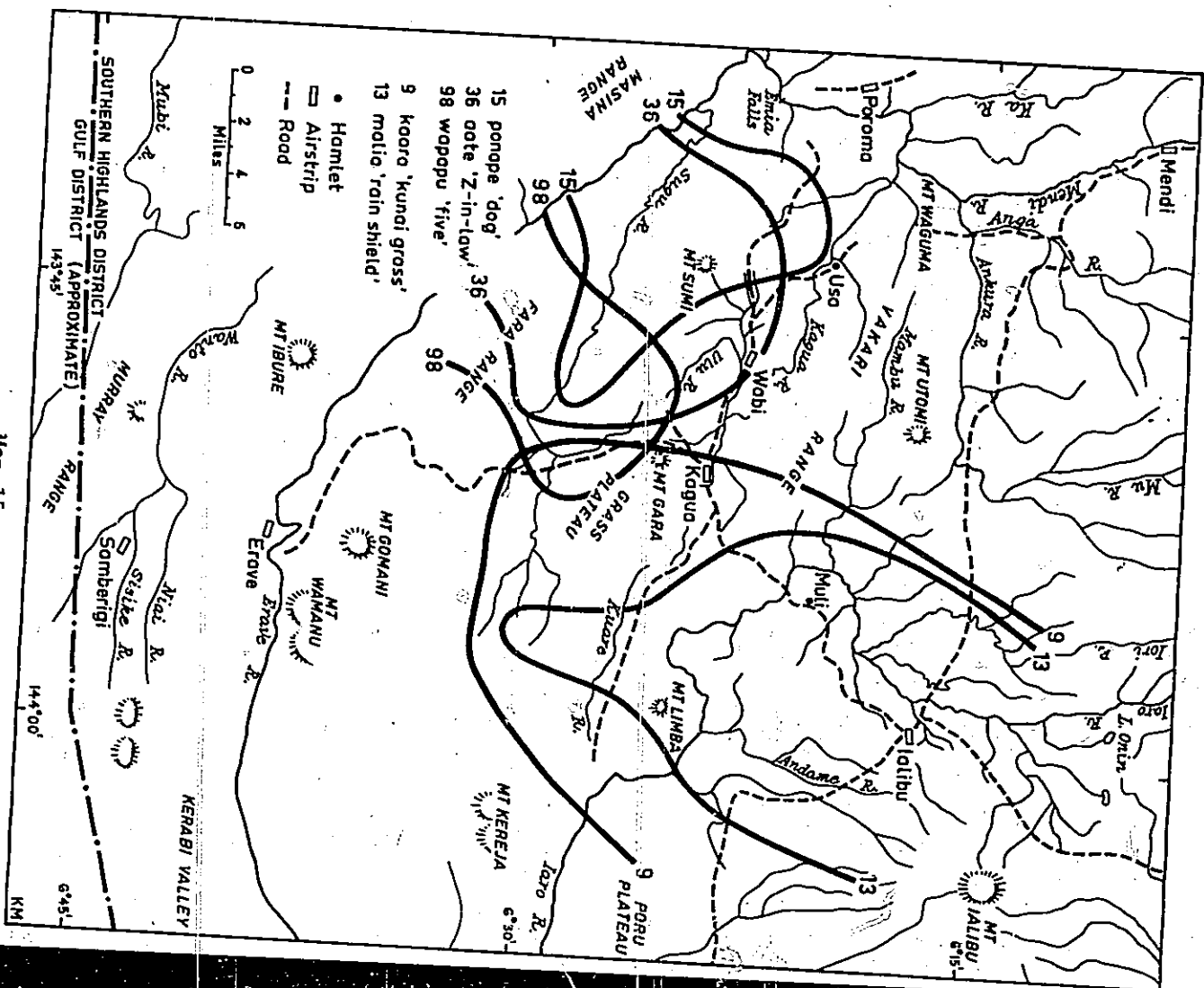
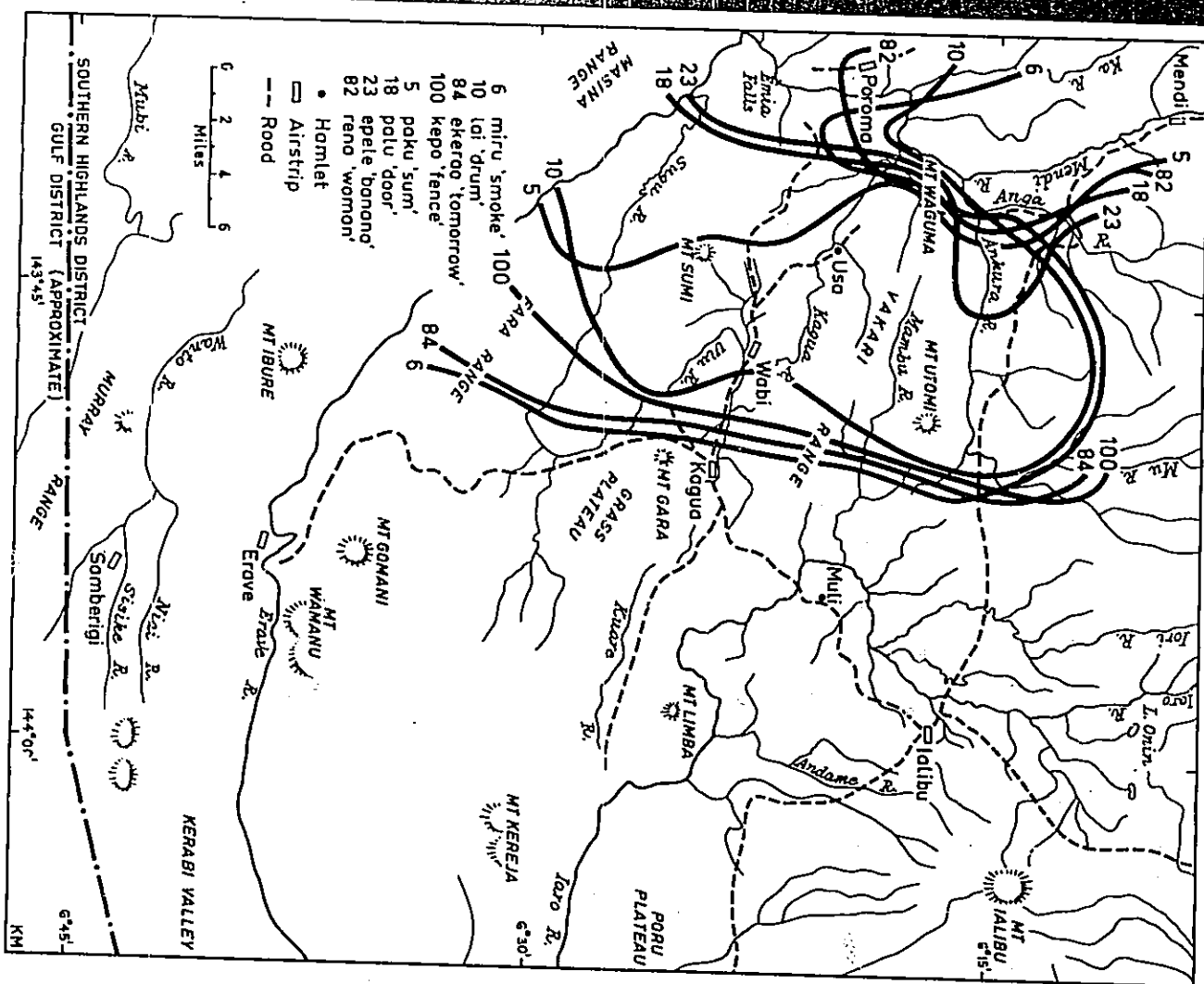


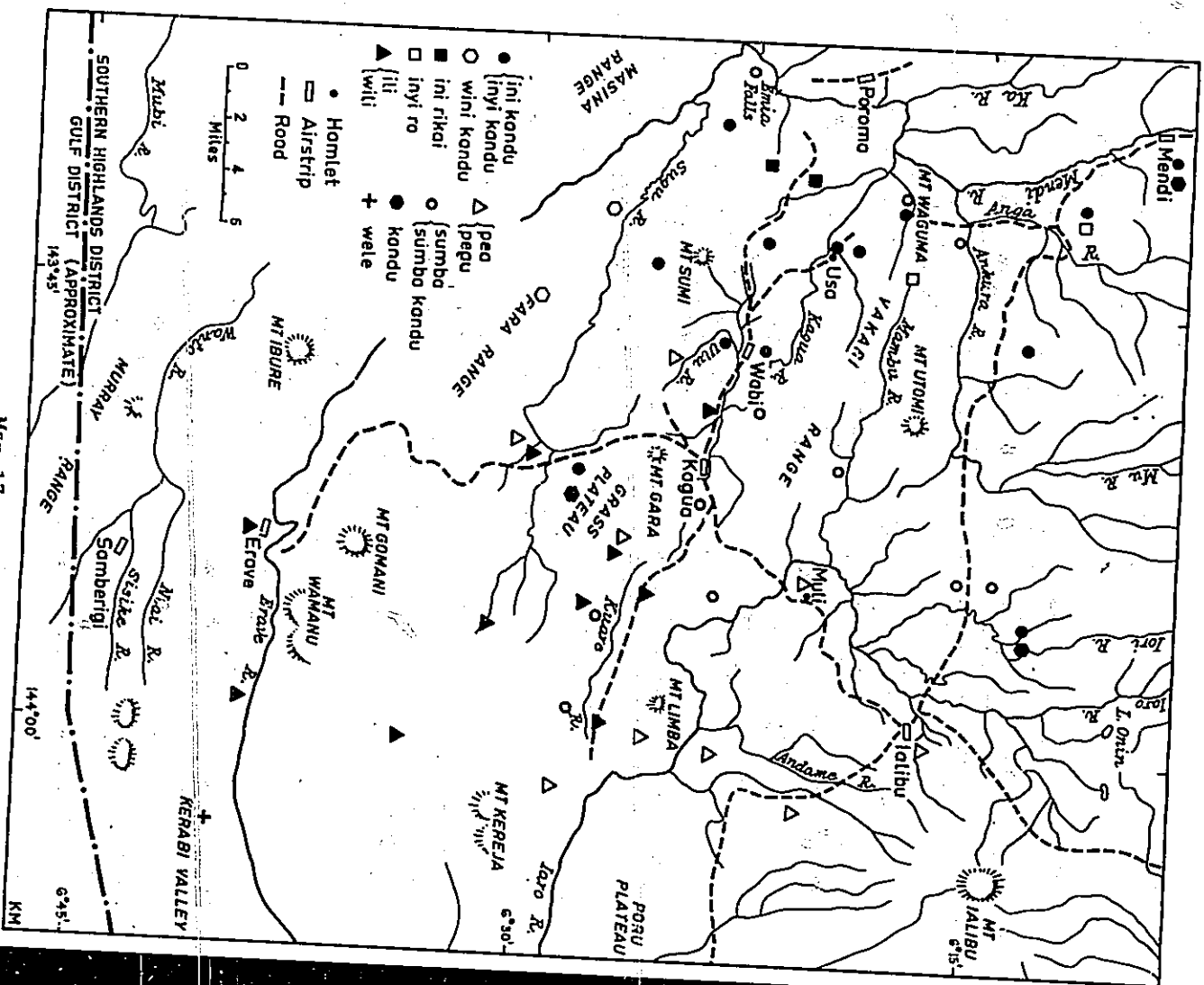
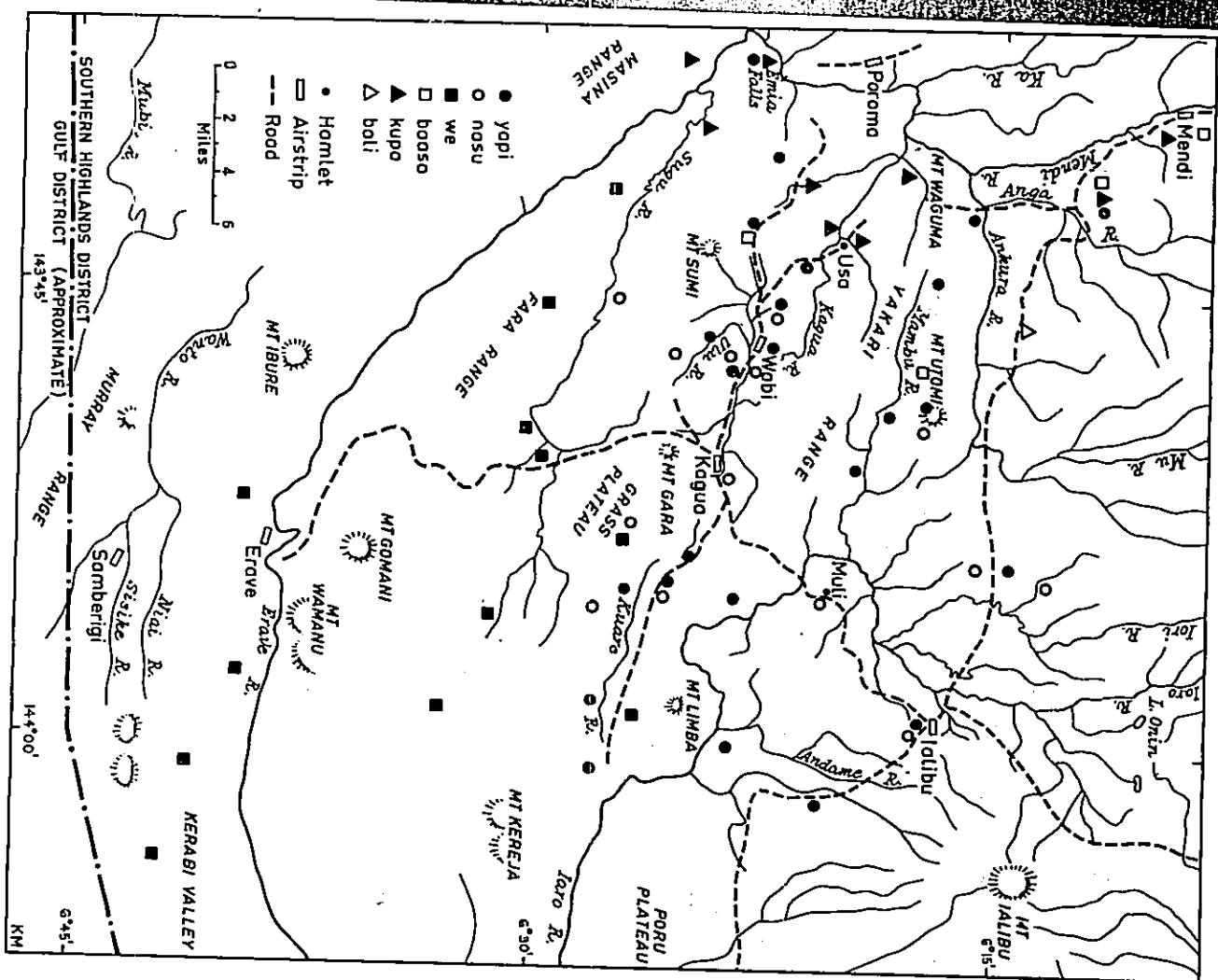
Map 9

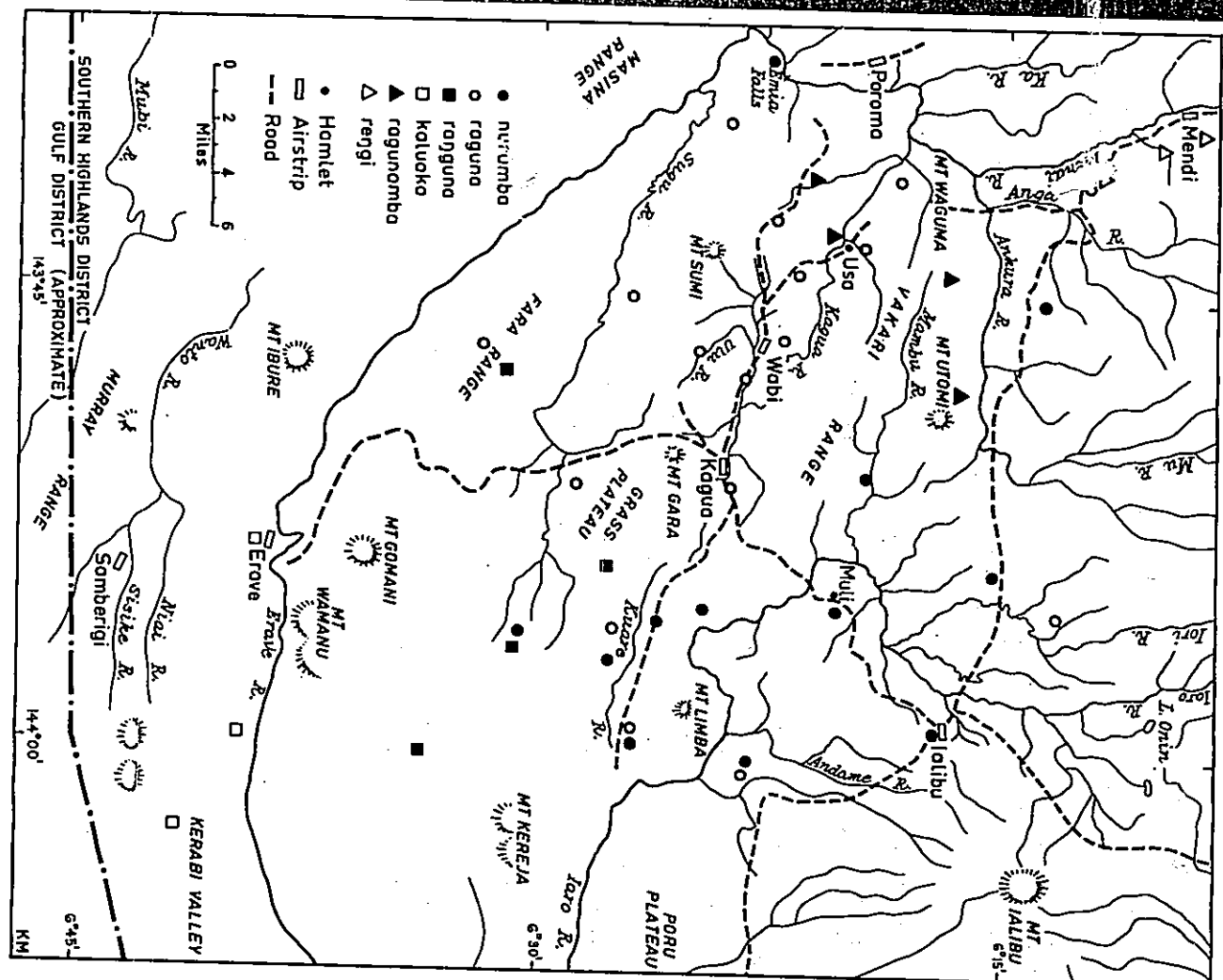
ISOGLOSSES REPRESENTING SAME SUBJECT SUFFIXES

Map 10

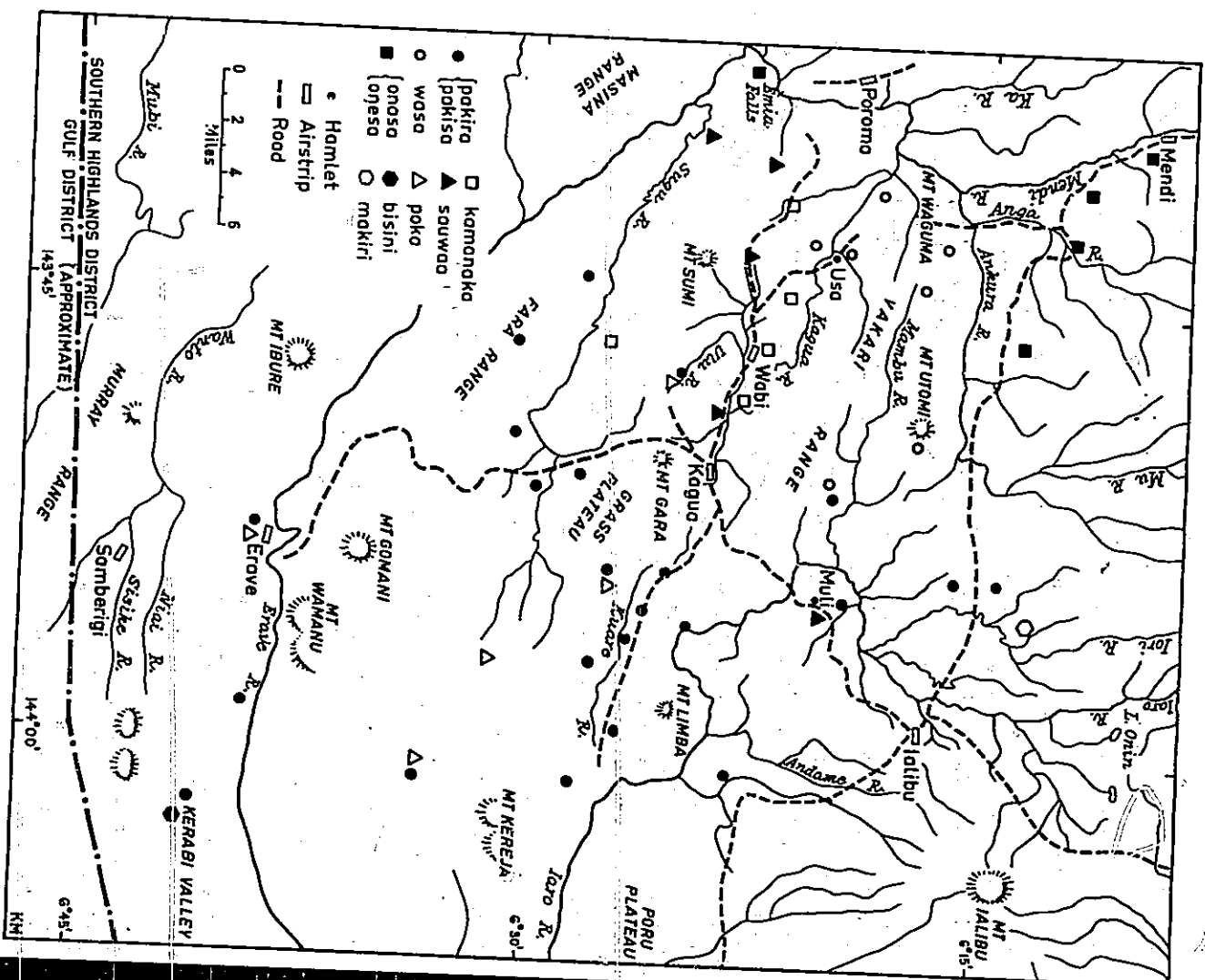
Map 11



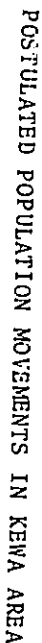




Map 18
HAT (19)



Map 19
RAT (7)



Map 20

BIBLIOGRAPHY

- BEF, DARLENE:
1965 'Comparative and Historical Problems in East New Guinea Highland Languages', LCC-8 No. 6:1-37.
- BROOKFIELD, H.C.
1964 'The Ecology of Highland Settlement: Some Suggestions', AA 66 (No. 4, Part 2):20-38.
- CAPELL, A.
1948-49 'Distribution of Languages in the Central Highlands, New Guinea', *Oceanica* 15:104-29; 234-53; 349-77.
- DYER, I.
1956 'Language Distribution and Migration Theory', Lg. 32: 611-26.
- 1963 'Why Phonetic Change is Regular', Lg. 39:631-7.
- FERGUSON, C.A.
1966 'On Sociolinguistically Oriented Language Surveys', *Linguistic Reports* 8 (4):1-3.
- FRANKLIN, J.
1965 'Kewa II: Higher Level Phonology', AL 7 (5):84-8.

1
Abbreviations are: AA American Anthropologist; AL Anthropological
Linguistics; IJAL International Journal of American Linguistics;
LCC Linguistic Circle of Canberra (now Pacific Linguistics);
JPS Journal of the Polynesian Society; Lg. Language.

FRANKLIN, K.J.

- 1964 'Kewa Verb Morphology', in *Verb Studies in Five New Guinea Languages*, SIL Publication 10:100-30.

- 1965a 'Kewa Clause Markers', *Oceanica* 35:272-85.

- 1965b 'Kewa Social Organization', *Ethnology* 4:408-20.

- 1967 'Kewa Names and Aliases', *JPS* 76:76-81.

- 1968 'Languages of the Gulf District: A Preview', in *EL*, Series A, No. 16 (Studies in New Guinea Languages No. 8):19-44.

FRANKLIN, K. AND J.

- 1962a 'The Kewa Counting Systems', *JPS* 71:188-91.

- 1962b 'Kewa I: Phonological Asymmetry', *AL* 4 (7):29-37.

FRAZER, SIR JAMES

- 1927 'Tabooed Words', in Part II, 'Taboo and the Perils of the Soul', of *The Golden Bough: A Study in Magic and Religion*, (3rd ed.), McMillan, pp. 318-418.

GRIMES, J.E. AND AGARD, F.B.

- 1959 'Linguistic Divergence in Romance', *Lg*. 35:598-604.

HAUGEN, E.

- 1966 'Dialect, Language, Nation', *AA* 68:922-35.

HICKERSON, H. et al

- 1952 'Testing Procedures for Estimating Transfer of Information Among Iroquois Dialects and Languages', *IJAL* 18:203-10.

KOUTSOUDAS, A.

- 1964 'The Handling of Morphophonemic Process in Transformational Grammars', *Word* 20 (Special Publication 5): 28-42.

KURATH, H. et al

- 1939 *Handbook of the Linguistic Geography of New England*, Brown University, pp. xii, 240+2 maps.

LABOV, W.

- 1964 'Phonological Indices to Social Stratification', in *The Ethnography of Communication*, ed. by J. Gumperz and D. Hymes, *AA* 66 (No. 6, Part 2):164-76.

- 1965 'On the Mechanism of Linguistic Change', *Georgetown Monograph* 18:91-114.

MCKAUGHAN, H.P.

- 1964 'A Study of Divergence in Four New Guinea Languages', *AA* 66 (No. 4, Part 2):98-120.

PICKFORD, R.G.

- 1964 'American Linguistic Geography: A Sociological Appraisal', *Word* 12:211-33.

PIERCE, J.E.

- 1952 'Dialect Distance Testing in Algonquian', *IJAL* 18: 203-10.

PIKE, E.V.

- 1954 'Phonetic Rank and Subordination in Consonant Patterning and Historical Change', *Macelland Phonetics* 2:25-41.

RULE, W.M.

- 1965 'A Comparative Study of the Poe, Hull, and Pole Languages of Papua', Unpublished M.A. thesis, U. of Sydney.

RULE, W.M. AND J.E.

- n.d. 'Pole Language: Tentative Statement of the Grammatical System and Alphabet', Unpublished manuscript.

VOGELIN, C.F. AND HARRIS, Z.

- 1951 'Methods for Determining Intelligibility among Dialects of Natural Languages', *Proc. of the Amer. Phil. Soc.* 95:322-9.

- WATSON, J.B.
1964 'Introduction', in J.B. Watson (ed.), *New Guinea: The Central Highlands*, AA 66 (No. 4, Part 2):1-19.
- WOLFE, H.
1959 'Intelligibility and Inter-Ethnic Attitudes', AL 1 (3): 34-41.
- WORM, S.A.
1959 'Map: Languages - Eastern, Western and Southern Highlands', (Canberra: A.N.U.).
- 1960a 'The Linguistic Situation in the Highlands of Papua and New Guinea', *Australian Territories* 1 (2):14-23.
- 1960b 'The Changing Linguistic Picture of New Guinea', *Oceania* 31:121-36.
- 1962 'The languages of Eastern, Western and Southern Highlands, Territory of Papua and New Guinea', in A. Capell (ed.), *A Linguistic Survey of the South-Western Pacific*, Noumea.
- 1964 *Phonological Diversification in Australian New Guinea Highlands Languages*, LCC-B: No. 2.
- TURN, S.A. AND LAYCOCK, D.C.
1961 'The Question of Language and Dialect in New Guinea', *Oceania* 32:128-43.
- YAMAGUCHI, J.K.
1967 'On Dialect Intelligibility in Japan', AL 9 (1):1-17.

BIBLIOGRAPHY

References which are given in full in the Bibliography of Chapter 8 (pp. 301-4) have only the author and publication date given here. Abbreviations of journals not listed previously are:

- FOL Foundations of Language
- GUM Monograph Series on Languages and Linguistics, Georgetown University
- Ling Linguistics
- OL Oceanic Linguistics
- OLM Oceanic Linguistic Monographs
- ALLEN, Robert Livingston
1966 The Verb System of Present-Day American English (The Hague: Mouton), Series Practica 24.
- 1967 'Sector Analysis: From Sentence to Morpheme in English', GUM, 20:159-74.
- ARNOTT, D.W.
1964 'Downstep in the Tiv Verbal System', African Language Studies, 5:34-51.
- BACH, Emmon
1964 An Introduction to Transformational Grammars (New York: Holt, Rinehart and Winston).
- BECKER, Alton L.
1967a 'Conjoining in a Tagemmo Grammar of English', GUM, 20:109-21.
- 1967b A Generative Description of the English Subject Tagemes. Unpublished Ph.D. dissertation, University of Michigan.

BEE, Darlene

- 1965 Usarufa: A Descriptive Grammar. Unpublished Ph.D. dissertation, University of Indiana.

BEE, Darlene and Kathleen Barker GLASGOW

- 1962 'Usarufa Tone and Segmental Phonemes', OLM, 6:111-27.

BOXWELL, Helen and Maurice

- 1966 'Weri Phonemes', LCC, Series A, 7:77-93.

BELASCO, Simon

- 1964 'Tagmemics and Transformational Grammar in Linguistic Analysis', Ling, 10:5-15.

BLOOMFIELD, Leonard

- 1933 Language (New York: Henry Holt and Co.).

CHAFE, Wallace L.

- 1965 'Review of R.E. Longacre, Grammar Discovery Procedures, Lg, 41:640-7.

CHOMSKY, Noam

- 1965 Aspects of the Theory of Syntax (Cambridge, M ss.: M.I.T. Press).

- 1967 'Some General Properties of Phonological Rules', Lg., 43:102-28.

COOK, Walter A.

- 1964 On Tagmemes and Transforms (Washington: Georgetown University Press).

- 1967 'The Generative Power of a Tagmemic Grammar', GUM, 20:27-41.

COWAN, Marion M. and William R. MERRIFIELD

- 1968 'The Verb Phrase in Huixtec Tzotzil', Lg., 44: 284-305.

CRAWFORD, John G.

- 1963 Totontepec Mixe Phonotagmemics, Summer Institute of Linguistics Publications in Linguistics and Related Fields, Publication Number 8 (Norman: University of Oklahoma).

CROTTY, J.

- 1951 'First Dictionary of Tchaga Language, Central Highlands, New Guinea', Anthropos, 46:933-63.

DEIBLER, E. (Jr)

- 1968 'Trends in Tagmemics', Kivung, 1:153-63.

DIK, Simon C.

- 1968 Coordination: Its Implications for the Theory of General Linguistics (Amsterdam: North-Holland Pub. Co.).

ELSON, Benjamin F. (ed.)

- 1964 Verb Studies in Five New Guinea Languages, Summer Institute of Linguistics Publications in Linguistics and Related Fields, Publication Number 10 (Norman: University of Oklahoma).

ELSON, Benjamin F. and Velma PICKETT

- 1962 An Introduction to Morphology and Syntax (Santa Ana: Summer Institute of Linguistics).

FILLMORE, Charles J.

- 1965 Entailment Rules in a Semantic Theory. The Ohio State University Research Foundation Project on Linguistic Analysis, Report No. 10, 60-82.
- 1968 'The Case for Case'. In E. Bach and R.T. Harms (eds.) Universals in Linguistic Theory (New York: Holt, Rinehart and Winston, Inc.), pp.1-88.

FRANKLIN, Joice

- 1965 (See Bibliography, Chapter 8)
- n.d. 'Hyperphonemics of Kewa', Unpublished manuscript.

FRANKLIN, Karl J.

1963 'Kewa Ethnolinguistic Concepts of Body Parts',
Southwestern Journal of Anthropology, 19:54-63.

1964, 1965a, 1965b, 1967a, 1968 (See Bibliography,
Chapter 8).

1967b 'Kewa Sentence Structure', PL, Series A, 13:27-59.

FRANKLIN, Karl and Joice

1962a, 1962b (See Bibliography, Chapter 8)

FRANTZ, Chester and Howard McKAUGHAN

1964 'Gadsup Independent Verb Affixes'. In B.F. Elson
(ed.) Verb Studies in Five New Guinea Languages,
pp. 84-99.

GLEASON, H.A. (Jr)

1965 Linguistics and English Grammar (New York: Holt,
Rinehart and Winston).

GRIMES, Joseph E.

1964 Huichol Syntax (The Hague: Mouton), Series
Practica 11.

HALE, Austin

1965 Worksheets for a First Course in Transformational
Syntax. Unpublished mimeo. (University of North
Dakota: Summer Institute of Linguistics).

HALLIDAY, M.A.K.

1967 'Notes on Transitivity and Theme in English: Part
I', Journal of Linguistics, 3:37-81.

HEALEY, Alan

1964 Telefol Phonology, LCC, Series B, No. 3.

HEALEY, Phyllis M.

- 1964 'Teleefool Quotative Clauses', LCC, Series A, 3:27-34.
- 1965a 'Telefol Noun Phrases', LCC, Series B, No. 4.
- 1965b 'Telefol Clause Structure', LCC, Series A, 5:1-26.
- 1965c 'Telefol Verb Phrases', LCC, Series A, 5:27-53.
- 1966 'Levels and Chaining in Telefol Sentences', LCC, Series B, No. 5.

HELLER, Louis G.

- 1964 'Some Types and Uses of Tagmemic Zero', Ling, 4:48-55.

HIDES, J. G.

- 1936 Papuan Wonderland (London: Blackie & Son Ltd.).

HILL, Archibald A.

- 1966 'The Promises and Limitations of the Newest Type of Grammatical Analysis' (University of Cincinnati)

HOCKETT, Charles F.

- 1966 'What Algonquian is Really Like', IJAL, 32:59-73.
- 1967 'The Yawelmani Basic Verb', Lg., 43:208-22.
- 1968 The State of the Art (The Hague: Mouton), Series Minor 73.

HOIJER, Harry

- 1956 'Review of K.L. Pike, Language II', Lg., 32:477-9.

HOLLENBACH, Barbara Erickson

- 1968 'Construction Types as Linguistic Units', Ling, 39:50-8.

HOUSEHOLDER, Fred W. (Jr)

- 1961 'On Linguistic Terms'. In S. Saporta (ed.) Psycholinguistics (New York: Holt, Rinehart and Winston), pp. 15-25. A condensed version of 'On Linguistic Primes', Word, 15:231-9 (1959).

JACOBS, Kenneth and Robert E. LONGACRE

- 1967 'Patterns and Rules in Tzotzil Grammar', FoL, 3:325-89.

JAKOBSON, Roman

- 1957 Shifters, Verbal Categories, and the Russian Verb (Harvard University), Russian Language Project, Department of Slavic Languages and Literatures.

LAMB, Sydney M.

- 1966 Outline of Stratificational Grammar (Washington: Georgetown University Press).

LANDAR, Herbert

- 1966 Language and Culture (New York: Oxford University Press).

LIEM, Ngyuen Dang

- 1966 English Grammar: A Combined Tagmemic and Transformational Approach, LCC, Series C, No. 3.

LONGACRE, ROBERT E.

- 1960 'String Constituent Analysis', Lg., 36:63-88.
- 1964a Grammar Discovery Procedures (The Hague: Mouton), Series Minor 33.
- 1964b 'Prolegomena to Lexical Structure', Ling, 5:5-24.
- 1965a 'Some Fundamental Insights of Tagmemics', Lg., 41:65-76.
- 1965b 'Transformational Parameters in Tagmemic Field Structures', GUM, 18:43-58.

- 1966 'Trique Clause and Sentence: A Study in Contrast, Variation, and Distribution', IJAL, 32:242-52.
- 1967a 'Reply to Postal's Review of Grammar Procedures', IJAL, 33:323-8.
- 1967b 'The Notion of Sentence', GUM, 20:15-25.
- 1968 'Hierarchy and Methodology'. In J. Puhvel (ed.) Substance and Structure of Language, Center for Research in Languages and Linguistics (Los Angeles: University of California).
- n.d.a 'Tagmemics', to appear in a Special Publication of Word.
- n.d.b 'The Notion of Hierarchy', forthcoming.

LOVING, Aretta and Howard McKAUGHAN

- 1964 'Awa Verbs Part II: The Internal Structure of Dependent Verbs'. In B.F. Elson (ed.) Verb Studies in Five New Guinea Languages, pp. 31-44.

LOVING, Richard E.

- 1966 'Awa Phonemes, Tonemes and Tonally Differentiated Allomorphs', LCC, Series A, 7:23-32.

LOVING, Richard E. and Howard McKAUGHAN

- 1964 'Awa Verbs Part I: The Internal Structure of Independent Verbs'. In B.F. Elson (ed.) Verb Studies in Five New Guinea Languages, pp. 1-30.

MATSON, Dan M.

- 1967 'Tagmemic Description of Agreement', GUM, 20: 103-8.

MATTHEWS, P.H.

- 1966 'Latin'. In Word Classes, Special issue of Lingua, 17:153-81.

MAY, Jean and Eunice LOEWEKE

- 1965 'The Phonological Hierarchy in Fasu', AL, 7(5): 89-97.

- 1966 'Kunimaipa Phonology: Hierarchical Levels', LCC, Series A, 7:49-68.
- PICKETT, Velma B.
- 1960 The Grammatical Hierarchy of Isthmus Zapotec, Language Dissertation 56, Lg., 36, No. 1, Part 2.
- PIKE, Eunice V.
- 1964 'The Phonology of New Guinea Highlands Languages', Special Publication, AA, 66(4), Part 2:121-32.
- PIKE, Kenneth L.
- 1948 Tone Languages: A Technique for Determining the Number and Type of Pitch Contrasts in a Language, with Studies in Tonemic Substitution and Fusion (Ann Arbor: University of Michigan Press).
- 1958 'On Tagmemes née Gramemes', IJAL, 24:273-8.
- 1959 'Language as Particle, Wave and Field', The Texas Quarterly, 2(2):37-54.
- 1962 'Dimensions of Grammatical Constructions', Lg., 38:221-44.
- 1963a 'A Syntactic Paradigm', Lg., 39:216-30.
- 1963b 'Theoretical Implications of Matrix Permutation in Fore (New Guinea)', AL, 5(8):1-23.
- 1964a 'Name Fusions as High-Level Particles in Matrix Theory', Ling, 6:83-91.
- 1964b 'Dramatis Personae in Reference to a Tagmeme Matrix', OL, 3:5-25.
- 1964c 'On Systems of Grammatical Structure'. In Horace G. Lunt (ed.), Proceedings of the Ninth International Congress of Linguists (The Hague: Mouton), pp. 145-53.
- 1966 'A Guide to Publications Related to Tagmemic Theory'. In T.E. Sebeok (ed.) Current Trends in Linguistics (The Hague: Mouton), Volume 3, Theoretical Foundations, pp. 365-94.

- 1967² Language in Relation to a Unified Theory of the Structure of Human Behavior (The Hague: Mouton). Revision of Vol. I (1954), Vol. II (1955) and Vol. III (1960) (Santa Ana: Summer Institute of Linguistics)
- 1967a 'Suprasegmentals in Reference to Phonemes of Item, of Process, and of Relation'. In To Honor Roman Jakobson III (The Hague: Mouton), pp. 1545-1554.
- 1967b 'Grammar as Wave', GUM, 20:1-14.
- PIKE, Kenneth L. and Alton L. BECKER
- 1964 'Progressive Neutralization in Dimensions of Navajo Stem Matrices', IJAL, 30:144-54.
- PIKE, Kenneth L. and Barbara Erickson (HOLLENBACH)
- 1964 'Conflated Field Structures in Potawatomi and in Arabic', IJAL, 30:201-12.
- PIKE, Kenneth L. and Graham SCOTT
- 1963 'Pitch Accent and Non-Accented Phrases in Fore (New Guinea)', Zeitschrift für Phonetik, Sprachwissenschaft und Kommunikationsforschung, 16: 179-89.
- FILHOFER, G.
- 1933 Grammatik der Kâte-Sprache in New Guinea, Zeitschrift für Eingeborenen-Sprachen, Beiheft 14.
- POSTAL, Paul M.
- 1964 Constituent Structure: A Study of Contemporary Models of Syntactic Description, IJAL, 30, Part 3.
- 1966 'Review of R.E. Longacre, Grammar Discovery Procedures', IJAL, 32:93-98.
- PRIDE, Kitty
- 1965 Chatino Syntax, Summer Institute of Linguistics Publications in Linguistics and Related Fields, Publication Number 12 (Norman: University of Oklahoma).

REID, Lawrence Andrew

- 1966 An Ivatan Syntax, OL, Special Publication No. 2.

ROBERTS, Paul

- 1967 Modern Grammar (New York: Harcourt Brace & World, Inc.).

RULE, Joan

- 1965 'A Comparison of Certain Phonemes of the Languages of the Mendi and Nembu Valleys, Southern Highlands, Papua', AL, 7(5):98-105.

SCHACHTER, Paul

- 1961 'Phonetic Similarity in Tonemic Analysis', Lg., 37:231-8.

SEUREN, Peter A.M.

- 1966 'Review of R.E. Longacre, Grammar Discovery Procedures', FoL, 2:200-12.

STAALSEN, Philip

- 1966 'The Phonemes of Iatmul', LCC, Series A, 7:69-76.

SWICK, Joyce

- 1966 'Chuave Phonological Hierarchy', LCC, Series A, 7:33-48.

VOEGELIN, C.F. and F. M.

- 1965 'Languages of the World: Indo-Pacific Fascicle Five', AL, 7(9):1-114.

WANG, William S-Y

- 1967 'Phonological Features of Tone', IJAL, 33:93-105.

WATSON, James B. (ed.)

- 1964 (See Bibliography, Chapter 8)

WELMERS, William E.

- 1959 'Tonemics, Morphotonemics, and Tonal Morphemes',
General Linguistics, 4:1-9.

WILLIAMS, F.E.

- 1939 'Report on the Grasslanders: Augu-Wage-Wela'.
In Annual Report for Papua for Year 1938-39
(Port Moresby), pp. 38-67.

WURM, S.A.

- 1959, 1960a, 1960b, 1962, 1964a (See Bibliography,
Chapter 8).

- 1964b 'Australian New Guinea Highland Languages and
the Distribution of their Typological Features',
Special Publication, AA, 66(4), Part 2:77-97.

- 1967 'Pitch and Intensity Recording Devices for the
Study of Australian Languages', Zeitschrift für
Phonetik, Sprachwissenschaft und Kommunikations-
forschung, 20:251-7.

- n.d. 'Problems of the Verb Structure in Central New
Guinea'. Paper presented to the Pacific Science
Congress held in Honolulu, Hawaii, 1961.

WURM, S.A. and D.C. LAYCOCK

- 1961 (See Bibliography, Chapter 8).

YOUNG, Robert A.

- 1964 'The Primary Verb in Bena-Bena'. In B.F. Elson
(ed.) Verb Studies in Five New Guinea Languages,
pp. 45-83.

YOUNG, Rosemary

- 1962 'The Phonemes of Kanite, Kamano, Benabena, and
Gahuku', OLM, 6:90-110.

WELMERS, William E.

- 1959 'Tonemics, Morphotonemics, and Tonal Morphemes',
General Linguistics, 4:1-9.

WILLIAMS, F.E.

- 1939 'Report on the Grasslanders: Augu-Wage-Wela'.
In Annual Report for Papua for Year 1938-39
(Port Moresby), pp. 38-67.

WURM, S.A.

- 1959, 1960a, 1960b, 1962, 1964a (See Bibliography,
Chapter 8).

- 1964b 'Australian New Guinea Highland Languages and
the Distribution of their Typological Features',
Special Publication, AA, 66(4), Part 2:77-97.

- 1967 'Pitch and Intensity Recording Devices for the
Study of Australian Languages', Zeitschrift für
Phonetik, Sprachwissenschaft und Kommunikations-
forschung, 20:251-7.

- n.d. 'Problems of the Verb Structure in Central New
Guinea'. Paper presented to the Pacific Science
Congress held in Honolulu, Hawaii, 1961.

WURM, S.A. and D.C. LAYCOCK

- 1961 (See Bibliography, Chapter 8).

YOUNG, Robert A.

- 1964 'The Primary Verb in Bena-Bena'. In B.F. Elson
(ed.) Verb Studies in Five New Guinea Languages,
pp. 45-83.

YOUNG, Rosemary

- 1962 'The Phonemes of Kanite, Kamano, Benabena, and
Gahuku', OLM, 6:90-110.

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