The Switch Reference Clause Chaining Phenomenon from a Korafe Perspective*

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1   Introduction

Along with many other Papuan languages, located on the island of New Guinea, Korafe[1] manifests sequences of clauses interacting to signal both referential and temporal relationships. Longacre (1972:1) describes this mode of clause combining as 'clause chaining.' James Marsh whimsically describes this syntagm: "clumps of clauses cling together in the damp New Guinea weather." Sometimes this chaining system is termed switch reference chaining, because of the referential tracking feature of these clause sequences. Jacobsen (1967:240) coined and defined the term switch reference: "Switch-reference consists simply in the fact that a switch in subject or agent is obligatorily indicated in certain situations by a morpheme, usually suffixed, which may or may not carry other meanings in addition." Haiman and Munro (1983:ix) give both formal or structural and functional definitions: "Canonical switch-reference is an inflectional category of the verb, which indicates whether or not its subject is identical with the subject of some other verb...Functionally, switch reference is a device for referential tracking." However, the term "switch reference" only explicates one feature possibility of the clause chaining evidenced by Papuan languages. In addition to specifying a switch in subject or topic reference,

this chaining system also indicates maintenance of subject across clause boundaries. The clause chaining system in Korafe also indexes temporal relationships, that is, temporal succession or temporal overlap between the clauses, mirroring iconically the chronological structuring of events in the real world.

This article is a preliminary survey of the nature of these interactive sequences of clauses in Korafe. It presents the forms which realise the medial verb chaining system and explores their function and distribution. What type of linkage exists between clauses in a chain and the final clause? What pragmatic functions does the switch reference system fulfill?

2   Korafe Verb Forms[2]

The Korafe verb manifests three levels of structural complexity: the composite stem, the

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reflected in the orthography includes 5 basic nasal and oral vowels (a, ã, e, ẽ, i, ĩ, o, õ, u, ũ); 5 phonemic stops (b, t, d, k, g), 4 fricatives (φ, β, s, γ), the rhotic flapped r, 2 nasal consonants (m, n) and the approximant j.

Korafe is an SOV language with rigid verb final ordering, mostly suffixation on the verbs, and postpositions. Possessive modifiers precede nouns, but most adjectives follow the nouns they modify, sometimes reduplicating to agree in number with their plural noun head. Only animate or thematically salient nouns are marked for plurality. Using only four pronominal roots, the pronominal system still encodes dual forms and inclusive/exclusive first person plural distinctions. Verb forms may be differentiated by form and occurrence. Serial root forms and medial verbs occur in sentence medial positions and relate in status and temporality to the time of a following semi-final or final verb. Semi-final and final verbs may be marked for status, TAM (tense, aspect, and/or mood), person and number of subject, and modal orientation.

The basic demonstrative roots — e, a, o — occur in combinations with postpositions, verbs and the copula. They have referential and pragmatic functions. Functioning like conjunctions, they mark relationships between clauses. Syntactico-semantic subordination is realised by nominalised constructions terminating with a verb inflected for tense, aspect, person and number of subject and propositional status. Subordinate clauses usually precede, but may follow independent super-ordinate clauses. Most relative clauses are just subsets of these nominalised constructions with the noun head included in the relative clause. Givón (1979:212) terms these clauses "unembedded and unreduced relative clauses that are basically topic sentences."

[2] List of Abbreviations: ACT actor, contrastive, ALOC approximate locative, AQ indicative assertion-information question marker, BEN benefactive, purpose locative, CD change of direction: contrastive topic/focus, CEFF marker on participant or activity effecting, CEXP contrary to expectations change, CFAC counterfactual. COM comitative, COP copula, CPAR comparative postposition, CR current relevancy marker, CUST customary generic, gnomic TAM index, irrealis, D dual, D1 distal-1 demonstrative, D2 distal-2 demonstrative, DF deontic focus marker, DIM diminutive, deferential, DP distant past tense, DS different subject medial verb form, DUP duplicated word, DUR durative aspect verb stem, EP enduring past tense, END endocentric, EX exocentric, EXC exclusive, EXCP contrary to expectations change, F future tense, FN finite, final/semi-final, not asserted, FOC focus, GEN genitive, H hortative mood, IMP imperative mood, INC inclusive, INF infinitive, INT feature intensifier/contrastive intensifier, IPF imperfective, IR irrealis status, LOC locative, NDUR non-durative aspect verb stem, NEG negative focus specifier, NP near past tense, PAST past tense medial form, PERF perfective aspect, PIV pivotal, PL plural, PRES present tense, R realis, RED reduplicated, SEQ sequencing medial verb form, SIM simultaneous medial verb, SIM-SEQ encoding sequencing action occurring simultaneously with motion verbs, SLF semi-final/final logical verb construction, SPEC specifier (usually contrastive), SRC switch reference medial verb chain, SS same subject medial verb form, SVC serial verb chain, T/F topic or focus foregrounding marker, TAM tense, aspect, mood index, TCC topic-tracking, chronologically-ordered clause chain, TP today's (hodiernal) past tense, YP yesterday's (hesternal) past tense, I verb stem I [non-durative, perfective] or class vowel for stem I, II verb stem II [often durative, imperfective] or characterising vowel for stem II, 1 first person, 2 second person, 3 third person; - signals morpheme break, = signals break between a word and accompanying clitics, may be phonologically one word, + break between duplicated words or phrasal compound words.

non-finite forms, and the finite forms. Each of these structures may additionally host an imperfective marker: {*ere-*} or {*-uru*} (and perhaps -*r*[3]).

2.1   Verb Stems

All Korafe verbs manifest two stems: stem I and stem II. Stem I is composed of the inflectional root plus the class vowel. This final class vowel differentiates verbs into inflectional classes: *e*-verbs, *i*-verbs, or *u*-verbs. Stem I is the simple singular imperative form for every verb. Verb forms with stem I usually manifest perfective and non-durative or punctual aspects. Stem II is either suppletive or derived from stem I by addition of the appropriate characterising vowel (-*u* or -*i*) or by reduplication, combination with the distributive pro-verb *ut* or other minor combinations which always terminate with the characterising vowel -*u*. All verb forms that potentially may host the imperfective markers {*ere-*} or {*-uru*} or are durative must occur with stem II.

	Stem I	Stem II	
e-stem verbs:	*bete*	*beti*	'soften'
	keve	*kevu*	'carve'
i-stem verbs:[4]	*gi*	*gosu*	'see'
	mindi	*ri*	'eat'
u-stem verbs:[5]	*tambu*	*tafu*	'find'
	bu	*ruru*	'get'

These stems carry the basic lexical information realised by the verb and are obligatorily present in every verb form. Verb stems also function as serial verbs occurring in serial verb or integrated action constructions.

2.2   Non-Finite Forms

Korafe has several non-finite forms. The infinitive (or positive deverbal), the negative deverbal occur with stem I and an invariable suffix: -*ari* 'to do' and -*ae* 'not doing' respectively. Several same subject medial verb forms also manifest stem plus invariable suffix.

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[3] The morpheme -*r* occurring with the customary (or generic-gnomic) paradigm is probably an imperfective or repetitive marker. But -*r* is also used epenthetically to separate verb stem vowels from the STATUS-TAM/ MarkSU:Person-Number/Modal Orientation indices.

[4] *i* 'go, motion toward goal' and *iri* 'remain, exist' belong to this class, but only manifest this form as an imperative, not a root.

[5] *fu* 'come, be in motion' belongs to this class but only manifests this form as an imperative, not a root.

Called medial verbs, because of their ipso facto postion sentence medially and their general inability to function as isolated utterances, Korafe same subject (SS) medial verbs are marked to indicate cataphorically a temporal relationship of priority or overlap with the following adjacent verb. Not possessing any subject marking index, they maintain subject reference across clauses. Medial verbs occur in referencing medial verb clause chains, characterised by combining predicates that differ in morphological complexity or encode temporal relationships with another verb rather than with the absolute speech act encoding time. To discuss adjacent clauses within topic tracking, chronologically ordered clause chains (abbreviated as TCC),[6] I follow Haiman and Munro (1983:xii) using the term 'marking clause' to indicate the clause terminating with a verb that is inflected for maintenance (marked SS) or shift of subject reference (marked DS). In Korafe, the reference clause follows the marking clause, and its subject normally serves as the standard of referential comparison controlling the selection of SS or DS inflection in the marking clause.

Every marking clause within a switch reference chain manifests a verb that is marked either for anteriority (SEQ) or temporal overlap (SIM) with the verb in the reference clause. The SS medial verbs encode these relationships by two separate invariable suffixes: -do and -se. The suffix -do[5] combines with stem I or stem II to indicate that the verb it marks is involved in a sequencing relationship. With stem I, -do indicates that the verb it marks is signalling an event that occurs prior to and terminates before the event signalled in the reference clause.

Sequencing: *sedo*   'having said'
               gido   'having seen'
               gembudo   'having written'

Forms comprised of stem II with -do always precede motion verbs and indicate that the action of the verb in the marked clause is repeatedly sequenced over the period of time indicated by the motion verb.

Sequencing-Simultaneous:
               sido (+ motion verb)   '(coming/going along) speaking'
               gosudo (+ motion verb) '(coming/going along) looking at'
               gefudo (+ motion verb) '(coming/going along) writing'

An inter-clausal overlap relationship is conveyed by the combination of stem II with *se*, a suffix which possibly originates from combinations of the verb *se* 'utter, say' in serial verb constructions.

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[6] The usual term for these constructions has been switch reference chains (SRC), but switch of subject/thematic reference only accounts for 25% of the functions of these chains. Maintenance of subject/thematic reference and temporal relationships are also indexed. Givón (1990:902) discusses the maintenance of thematic coherence across a multi-clause chain, which he calls "equi-topic clause chains." However, these medial verb chaining constructions track more than topic; they iconically reflect the temporal order of events in the real world. So I am terming them topic-tracking, chronologically-ordered clause chains (TCC).

Simultaneous: *sise*   'while saying'
             gosuse   'while seeing'
             gefuse   'while writing'

There are two more related sets of non-finite medial verbs: the sequencing durative irrealis forms composed of stem II forms plus IMPERFECTIVE: {*ere-*} + *-a, -ua/-ia, -ama, -uama/-iama*. These forms index an activity that is projected to span a lengthy period of time in the future or customarily or habitually. At this point in their history, the Korafe use these suffixes interchangeably although they feel that the forms terminating with *-ma* are more emphatic. When they need a form to index longer spans of time, they select the longer *-ia/-ua/-iama/-uama* set.

The stative verb *iri* 'remain, stay, be' occurs without the imperfective marker: *irá, iria, irama, iriama*. And the motion verbs *fu* 'come' and *i* 'go' occur both with and without the imperfective marker: *fa, fama, foa, foama, refoa, refoama* and *ya, yama, eria, eriama*.[7]

1) *Nenda   vare=da   y-a   f-ua*
   3PL.GEN garden-LOC go.DUR-SEQ.IR.SS come.DUR-SEQ.DUR.IR.SS
   gh-ari=dae   se-do   ghaka   aghe-r-aera.
   do.again-INF=BEN say.I-SEQ.SS outrigger.canoe hollow.I-IPF-CUST.3PL.FN
   'In order to go and come to their gardens on a regular basis, they hollow out (and make) outrigger canoes.'

Other verbs, especially *e* 'do' and *avi* 'sleep', also may occur with the non-finite durative irrealis affixes, *-a,-ama,-ia/-ua,-iama/-uama*. To host this affix, these verbs obligatorily take the endocentric imperfective affix {*ere*}.

2) ... *nati=da   buvu-do   r-av-ia   sifo*
      village=LOC arrive.ND-SEQ.SS IPF-sleep-SEQ.IR.SS day
      at-ari   y-ama   taima=da...
      dawn.ND-SEQ.IR.F.3S.DS   go.DUR-SEQ.IR.SS.T/F   bush=LOC
      '...(the women) arrive in the village, sleep until day dawns, and...'

All of the above same subject forms are non-finite forms, not indexing person and number of subject.

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[7] Forms of the verb *do* 'leave off' regularly succeed stems of other lexical verbs producing a periphrastic verb phrase encoding cessative aspect.
    ... *kokoi ami   mindi do-tiri...*
      baby breast eat.I   leave.off.I-SEQ.R.3S.DS
      '...the baby stopped breast feeding and...'
    Ari   eko amo   kote do-y-asi!
      deed bad that.T/F think leave.off.I-STEN-that.say.II
      'Leave off thinking about (Forgive) that bad deed!'
It is probable that this cessative syntagm was used so often as a serial verb construction that it fused, furnishing this sequencing medial verb form.

2.3 Finite Verb Forms

Contrastively, finite verb forms index both person and number of subject. This includes different subject (DS) medial verbs, semi-final verbs, and final verbs. Finite verbs have this structure:
+ Stem+C.Vowel ± Imperfective + Status-TAM.MarkSU.ModalOrientation
where 'C.Vowel' is the class vowel, 'Status' is the status, realis or irrealis, and 'MarkSU' is subject marking.

These finite forms probably spring from the same source, but they differ in function and distribution and in the final vowel encoding the orientation the speaker takes toward the action. Final verbs are independent and may terminate sentences and utterances. They manifest a range of final vowels: -a for non-past and third person singular (3S) verb forms in declarative predications, -i for past tense verbs and all verb forms in information question interrogative predications, -e for hortative predications, and -o for predications that are shouted. Semi-final verb forms terminate subordinate, embedded constructions, often preceding demonstrative based conjunctions and topic markers. They resemble the final verb set, but only terminate in -a.

2.3.1 Different Subject (DS) Medial Verb Forms. Different subject (DS) medial verbs occur as the internal components of referencing medial verb clause chains (TCCs). They host a final -o (-ri for third person singular), and this serves to index cataphorically a shift in subject for the reference clause.In contrast, marking clause verbs that encode a switch in subject reference (DS) host a suffix that specifies the person and number of the subject in the marking clause. They also indicate simultaneously the local clausal subject referent by the MarkSU:Person/Number set of indices which they share with other finite verb forms. Like other finite verbs, different subject medial forms appear to have a STATUS-TAM index. But for medial verbs, the STATUS-TAM indices are limited and actually signal relative temporal relationships of anteriority or overlap between the marking clause and the reference clause, just like SS medial verb forms. But in addition to these sequencing and simultaneous temporal relationships, each DS medial verb form also indicates its status: realis or irrealis. In fact, the only irrealis DS medial verb forms that encode simultaneity or overlap obligatorily host the exocentric imperfective {-uru}. But the forms encoding realis overlap arise from the present tense form without the endocentric imperfective {ere-}, which marks sentence final present tense forms. Thus DS medial verbs have the form:
Stem ±IPF +Status/TAM=RelativeTiming +MarkSU:Person/Number +{o}
The first person singular forms are used in the synopsis in Table 1.

TABLE 1: DIFFERENT SUBJECT MEDIAL VERB FORMS EXEMPLIFIED

	'say'	'see, look'	'write, weave'
REALIS SEQUENTIAL:	*sé-teno*	*g-éno*	*gémb-eno*
SIMULTANEOUS:	*s-éno*	*gos-éno*	*gef-éno*
IRREALIS			
FUTURE SEQUENTIAL:	*s-aóno*	*g-aóno*	*gemb-óno*
FUTURE SIMULTANEOUS:	*s-irur-óno*	*gos-ur-óno*	*gef-ur-óno*
CUSTOMARY SEQUENTIAL:	*s-éono*	*g-éono*	*gemb-éono*
CUSTOMARY SIMULTANEOUS:	*s-irur-éono*	*gos-urur-éono*	*gef-urur-éono*
NEGATIVE HORTATIVE:	*s-eóno*	*g-eóno*	*gemb-eóno*
NEG. H. SIMULTANEOUS:	*s-irur-eóno*	*gos-urur-eóno*	*gef-urur-eóno*

Different subject medial verbs function in a concord system with the terminal final or semi-final verb in the TCC, depending on it for the absolute[8] temporal relationship to the speech act encoding time and modal orientation. All medial forms must agree in status with final verb forms, *i.e.* only realis medials may mark clauses which have realis final forms in the reference clause. The two realis paradigms may occur in marking clauses followed by reference clauses predicated by final/semi-final verbs in any one of six realis final paradigms: enduring past, distant past, yesterday's (hesternal) past, near past, today's (hodiernal) past, and present tenses. And the three irrealis different subject medial forms are matched by these final paradigms: future, hortative, negative hortative, counterfactual, and customary as well as the habitual verb phrase in all tenses, and the infinitive (positive deverbal) and negative deverbal.

[8] The correspondences in Suena and Binandere are similar to the Korafe schema shown in the table.

Wilson (1974:42-9) gives examples of DS verb forms. Other than the third person singular form, they terminate in -*a* just like the final verb forms. The third person singular medial DS form regularly drops the final *a*. These medial verbs differ from final verbs in that there are only three rather than than six tenses encoded in the suffixes, and they occur in sentence medial position. Each set—sequential, habitual, simultaneous/short duration, and simultaneous/long duration each have three sets of forms: a future set, a today's past or present set and a past or remote past set.

Among the sequential forms, the future medial form resembles the hortative (*e→a*) and is matched by a final future form. The today's past is matched with final present, today's past, yesterday's past, and past. There is a separate remote past form which corresponds to the final remote past form.

There are three habitual sets for which Wilson says the SEQ/SIM distinction is suspended. The future occurs with the durative stem and matches a final future verb. The present forms use the *we* form of 'do' and match each other. The past completed action uses one non-durative form, perhaps with a form of *se* (*sa*) 'utter' in each of them, and covers yesterday's past, past, and remote past.

Simultaneous DS medial verbs manifest sets encoding short duration or long duration. The short duration forms manifest the durative stem followed by the correct form tense-wise of *nuai* 'remain', and the simultaneous long duration forms have the durative stem and the appropriate form of *we* 'do'. In both sets, future medial corresponds to future final. The present medial corresponds to today's past, yesterday's past, and past. The remote past medial form differs a bit from the today's past and corresponds to the final remote past.

Capell (1969:26) listed four tense-aspect DS medial verb forms for Binandere: present encoding simultaneous with all the past tenses, general past yielding sequential relationships between the marked clause and the reference clause, future with future tense, and habit aspect with habitual/customary final verbs. Like Korafe, Binandere medial verbs terminate in -*o* (-*i* for third person singular).

Table 2 shows the permissable status/TAM relationships between DS verb forms in the marking clause and final verb forms in the reference clause.

TABLE 2: DS MEDIAL-FINAL VERB TENSE/MOOD CONCORD

		DS Medial 'Tense'	Final Verb T-A-M
Realis	Sequential	Today's Past -o	Present Today's Past Near Past
	Simultaneous	Present -o [-IPF]	Yesterday's Past Distant Past Enduring Past
Irrealis	Sequential and Simultaneous [+IPF]	Future (Hortative -o)	Future Hortative Imperative Negative Hortative Counterfactual Customary[9] Habitual VPs Deverbals
		Customary (Enduring Past -o or Hortative -o)	Customary Habitual VPs
		Negative Hortative -o	Negative Horative

Table 2 bears a remarkable similarity to the table Roberts (n.d.:44) presented on Suena Tense Sequencing.

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[9] Although, when they are questioned, Korafe speakers will declare that customary medial forms should be used with the customary final verb and habitual VPs ending in a final verb, in practice, they use both the irrealis future and customary medial forms.

TABLE 3: SUENA TENSE SEQUENCING

DS Medial 'Tense'	Final Verb T-A-M	
Today's Past	Present Today's Past Near Past Yesterday's Past Past (Two Years)	Sequential
Remote Past	Remote Past	
Future	Future	
Present	Present Today's Past Near Past Yesterday's Past Past (Two Years)	Simultaneous

Both Korafe and Suena (Wilson 1974:42-50) utilise the today's past tense in the marking clause to indicate a temporal sequencing relationship with the reference clause in either present or any one of the past tenses excluding the remote past. In the same way, present tense forms in the marking clause signal overlap relationships with the present or past verb forms in the reference clause. Both Suena and Korafe manifest a restricted number of paradigms with the ability of predicating marking clauses. The significant difference is that all indicative final verb forms terminate in *-a* in Suena. And the corresponding medial forms also terminate in *-a*. However, while all Korafe present tense forms and past third person forms also terminate in *-a*, all medial forms (other than the third person singular *-ri*) terminate in *-o*.

It can be hypothesised that the Korafe DS medial verb forms probably arose from tense sequencing patterns that utilised a limited set of final/semi-final verbs in the marking clause. The current different subject medial forms probably arose[10] from a fusion of the finite final verb forms with *-o*, which is also the distal demonstrative *o* 'that, far from speaker and hearer' and the disjunctive conjunction *o* 'or' used in polar questions and other polar alternations. It seems appropriate to indicate discontinuity of subject with a disjunctive conjunction.

[10] Haiman (1983:126) proposes that DS forms in some languages arose from a combination of the (Verb + PERSON = a subordinate verb form that is indifferent to switch reference) + nominalizer/conjunction. Suena still utilises the same original final verb forms as DS medial forms. However, Korafe has moved a step further, adding either a conjunction or demonstrative to the original suffix which fused. I suspect that it is probably the conjunction *o* 'or' that is used here because the medial verb marked clause is not embedded in the following reference clause. The demonstrative would embed it and give it an argument function, core or peripheral, in the following clause.

The following examples illustrate some SS and DS concord relationships.

Same Subject (SS) Medial Examples:

3) a.   *Nu nati-da   buvu-do   na tamb-ira.*
         3S village-LOC arrive.ND-SEQ.SS 1S find.ND-TP.3S.FN
         'He arrived in the village and found me.'

   b.   *Na nati-da   buvu-do   nu tafu-seni.*
         1S village-LOC arrive.ND-SEQ.SS 3S find.ND-DP.1S.AQ
         'He arrived in the village and found me.'

   c.   *Ni nati-da   buvurutu-se   jingabu mindafuá g-aresa.*
         2S village-LOC approach.II-SIM.SS snake   big.that   see.ND-TP.1S.AQ
         'While you will be approaching the village, you will see a big snake.'

Different Subject (DS) Examples:

4) a.   *Ni nati-da   buv-eso   gi-do,   nu do*
         3S village-LOC arrive.I-SEQ.R.2S.DS sec.I-SEQ.SS 3S leave.I
         sumb-ira.
         run.I-TP.3S.FN
         'You arrived at the village, so he left and ran away.'

   b.   *Na nati-da   buvurut-eno   kokora beka   si-sira.*
         1S village-LOC approach.II-SIM.R.1S.DS rooster mouth say.II-DP.3S.FN
         'While I was approaching the village, the cock crowed.'

   c.   *Nu nati-da   buvurut-urur-ari,   gi-do,   ne*
         3S village-LOC approach.II-IPF.SIM-IR.F.3S.DS see.I-SEQ.SS 3PL
         isambu ategi areva.
         all   greet do.F.2PL.FN
         'As he is approaching the village, all of you will greet him.'

   d.   *Abua-mane   nati-da   buvurut-urur-e(a)oro*
         grandfather-PL village-LOC approach.II-IPF.SIM-IR.CUST.3PL.DS
         gi-do   avia-mane   sorara e-do
         see.I-SEQ.SS grandmother-PL cry   do.I-SEQ.SS
         ghu-seri.
         do.repeatedly.II-DP.3PL.AQ
         'While our grandfathers would be approaching/were approaching the
         village (after working at a plantation for six months or more), our grand-
         mothers would cry/cried.'

2.3.2 Other Finite Verb Forms That Occur Medially. There is a problematic set of forms, the same subject realis durative medial verbs. The reason these forms are problematic is that most of them are identical with the sentence-medial semi-final verb forms, which are fully inflected for tense, aspect, number and person of subject and terminate in the modal orientation index *-a*. As such, they are indifferent or neutral to any coreference of subjects between the marking and referencing clauses. And they may occur with the information-structure markers and all the demonstrative-based topic markers and postpositions. Those that are identical with final verb forms also may carry sentence-final intonation.

Most often, these paradigmatic sets are realised by the Korafe lexical entries for 'go', 'come', and 'stay'. As noted above, these three verbs never occur with the suffix *-do* 'SEQ.SS', but they do occur with *-se* 'SIM.SS'. Instead of hosting the *-do* suffix, the durative stem of these verbs occur with an irrealis non-finite set of forms: *-a, -ama, -ia/-ua,-iama/-uama*. The realis medial forms of *i* 'go', *fu* 'come', and *iri* 'remain' do manifest person and number of subject marking, tense, aspect, and modal affixes.

TABLE 4: REALIS MEDIAL FORMS OF *i*, *fu*, AND *iri*

	'go'	'come'	'stay'
Realis Today's Past:	*aena*	*ojena*	*irana*
Past:	*ena*	*fena*	*irimutana, irisena, iriana*

The two past paradigms signalled by the first person forms *ena* 'I went' and *fena* 'I came' are generally used as same subject verb forms and correlate with reference clause verbs in all past tenses forms except the today's past. These are true medial forms. Like other medial verb forms, these forms may not precede information-structure markers, demonstative-based topicalisers and conjunctions. The corresponding semi-final forms of *ena* include *imutana* (YP) and *isena* (DP); semi-final forms for *fena* include *fumutana* (YP) and *fusena* (DP).

5)   ... *na jovereghe   f-ena   nati=da   oto*
      1S turn.around.I come.DUR-SEQ.R.PAST.1S.SS village=LOC axe
      bu-do   ena   afa=dae   mut-eno
      get.I-SEQ.SS go.DUR.SEQ.R.PAST.1S.SS father=PUR give.I-SEQ.R.1S.DS
      afa   si-sira...
      father say.II-DP.3S.FN
      '...I turned around and came (back) to the village, got the axe, went and gave it to father, and father said...'

The verbs for 'come' and 'go' are the only lexical verbs in the language which manifest this set of durative same subject forms.

Other verbs, especially *e* 'do' and *avi* 'sleep', also may function as same subject realis durative forms. These verbs obligatorily host the endocentric imperfective affix {*ere-*}, and one cannot always identify them as medial verbs.

6) *Sifia Gimasa gi-do   jovereghe   oji-gh-ira*
    Sifia Lad   see.I-SEQ.SS turn.around come.NDUR-stop-TP.3S.FN
    kambo=da   buvu-do   r-av-ara   sifo
    house=LOC arrive.I-SEQ.SS IPF-sleep-NP-NP.3S.FN day
    ate-tiri   ere-do   vos-a-ira...
    dawn.I-TP.3S.DS arise.I-SEQ.SS descend-go.NDUR-TP.3S.FN
    'Sifia Lad saw (her), turned around, came back and arrived at home, <u>he slept</u>, day dawned, and he arose and went down...'

Arising from the near past and enduring past, there are also two different subject sequencing realis imperfective paradigms. These are rarely used.

7) *... ninda   ruka   a=i   nanda   kambo=ghae fumbu*
    2S.GEN brother that=CEFF 1S.GEN house=COM carry.I
    oji-gh-ira   fit-iri   ir-ana
    come.NDUR-stop-TP.3S.FN put.I-SEQ.R.3S.DS remain-NP.1S.FN
    e-do   buvu-do   nunda   ofo=da
    do.I-SEQ.SS come.out.I-SEQ.SS 3S.GEN porch=LOC
    anumb-ir-ano   *oji-gh-ira   gi-do*
    sit-remain.SIM-SEQ.R.NP.1S.DS come.NDUR-stop-TP.3S.FN see.I-SEQ.SS
    de-do   ond-iri,   vose   sorara u-se
    hit.I-SEQ.SS run.off-SEQ.R.3S.DS descend.I cry   do.II-SIM.SS
    anumb-ir-ena.
    sit-remain-PRES.1S.FN
    '...your brother carried (me) with my house (reef rock I lived in) and came and put down the reef rock, and I remained until I came out and sat down on his porch, I remained sitting until he came, saw me, hit me and ran me off, and I came down, and I'm sitting (here) crying.'

2.3.3 Synopsis of Final and Semi-Final Verb Forms for gi 'see'.

Imperative:	*gi*	Imperfective Imperative:	*gos-uru*
Future:	*g-arena*		
Hortative:	*g-aone*	Subjunctive:	*g-aeteni*
Semi-Final:	*g-aona*		*g-aetena*
Customary:	*gi-r-aena*		
Present:	*ere-gos-ena*	Today's Past:	*g-eni*
Semi-Final:	*g-ena*		
Near Past:	*(ere-)gos-ani*	Yesterday's Past:	*gos-umutani*
Semi-Final:	*(ere-)gos-ana*		*gos-umutana*
Distant Past:	*(ere-)gos-useni*	Enduring Past:	*ere-gos-uani(eani?)*
Semi-Final:	*(ere-)gos-usena*		*ere-gos-uana(eana?)*

3   Characterising Medial Verb Clause Chains

Longacre (1985:238-9) divides sentence structures in the world into two types: 'co-ranking structures' and 'chaining' structures. Co-ranking structures typically combine clauses with predicates reflecting the same morphological structure. In co-ranking structures, the morpho-logical structure of the verbs in each base is the same, usually finite. When one component is subordinated to another component, then the subordinated component is embedded within the base to which it is subordinated, and it may have non-finite status. It usually becomes a noun clause or some kind of modifier. However, in chaining structures, non-finite verbs retain their verbal status, seem equivalent to each other, but certainly depend on the final verb for tense, mood, and illocutionary force. Chaining structures are characterised by combining clauses with predicates that differ in morphological complexity, the terminal verb being more finite than the medial verbs.

In the previous section, five basic verbal structures were presented: the verb stem or root, non-finite forms including SS medial verbs and finite forms including DS medial verbs, semi-final and final verbs. These basic verbal forms give rise to three types of interactive verb sequences in accordance with the temporal relationships they encode.

Verb stems without any temporal index form serial verb chains (SVCs) in which there may be overlapping or sequencing relationships between the verbs, but these relationships are not clearly defined. Often these combinations compositely predicate one clause, although some sequences appear to span several clauses, as in example (8), where the venue changes.

8) *Fegha* **viti**   *kambo joká=da*   *bayau okia=da*   **vendi**
    Fegha ascend.I house inside=LOC food   claypot=LOC put.in.I
    bu   *vose*   *avaraka* **use**   *it-iri...*
    get.I   descend.I fire   kindle.I cook.I-SEQ.R.3S.DS
    'Fegha went up into the house and put food into a claypot, got it and went
    down, ignited and fire and cooked it...'

Both SS and DS referencing medial verbs encode temporality in relationship to another verb rather than to the speech act encoding time. Medial verbs also form chains, but they are chains of clauses, topic-tracking, chronologically-ordered clause chains (TCC).

Both Korafe chaining structures, the serial verb chains (SVCs) and the SS/DS medial verb chaining structures, correspond to Longacre's description of chaining structures.

Both semi-final and final verbs usually indicate absolute tense, relating the activity they encode to the speech act encoding time. Sequences of semi-final and final verb terminated constructions correspond to Longacre's definition of co-ranking structures.

The focus in this paper is on the SS/DS medial verb clause chains. However, they are more clearly presented in contrast with the other two structures involving verb sequences.

3.1   Are the SS/DS Medial Chains Coordinate, Subordinate, or...?

Lehmann (1982:182) defines coordination this way:
> "a relation of sociation combining two syntagms of the same type and forming a syntagm which is again of the same type."

If we applied Lehmann's definition to the verbal chains in Korafe, by definition, they would not meet the structural criteria for coordination, because the terminal verb is often not "of the same type" as the rest of the verbs in the chain. This dilemma prompted Longacre (1985:239) to suggest:
> "...the subordinate/coordinate distinction is irrelevant (in that there is no choice between the two) and both are absorbed into the medial/final distinction."

And yet many involved in Papuan linguistics[11] describe the syntactic relationship between clauses in medial verb clause chains as a coordinate one. Reflecting the ambiguity of the situation, Foley (1986:177) gives the label "coordinate-dependent" to medial verbs. And Foley

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[11] For example, Haiman (1980:391) claims a coordinate relationship between the predicates, adding that because "S₁ both precedes and is understood as a possible S₂...the coordination of the two is called assymetrical." Franklin (1983:41) states: "Medial verbs are, in an intuitive sense, dependent on the following verb...but they are not subordinate." Reesink (1987:189) suggests that the syntactic function of the switch reference chaining system is coordinate conjunction of predicates (or predications). Roberts (1988b:60-1) states that for Amele, "the unmarked relationship of SR medial clauses is one of coordination and not subordination."

and Van Valin (1984:239) define coordinate and subordinate nexus rather narrowly, using the part-whole metaphor. In coordination, both conjuncts manifest a "whole-whole equivalence relation" in which "neither conjunct is embedded in the other." In subordination, "one of the two juncts is embedded in the other," and "they are in a part-whole relationship, with the subordinate junct dependent upon the superordinate junct."

Givón (1990:820) suggests that a simple two-way distinction is not adequate for describing language facts:

> "the absolute distinction between subordinate ('dependent') and coordinate ('independent') clauses works only within rigidly prescribed typological bounds; and even there only with rigid pre-selection of the facts…a careful analysis of the structural facts of **clause integration** and the functional facts of **event integration** reveals that in many languages, the sharp binary distinction between subordination and coordination is a gross over-simplification of the facts."

He continues:

> "Many languages do not make a clear morpho-syntactic distinction between coordinate and subordinate clauses. Rather they make finer distinctions as to the degree and type of connectivity." (p.848)

The subordinate/coordinate distinction is not totally irrelevant for Korafe. It is reflected in relationships involving semi-final and final verb sequences, particularly the co-ranking structured sentences. But it is not the major focus of the topic-tracking, chronologically-ordered chaining system. The major thrust of the system is thematic tracking of events and referents closely related to each other in one event frame. Chunks of events that belong to one event frame are held together as a unit by several devices, which include 1) the subject referencing system encoded in the verbs and 2) the predicates in temporal relationship with each other that share one common status, tense, and modal orientation and occur within one intonational contour. The entire sequence of clauses appears to mirror iconically the sequence of events they express.

In discussing the iconic relation between event and clause integration, Givón (1990:827) suggests components of event integration he sees as having systematic grammatical coding:

  a. Referent continuity
  b. Temporal continuity
  c. Location continuity
  d. Action continuity

How these components are maintained in the Korafe chaining and co-ranking structures is indicative of the differences between the systems.

3.2   Location Continuity

Location is the simplest to describe and perhaps the least differentiated in Korafe. In the two chaining systems, location is maintained by peripheral arguments and also by the use of the basic motion verbs, *i* 'go' and *fu* 'come' and the stative verb *iri* 'remain'. It is significant that these verbs do not have same subject sequencing perfective (-*do*) medial forms, but they manifest semi-finite forms *fena* and *ena* that only occur as medial verbs; they cannot occur in structures terminated by semi-final verbs and embedded by demonstrative topicalisers. These three verbs with forms peculiar to them alone are used more frequently within the topic-tracking, chronologically-ordered clause-chains than any verb other *e* 'do'. As discussed in Farr (1976), the motion verbs serve as indices of scene shifts as well as locating discourse participants within a scene and positioning the speech act participants exophorically. The verb *iri* *'remain'* also functions as an endophoric locator.

Location in the semi-final/final structures of the co-ranking system is not usually as significant as it is in the chaining systems. It is likely to be expressed by peripheral arguments, but motion verbs may terminate these structures.

3.3   Action Continuity

The function of the two chaining systems is to maintain action continuity. Originally termed integral action forms, because they encode a closely integrated set of activities, the composite verb stem chains seem to form one complex unit. The temporal relationship between verbs in these verb root sequences is not clearly specified. This allows them to be integrated into one unit where breaks between the actions are not clearly defined.

Because the switch reference medial system tracks salient participants, it allows breaks to introduce new core participants or reinvoke participants to disambiguate reference. These breaks are characterised by anomalies in the cataphoric indices in the medial verb forms.

9) *E-tiri*   *jare-do,*   ***Lucas   nu*** ... *jingabu amo   voto=da*
   do.I-R.SEQ.3S.DS despair.I-SEQ.SS Lucas   3S   snake   that.T/F net=LOC
   ir-iri,   *nu   voto=da ruvi   vuje-gu-sira.*
   remain-R.SIM.3S.DS   3S   net=GEN folds   unloose.I-do.FOC.II-DP.3S.FN
   'It did (that), and despairing, Lucas he...the snake was remaining in the net,
   and he unraveled the folds.'

The same subject verb form *jaredo* referring to Lucas' emotional state indicates that Lucas is maintained as the subject referent in the subsequent clause. But actually, the subject of the subsequent clause is the snake. The anomalous same subject reference indicates a problem in

the chronological sequencing. The speaker backtracks slightly to a time before the action encoded by *jaredo* when the snake began remaining in the net, which the snake is still doing after Lucas's experiencing of despair. The snake, signalled by a noun phrase, is a major character in this story, so the lack of switch reference is not so much signalling Lucas' prominence in the story as it is signalling the temporal mismatch. When the snake is successfully participating in the story line, the speaker repeats *nu* to return the thematic focus to Lucas.

Example (10) illustrates the same phenomenon with the word *buvudo* breaking off the activity the women were involved in to backtrack and discuss the activity of the men up until the reference time indicated in *buvudo*. The speaker is not included in any actions after *buvudo*, but she signals re-entry into the normal sequence by repeating Cindi, who was involved in the original set of activities with her.

10) *Namane Cindi=ghae vare=da   aera   bayau*
     we.EXC Cindi=with garden=LOC go.NDUR.TP.1PL.FN food
     bambu-do   jovereghe ojera   nati=da
     get.I-SEQ.SS turn.around come.NDUR.TP.1PL.FN village=LOC
     buvu-do...   *Kenneth, Jim, Michael*
     arrive.I-SEQ.SS   Kenneth Jim Michael
     vos=aera   *oka viti=ojighera*
     descend.I=go.NDUR.TP.3PL.FN fish get.I-SEQ.SS
     tere-tero,   *Cindi... Cindi ivuga edo*
     enter.I-R.SEQ.3PL.DS Cindi... Cindi joy   do.I-SEQ.SS
     vos=aira.
     descend.I=go.NDUR.TP.3S.FN
     'I and Cindi, we went to the garden, harvested food, came back, and arrived home...Kenneth, Jim, and Michael had gone down, they caught fish, and came up and entered the landing...and Cindi, she was glad and went down (to meet them).'

When the speaker is narrating a story or detailing a procedure where temporal succession is the primary relationship between the events, the switch reference system with tail-head linkage[12] at sentence boundaries is employed. In tail-head linkage, final verbs break the action flow, encoding the terminus of episodes. A medial form of the previous final lexical verb or SVC or of one of the generic verbs *e* 'do', *eminge/aminge* 'do this way/that way', or *ghe* 'continue

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[12] Thurman (1975:342-3) used the term tail-head "linkage" to describe the device of lexical overlap at sentence boundaries.

from, do also' function as recapitulatory devices, which enable the resumption of the flow of events in the subsequent sentence. Example (11) illustrates tail-head linkage.

11)   ... *sumbu buv-eni.*   *Sumbu   buv-ena...*
            run.I   arrive.I-TP.1S.AQ   run.I   arrive.I-TP.1S.FN
            '...running, I arrived. Having run and arrived...'

Various flow breakers like pause words and generic verbs encoding 'do', 'finish', and 'remain' signal the terminal points of sub-episodes. Semi-final and final verbs or a conjunction are employed to cut off the chronological sequencing of the medial verb referencing system.

Semi-final or final verbs manifest linkage either by direct juxtaposition of the clauses they predicate or by conjunctions. Thompson and Longacre's (1985:227) analysis of the consequences of lexical overlap hold true for Korafe 'conjunctions':

"...lexical overlap—especially when it is a back reference—can become stylized and reduced until it becomes similar to conjunction. Thus, instead of the specific repetition of a verb in back reference the subsequent allusion may be by virtue of a verb of highly generic meaning such as 'do', 'be', or 'say'...where this stylized conjunctival back-reference is encountered, the verb is often combined with a demonstrative stem. The verb is either uninflected or minimally inflected...'

The conjunctions in Korafe are either demonstratives, enclitics, same subject forms of *edo* 'do', *sedo* 'say', or *gido* 'see', or the different subject 3S form of *etiri* 'do', or various combinations of the three elements. The conjunction cum finite verb co-ranking system maintains logical continuity rather than temporal continuity. Used to encode parallel events, reasons for the state of events, thoughts and speeches, flashbacks and foreshadowings, and other non-events—reflecting the mental process packaging of the speaker, it furnishes the background for the foregrounded action chains manifested by switch reference chains. In example (12) the speaker breaks off the event chain at *buvutusera* to explain that a house had already blown over before he began moving up the hill. The verbs in *bold type* are the ones tracking the set of events being narrated. A second event line set, indicated by the verbs in ***bold san-serif type***, is embedded by the mental process clause *na erebunena* and encodes the speaker's thought. Although the story is narrated in the distant past tense, *erebunena* is marked for present tense. Unlike medial verb chaining sequences which manifest one status, tense and modal orientation, co-ranking semi-final/final sequences may differ in status, tense and mood.

12) *E-do   sumbu-do   buvutu-sera*   *Cephas da   nati*
do.I-SEQ.SS run.I-SEQ.SS approach.II-DP.1PL.FN Cephas GEN house
duduru-sira.   Nu vose-do   ira   *reda*
fall.II-DP.3S.FN 3S descend.I-SEQ.SS go.DUR.R.PAST.3S.SS where
jungutu-sira,   na ere-bun-ena.
hide.II-DP.3S.FN 1S IPF-not.know-PRES.1S.FN
Vit=era...
ascend.I=go.DUR.R.PAST.1PL.SS
'Doing (that=carrying his dad piggyback), we ran and approached...Cephas'
house had fallen over. He had gotten down and gone and where he hid, I don't
know. We went up...'

3.4   The Scope of Mood and Negation

The scope of mood and negation are also significant differentiators of the three systems.

3.4.1 The Scope of Mood. Chaining systems obligatorily occur with one mood operator
dominating the entire structure. The serial verb chain in (13) occurs with imperative mood. In
(14), the question interrogative mood dominates the entire switch reference chain.

13) *Sumbu vosi=yasi!*
run.I   descend.I=go.DUR.IMP
'Running, go down!'

14) *Ni rejo   fuge-teso   sino ri-se   gangara*
2S what.SPEC throw.I-SEQ.R.2S.DS dog eat.II-SIM.SS growl
re-s-i?
IPF-say-PRES.3S.AQ
'What did you throw that (is causing) the dogs to growl while they eat it?'

The co-ranking system may reflect independent mood/modality indices with each base.

15) ... *(ne) jó   jebuga ir-evu,*   *aindae*
2PL NEG life   remain-PRES.2PL.**AQ** that.CEFF.BEN
re-s-ena.
IPF-say-PRES.1S.FN
'...I hope you are all right, therefore I am speaking.

Example (15) is a greeting in a letter. Each base carries a different modal orientation. The modal orientation marker -*a* on the finite verb *resena* signals that this predicate is either not asserted or weakly asserted. Presumably the speaker may not strongly assert the truth value connected with the activity in progress (encoded by the present tense in the indicative mood) precisely because it still is going on and all the facts are not in. The combination of a verb hosting the asserting modal orientation marker -*i* (-*u* for 2PL) and the negative focus marker *jo* encodes the optative mood, not negation. In *jo jebuga irevu* 'I hope you are healthy' in (15), the writer was **strongly asserting her hope** that we were well.

3.4.2 The Scope of Negation. The onset of negation is often signalled by the negative focus marker *jo* 'not'. It directly precedes whatever constituent(s) the speaker wants to focus on as being negated. To indicate the terminus of negation, a verb stem is marked with *ae* 'not doing', a deverbal form acting like an adjunct. It is followed by the copula or a form of *e* 'do, become, SEQUENCE' or *iri* 'remain, OVERLAP'. (Refer to examples (16-21).)

The scope of negation extends over the entire SVC.

16) a. ... *kotofu-ka   nunda   natofo=de...   nenda   oka   jihgi*
        leader.INT   3S.GEN   people=COM.PL   3PL.GEN   meat   hold.I
        g-ae   e-teri.
        see.I-not.do   do.I-TP.3PL.AQ
        '...the chief leader and his people did not hold their meat and see it.'

    b. ... *jo nendaoka jighi gae eteri./nenda oka jo jighi gae eteri.*
        '...they didn't hold their meat and see it.'

    c. *...nenda oka jighi jo gae eteri.
        '...they held their meat and didn't see it.'

The switch reference system is the only system which may either negate individual units within the chain or negate the entire chain. In (17) and (18), only one member of the series (the clause in bold) is negated; the others manifest positive polarity.

17) ... *a   jo   tumond-ae   edo   nundae jijivu   s-eteri.*
        that   NEG   believe-not.do   do.SEQ.SS   3S.BEN   swearing   say-TP.3PL.AQ
        '...they did not believe that, and they swore at him.'

18) *Na nange   yaru eni gat-ae   ir-eno   at-eti?*
        1S   do.what   song   a   select-not.do   remain-SIM.R.1S.DS   dawn.I-TP.3S.AQ
        'What have I been doing (that) I remain not having selected any song and it has already dawned?'

In (19) and (20) the entire sequence shares a single polarity.

19) ... *ã   jo   de   b-udo   rejo   eni   ae   e-r-aera.*
     and NEG hit.I get.I-SEQ.SS what.SPEC any not.do do.I-IPF?-CUST.3PL
     '...and we do not hit and get (that lizard) and do any specific thing (productive) with (it).'

20) *Osevi jo reda   ir-ari   tamo g-ae   aresa.*
     lizard not what.LOC remain-SEQ.IR.3S.DS body see-not.do do.F.2S.FN
     'The Keeled Anglehead Lizard will not remain where you will see (its) body.'

Each base in the co-ranking structures must be independently negated. In (21) the major bases conclude with *eviri, jo gi gogogho ae arera*, and *jo kasama ae arera*. The latter two bases are each manifested by a switch reference chain. Each switch reference chain contains two clauses which manifest a difference in polarity.

21) *Ava+sedo, na mendeni=kena kasia=imi   ijug-eraena=da*
     that+saying 1S some=ALOC   parable=CEFF.T/F teach-CUST.1S.FN=LOC
     bekã=mo   evi=ri: (1) *ne   diti=imi   gosu-se,   jo*
     reality=T/F this.CD=COP.AQ   3PL eye=CEFF.T/F see.II-SIM.SS not
     gi   gogogho+ae arera,   ã   (2) dengoro=i   niningu-se,
     see.I well+not.do do.F.3PL.FN and   ear=CEFF.T/F hear.II-SIM.SS
     jo   kasama+ae   arera.
     not know+not.do do.F.3PL.FN
     'Therefore, the reason I teach some with parables is this: (1) while they are seeing with (their) eyes, they will not see well, and (2) while hearing with (their) ears, they will not hear and learn.

As illustrated in (22), the matrix clause may manifest a negative polarity, while the embedded one is positive.

22) ... *ghaka re-da   dotutu-sena   ava,   na jo kasama+ae=ri.*
     canoe what-LOC left.II-DP.1S.FN that.CD 1S not know+not.do=COP.AQ
     '...where I had left the canoe, I didn't know.'

This feature distinguishes topic-tracking, chronologically ordered clause chains from all the other systems. The SVCs functions as a unit with one polarity. The scope of negation does not cross semi-final or final verbs, so each syntagm in the semi-final/final logical structure manifests its own polarity. By having two strategies for indicating the scope of negation, the medial verb chaining system signals its intermediate position between the other two systems.

3.5   Temporal Continuity

The encoding of temporality in the three systems is a major differentiator, and is overtly indexed in the morphological structure of the verbs. Root verb components of SVCs share the tense of the terminal verb in the chain. The same subject verb forms of the TCCs behave exactly like the SVCs. Different subject verb forms manifest various correspondences: realis with past tense final forms, irrealis with future tense forms, customary with customary final forms, and negative hortative with negative hortative final forms. The realis-past correspondence is illustrated in (23).

23)   *Ne   fuka   d-etero*   *amb-ira.*
      3PL   pig   hit.I-SEQ.R.3PL.DS   die.I-TP.3S.FN
      'They killed the pig.'

With co-ranking structures, each base may manifest its own tense, status, and aspect. In example (24), the portion in bold is a switch reference sequence of irrealis forms that is embedded by the complementiser *dae* 'purpose marker' into the larger co-ranking structure. The embedded base has irrealis status, but the matrix base manifests today's past tense (realis status). Here, the switch reference system encodes purpose, specifically the purpose of the speech act participants, as indicated by the matrix clause.

24)   *Nu,* **geka evia**   *s-aono*   **ning-aso=dae**   *nangae*
      3S   talk   this.CD   say-SEQ.IR.1S.DS   hear.I-SEQ.IR.2S.DS=BEN   1.COM.D
      come.NDUR-TP.1PL.AQ
      oj-eri.
      come.NDUR-TP.1PL.AQ
      'It's just, in order that I will say this talk and you will hear (it), we two have come.'

3.6   Referent Continuity

Foley and Van Valin (1984) discuss juncture of clauses at the inner or nuclear level, the core level and the outer peripheral level. A major feature defining these clause junctures is the nature of the argument interaction with the predicates. Juncture of predicates at the nuclear layer is characterised by direct juxtaposition of the verbs with no arguments intervening. Forming a nuclear unit, the verbal predicates share all arguments, core and peripheral, as well as tense, polarity, modality and illocutionary force. Nuclear juncture characterises mono-clausal units.

Most Korafe serial verb chains correspond to this definition of nuclear juncture. Example (13) is repeated here as (25) to illustrate mono-clausal nuclear juncture.

25) *Sumbu vosi=yasi!*
    run.I   descend.I=go.DUR.IMP
    'Running, go down!'

The individual verbs involved in the sequence may differ in valency in their **lexical role frames**, but the unit has a composite role frame which the verbal constituents obligatorily share. And it is this composite role structure along with the stripped down nature of all but the final verb in the uninterrupted sequence which defines the clause, as illustrated in (26) in which the wind is the initiating force-subject and the house is the patient-object.

26) *Kambo yaura-imi   jighi gofu-muta.*
    house   wind-CEFF.T/F hold.I   fall.II-down.YP.3s
    'The wind caused the house to crash.'

In core juncture, the kernel juncts share at least one of their core arguments and all their peripheral arguments as well as mood and illocutionary force. They may differ in tense and mood. Peripheral juncture involves two clauses and allows each junct, termed a base, to manifest unique core and peripheral arguments, as well as different aspect, tense, modality, mood, and illocutionary force. Each peripheral base is realised by a clause. Here, Korafe seems not to match the definitions. Foley and Van Valin (1984:195-6) ascribe peripheral juncture status to the medial verb sequences in Kewa, because they freely permit peripheral constituents in both base juncts. But in Korafe, even some serial verb chains manifest different peripheral arguments! Example (8) is repeated as (27). The verbs *viti* 'ascend' and *vose* 'descend' place Fegha in different locations.

27) *Fegha viti   kambo joká=da   bayau okia=da   vendi   bu*
    Fegha ascend.I house   inside=LOC food   claypot=LOC put.in.I   get.I
    vose   avaraka use   it-iri...
    descend.I fire   kindle.I cook-SEQ.R.3S.DS
    'Fegha went up into the house and put food into a claypot, got it and went
    down, ignited and fire and cooked it...'

And certainly, both medial verb predicates and final/semi-final verb predicates are used in peripheral junctures in Korafe. However, the peripheral junctures realised by the semi-final/ final verb predicates correspond more closely to the unconstrained argument feature that characterises peripheral juncture. Medial verbs occurring as predicates in peripheral bases do

not manifest mood or illocutionary force. They often appear to be sharing core arguments in a way more characteristic of core junctures.

28)   *Ne   fuka d-etero   amb-ira.*
      3PL   pig   hit-SEQ.R.3PL.DS   die-TP.3S.FN
      'They killed the pig.'

Korafe manifests many doublet examples of switch reference like the one above. English translations of some of these lexically predictable combinations in the present tense are: 'put it - it descends', 'hold it - it goes up', 'do it - it is enough (='can do')', 'do it - it finishes (='complete an activity')', 'throw eye - it goes (='gaze')', 'leave it - it goes down', and 'hit it -it dies'. Usually, both NP subject and object arguments are positioned before the first verb. The argument they share manifests this switch between the two clauses: object→subject. These doublets normally fall under one scope of negation. (Refer to (19-20).)

29)   *Ne   fuka jo   d-ari   amb-ae-ri.*
      3PL   pig   NEG   hit.I-SEQ.IR.3PL.DS   die.I-not.do-COP.AQ
      'They didn't kill the pig.'

Logical continuity rather than referent continuity is the focus of the co-ranking system, so each verb in the sequence is marked for person and number of subject of the marking clause. Manifesting peripheral juncture, two juxtaposed clauses with finite verb predicates are not required to share any core or peripheral arguments. Even though there is no additional marker indicating a switch in reference, the following clause may manifest a different subject.

30)   *Nangae fugutu-sera   ava,   oka jo   tamo*
      we.two   throw.II-DP.3PL.FN   that.CD fish   not   body
      der-ae-ri.
      touch.I-not.do-COP.AQ
      'We threw (out our hooks and lines) but the fish didn't bite.'

The major thrust of the topic-tracking, chronologically ordered clause chains is to detail a series of temporally related activities, monitoring the salient referents involved in these events. Both the subject referent within the local marking clause and its relationship (identity or non-identity) with the subject of the reference clause are indicated in the suffix. Although the subject of the local marking clause is always correctly indicated, the syntactic marking the system gives does not always reflect the correct referential relationship between the subjects in the marking and reference clauses. Anomalies in the referential tracking system occur when the reference clause contains an impersonal verb that semantically expresses emotional or physiological states. In (31) the speaker as subject of *fainghedo* chooses to monitor himself as the subject of

the following clause. But the local subject of *fakara etiri* is not first person, but the third person referent, *eghovo*, as the suffix correctly indicates. It also correctly predicts that the subsequent reference clause will not have the same subject.

31)   ... *na tumo fainghe-do   eghovo fakara etiri   nanda mandi*
     1S neck raise.I-SEQ.SS chin   hard   do.SEQ.R.3S.DS my   boy
     George Seko na tofo diregu-seni.
     George Seko 1S self send.off.II-DP.1S.T
     'I held up my head and plucked up my courage and sent off (held the funeral for) my son, George Seko.'

But in (32) the experiencer of the emotion is referenced as subject of the clause expressing emotion.

32)   ... *nuvu   bu-do   gi-do   oju   e-do*
     3S.husband get.I-SEQ.SS see.I-SEQ.SS fear do.I-SEQ.SS
     mut-iri,   sino-imi   mind-ira.
     give.I-SEQ.R.3S.DS dog-CEFF.T/F eat.I-TP.3S.T
     '...her husband got (the afterbirth), saw it, was afraid, and he gave it (to his dogs), and they ate it.'

The same kind of alternations exist with physiological states.

33)   ... *oka bambari=dae y-aovo   diti   baingh-arira amo...*
     fish get.INF=PUR go.DUR-SEQ.IR.2PL.DS eye close-F.3S.FN that.T/F
     '...if you go to get fish and your eyes are drooping...'

34)   *Gembu-do   i-se   na ditiko   baingh-usira.*
     paddle.I-SEQ.SS go.DUR-SIM.SS 1S eye.DIM close-DP.3S.FN
     'I paddled, and as I went along, I kept closing (my) eyes.'

In (33) both the cataphoric indication and the local marking subject indicate that the third person referent 'eye(s)' is being monitored as the impersonal subject of the verb *baingharira*. But in (34) the cataphoric referencing system suggests that the subject of *ise*, which is the speaker, *na*, is to be maintained as the subject of the subsequent reference clause. However, the local subject marking in the reference clause indicates that third person is subject, not the first person experiencer indexed by the preceding clause. Korafe speakers choose to monitor ambiguously two referents in about half of the constructions expressing emotion, and about 80% of the physiological expressions.

When the verb expresses a temporal setting or weather conditions, mismatches may also occur. The initial predicate in (35) is a verb root, but its subject is not indexed as the local subject

of the subsequent reference clause. In most of the instances where some temporal setting is encoded in a clause, such as in (36), the cataphoric marking predicts what the local marking in the reference clause also indicates.

35)   *A   se,   tumba jir-iri,*   *ofo   fend-ero...*
       that say.I night fall-SEQ.R.3S.DS flooring put.I-SEQ.R.1PL.DS
       'We said that, and night fell, and we put down flooring...'

36)   *Namane nati=da   ir-ero,*   *tumba jir-iri,*
       we.exc village=LOC remain-SIM.R.1PL.DS night   fall-SEQ.R.3S.DS
       vose-do   i-seri.
       descend.I-SEQ.SS go.DUR-DP.1PL.T
       'While we were remaining in the village, night fell, and we went down (to catch fish).'

In (37) the narrator of the story indicates that the subject of *sedo* is co-referential with the subject of the following verb. However, the subsequent reference clause indicates that *yaura* 'wind' is its local subject. The modifier in that clause, *dumoghae*, cannot possibly refer to the wind either, but must be an attribute of the human subject of *sedo* and experiencer of the wind's activity.

37)   *... rekato   eminge-eni!"   se-do   dumo=ghae*
       how.in.the.world this.do/I-TP.1S.AQ say.I-SEQ.SS sulking=with
       yaura-i   d-etiri   dadadaghu-se   nati=da
       wind-CEFF hit.I-SEQ.R.3S.DS shake.II-SIM.SS village=LOC
       f-useni.
       come.DUR-DP.1S.T
       '"...how in the world did I do this!" I having said that, sulking, with the wind hitting me and while I was shaking, I came home.'

But in (38) each switch in subject referent is monitored.

38)   *... namane Michael noaro=ghae isambu nanda nati=da*
       we.exc Michael his.wife=with all   my   house=LOC
       ir-ero,   yaura suf-iri...
       remain-SIM.R.1PL.DS wind run.II-SIM.R.3S.DS
       '...while we, Michael and his wife, all of us were staying at my house, the wind was blowing...'

In cases of referential overlap where the subject reference shifts from singular to plural or plural to singular, it appears that speakers may choose to treat them as coreferential or distinct.

Both (39) and (40) illustrate a switch from 3S to 3PL, but (39) manifests coreferentiality of referents while (40) manifests discontinuity of referents.

39) *S-etiri,*   **gagara vos-edo**   *nengae jingabu=da*
     say.I-SEQ.R.3S.DS girl   descend.I-SEQ.SS they.two snake=GEN
     nati-da   aera.
     house-LOC go.TP.3PL.FN
     'He spoke, the girl got down, and both of them went to the snake's house.'

40) *... evetako-á   ere-tiri   nengae a-era*
     old.woman-that arise.I-SEQ.R.**3S.DS** they.two go.NDUR-TP.**3PL**.FN
     nunda kambo-da   vit-eri.
     his   house-LOC ascent.I-TP.3PL.T
     '...that woman got up, and the two of them went and climbed into his house.'

Examples encountered in the data corpus suggest that 3PL→3S and 1S→1PL also allow both discontinuous and coreferential interpretations. Examples with second person are scant (2S→1PL, 2PL→1PL), but they are the only ones that indicate non-coreference as the usual pattern. All the other switch reference examples involving changes in number reference are interpreted collectively as maintaining subject continuity.

Finer (1985:35) claims that "SR patterns are inescapably syntactic, obeying certain locality conditions that can be taken as diagnostic of the operation of the binding theory of the Government-Binding theory." The Korafe data presented above show that in many situations speakers may mark referents either as coreferential or as noncoreferential, depending on whether the speaker determines that a shift in participant orientation is significant enough to warrant DS marking. This makes for a very unpredictable syntactic device.

Finer (1985:38) does entertain the hypothesis that SR might possibly "serve...as a [discourse] processing aid." Under this analysis, DS would "warn the listener that a new discourse entity or topic (denoted by a grammatical subject) is about to enter the conversation," and SS would indicate "that the discourse entity referred to by the grammatical subject of one clause is about to enter another context of predication." He discards this hypothesis, claiming that the predictions made by this hypothesis are indeed not confirmed in languages with switch reference devices.

However, two of the predictions Finer claims follow from a pragmatic analysis of SR are confirmed in Korafe. First, juxtaposed medial clauses indicating retention or switch of subject normally precede the reference clauses just as predicted. Korafe does not permit a medial verb predicated clause to follow the clause predicated by a final (independent) verb in a sentence, except in highly marked situations, such as in the rigidly defined purpose constructions (infinitive/irrealis future DS medial form + *dae* 'for the purpose of' ± *sedo/sise* 'saying SEQ/

SIM'). Second, SR across conjoined clauses [conjoined by conjunction] does occur in Korafe. An example of a coordinate conjunction occurring between two SS clauses and additionally coordinated by the final verb phrase *ghae eraera* is given in (41).

41) *Vikoko evia,   jo bu   y-a   enda gafu-se   o   ika*
     knife   this.CD not get.I go.DUR-IR.SS ground dig.II-SIM.SS or tree
     babaimi jeti-se   gh-ae   e-r-aera.
     large.PL chop.II-SIM.SS do.also-not.do do.ND-IPF-CUST.1PL.FN
     'Regarding this particular type of knife, we don't get (it), go and prepare the group or chop down big trees (with it).

The third prediction claimed by Finer to follow from the pragmatic analysis of SR is that it should be possible to topicalise NPs across an SR clause. It is true that Korafe does front participants so that they precede clauses they are not arguments in. In fact, there is a tendency to list all the noun phrases first before embarking on the switch reference chain. But this appears to be a topicalising and foregrounding discourse device. Example (42) illustrates the foregrounding of one participant (*na*) by fronting it. It either occurs as an unmarked peripheral argument within the first clause or, more likely, it is a thematic topic outside the first clause. Certainly the referent *na* functions as the subject of the final two predicates.

          TOPIC/IO-DATIVE?   S-AGENT   OBJECT-THEME
42) *Na*   *afa   Matthew*   *geka*
     1S   father Matthew   talk
       VERB   VERB   VERB
     s-etiri   *ning-ido*   *ere-gef-ena-re.*
     say-SEQ.R.3S.DS hear-SEQ.SS   IPF-write-PRES.1S.FN-CR
     'Father Matthew said talk to me, and I heard (it) and am herewith writing it' or
     'I am writing the talk that father Matthew said to me.'

Object thematic prominence may also be maintained by referencing the referent as a full NP and fronting.

43) *Rika emo   de-do,   bu-do   f-oama   nati=da*
     bird this.T/F hit.I-SEQ.SS get.I-SEQ.SS come.DUR-SEQ.IR.SS village=LOC
     buvu-do,   buroro tuse-do,   oje   iti-do...
     arrive.ND-SEQ.SS feather pluck.I-SEQ.SS butcher.I cook.I-SEQ.SS
     'This bird (we) kill, get it and come, arrive home, pluck the feathers, and butcher and cook it...'

In example (43), *rika emo* 'regarding this bird' is thematised by fronting and also by its very nature as a noun phrase with two components. How does the Korafe addressee determine the object of *oje itido*, which occurs with only one core object as a nuclear complex predicate? My tentative answer is that *buroro*, which does not occur with any topicalising devices, is a local argument involved only in the clause with *tusedo*. Incidental objects with local scope pertain only to the clause in which they occur, but clauses that do not occur with overt object NPs are considered to take the nearest preceding thematically marked object.

As discussed above, anomalies in the medial verb reference tracking system frequently perform the same referent foregrounding function, backgrounding less significant arguments that play an event-line role such as setting, bodily and emotional responses, and perceptions of the major referents. Because the medial verb referencing system is a primary encoder of referential prominence, it manifests many thematising strategies.

4   Conclusion

Since 1967 when Jacobsen coined the term switch-reference, much ink has been expended defining its syntax and function. For Korafe and other Papuan languages manifesting reference tracking systems, the morphemes involved indicate cataphorically the temporal relationship between two adjacent clauses and also reference both the local clausal subject and its relationship (identity or discontinuity) with the subject of the subsequent clause. Although verb forms suffixed by SR devices are described as medial verbs heading dependent clauses, the syntactic relationship between them and subsequent clauses, especially the sentence final clause manifested by an independent verb, has been much disputed. Jacobsen (1967) and Finer (1985) claim these dependent clauses are embedded subordinate clauses. Roberts (1988:62), agreeing with several other Papuan linguists, states, "…the unmarked relationship of SR medial clauses is one of coordination and not subordination." This is true for Korafe topic-tracking, chronologically ordered clause chains. However, marked instances of embedding DS verbs do occur as illustrated in (24), repeated here as (44).

44) *Nu, geka evia   s-aono   ning-aso=dae   nangae*
     3S talk this.CD say-SEQ.IR.1S.DS hear-SEQ.IR.2S.DS=BEN 1.COM.D
     oj-eri.
     come.ND-TP.1PL.T
     'It's just, so that I will say this talk and you'll hear (it), we two have come.'

Givón (1990:826) suggests viewing coordination and subordination as poles on a continuum. Reflecting this idea, Lehmann (1988:181-225) provides a framework for analysing

clause-linkage relationships along six parametres, represented as graded continua. Two generalisations can be hypothesised for expressing the two poles of a coordinate/subordinate continuum delineating the Korafe verb sequence systems.

i)   The more coherent (equi-subject) an inter-clausal sequence is is, the less finite it will be, and predicates participating in it will be less marked and more coordinate.

ii) The more finite a non-assertive clause is, the more likely it is to enter into a subordinate relationship with another clause.

TABLE 5: DIFFERENCES BETWEEN FOUR TYPES OF VERB SEQUENCES

	SVC	SS-SRC	DS-SRC	SF/FINAL
Constituents-tense concord	YES	YES	YES	NO
Constituents-mood concord	YES	YES	YES	NO
Independent negation of constituents	NO	YES POSSIBLE	YES POSSIBLE	OBLIGATORY
Fills sentence coda	NO	NO (except with grammaticised forms)	YES (in purpose constructions, etc.)	YES
Conjunction co-occurrence	ã, o only coordinate	YES no topic-marking demonstrative-based conjunctions	YES	YES all conjunctions

Korafe data corroborates Robert's (1988:62) position: "...an explanation of the true nature of SR is not to be found in syntactic binding theory but rather in discourse deixis theory." In fact, the Korafe TCC system basically tracks thematic referents over a series of temporally related events (usually related in temporal succession).

Although it is true that the most common relationship between constituents of switch reference chains is one of assymetric coordination, I believe that the syntactic coordinate/subordinate relationships are not the most illuminating grid for examining Korafe data. Wallace (1982:211-12) synthesises Comrie's "animacy hierarhy," Givón's "topicality hierarchy," Hopper and Thompson's "transitivity hierarchy," Reid's distinction of "focus," Silverstein's "agency hierarchy," and Timberlake's "individuation hierarchy" into one table. He separates

the nominal categories into more salient and less salient sub-categories. Foreground is a more salient notion; background is less salient.

In discourse studies, foreground correlates with main clause and the coding level of coordination, and background correlates with the subordinate clause. It is also possible to analyse the Korafe chaining and co-ranking systems in terms of foregrounding and backgrounding discourse notions. Medial verb chains marked for chronological sequencing have all the characteristics of the more salient elements in Wallace's table. Basically, they relay the events that are indispensable to the narrative. Although on the surface topic-tracking verb chains appear to monitor the syntactic subject of the clause, cases of anomalous switch reference do occur. Such marked cases serve to monitor the thematic (or currently salient) referent or to accomodate temporal mismatches in the ordinarily chronological flow of events. These mismatches often correlate with the introduction or re-introduction of significant participants. Backgrounding functions are often realised by clauses terminating with semi-final or final verbs that are not recapitulated in tail-head linkage. In narrative discourses these verb forms interrupt the switch reference system, presenting collateral information, opinions of the speaker, indicating non-events, or backtracking to present an explanation of events that impinge on the story. The Korafe topic-tracking, chronologically ordered clause chaining system is primarily a discourse device for coding chunks of reality in chronological order and indicating referential prominence.

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