WORD ORDER CHANGE IN PAPUA NEW GUINEA

AUSTRONESIAN LANGUAGES

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ABSTRACT

From a general Austronesian (AN) point of view, the AN languages of the New Guinea mainland possess very distinctive word order typology. They are unique in possessing many traits associated with OV word order. Section 1.1 summarizes the word order typology of these languages and presents distributional evidence that, when AN languages arrived in New Guinea, they possessed VO word order typology and that they moved toward OV typology as a result of contact with Papuan languages. Many of the traits which make New Guinea AN languages distinct are innovative and widely shared among the languages of the area. This has led linguists to suspect some genetic basis for the innovations. Section 1.2 examines the evidence for the New Guinea Oceanic (NGO) hypothesis, which assumes that many of the innovations occurred only once in a proto-language, Proto-NGO, ancestral to most of the AN languages on the New Guinea mainland. Current hypotheses about lower-level subgroups within the putative NGO group are also summarized. In this dissertation, NGO is used as a typological rather than genetic label.

Chapter 2 examines verbal position in transitive clauses. It argues that, as part of the move from VO to OV word order, SVOV serial causative constructions arose and largely displaced the common AN morphological causative in almost all NGO languages. The serial causative then gave rise to the compound causative and classificatory prefix constructions typically found in those languages that have made

the full shift to OV word order. Chapter 2 concludes that NGO languages adopted a strategy of aiming to produce structurally ambiguous SVOV syntax while switching from VO to OV word order.

Much has been written about the prenominal position of the genitive in the AN languages of New Guinea and eastern Indonesia. Section 3.1 briefly reviews some of this literature. Assuming that no further evidence is needed to show that NGO languages have preposed genitives, the bulk of Chapter 3 outlines three widespread grammatical innovations that accompany the change in genitive word order: First, many languages use preposed focal pronouns to reinforce pronominal genitives. However, neither this combination nor the distinctive morphological innovations which sometimes arise from it constitute good evidence of genetic affiliation. Second, many languages allow certain kinds of genitives to be postposed. These postposed genitives do not appear to be relics of ancestral word order. Finally, a large number of NGO languages have elaborated the role of the "possessive" suffixes. The suffixes seem to have taken on the function of marking NP-final position in NPs containing modifiers.

Chapter 4 deals with nominal modifiers other than genitives. Adjectives are postposed in all NGO languages and are suffixed in many languages to show the number and/or person of their head nouns. Unmarked modifying nouns are preposed. NPs containing postposed modifying nouns usually also contain grammatical markers in NP-final position. Relative clauses in the great majority of NGO languages are postposed. However, they are preposed in the languages of Central Province, PNG. Both groups of languages tend to mark NP-final

position in NPs containing relative clauses. The languages of Morobe Province, PNG, have postposed relative clauses with markers in both clause-initial and NP-final position. Section 4.4 evaluates a recent study of bracketed relative clauses in Tok Pisin and concludes that the kind of relative-clause bracketing described for Tok Pisin and the kind that occurs in the NGO languages of Morobe Province are not parallel in origin or function.

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LIST OF ABBREVIATIONS

1s, 1p, 1du	first person singular, plural, dual
1ip, 1idu	first person inclusive plural, dual
1xp, 1xdu	first person exclusive plural, dual
2s, 2p, 2du	second person singular, plural, dual
3s, 3p, 3du	third person singular, plural, dual
ADJ	adjective or adjective marker
aka	also known as
AN	Austronesian
ART	article
ASP	aspect marker
caus-	causative prefix
CF	counterfactual marker
clas-	classificatory prefix
coll	collective marker
CONT	continuative marker
DEF	definite marker
DEHORT	dehortative marker
DEM	demonstrative
DET	determiner
EMPH	emphatic marker
FIN	completive marker
fr	derived or borrowed from
FUT	future marker

GEN	genitive classifier or particle
GF	goal focus marker
HAB	habitual marker
HORT	hortative marker
int	intensifier
ir	irrealis marker
LOC	locative marker
MOD	modifier marker
MULT	multiple action marker
NEG	negative marker
NGO	New Guinea Oceanic
NP	noun phrase
OBJ	object or object marker
OBL	oblique marker
OC	Oceanic
PART	particle
PAST	past marker
pauc	paucal marker
PERF	perfective marker
pl	plural marker
PM	predicate marker
POC	Proto-Oceanic
POSTP	general-purpose postposition
POT	potential marker
PREP	general-purpose preposition
PRO	pronoun

PROG	progressive marker
psd	denoting the possessed
psr	denoting the possessor
PSU	phrase summary
PTPL	participial marker
rdp	reduplication
REL	relative-clause marker
RES	resumptive
rl	realis marker
SAY	verb 'say' used as subordinator
sg	singular marker
SM	subject marker
so	someone
st	something
T	tense marker
T/A	tense/aspect marker
TH	demonstrative formant as relativizer
tr	transitive marker
tSM	transitive-subject marker
v.	versus
(v)	verb
VP	verb phrase
WH	question word as relativizer

CHAPTER I

SUMMARY OF TYPOLOGICAL AND GENETIC RESEARCH OF NEW GUINEA AUSTRONESIAN LANGUAGES

From a general Austronesian standpoint, the Austronesian languages of the New Guinea mainland possess very distinctive typology. The New Guinea languages are unique in possessing many traits associated with OV word order. Section 1.1 summarizes the basic word order typology of New Guinea and extra-New Guinea Austronesian languages.

The unique typology of New Guinea Austronesian languages is almost certainly innovative and apparently results from contact with non-Austronesian languages on the New Guinea mainland, which are nearly universally OV. One hypothesis is that some or all of the changes occurred only once in a language ancestral to all of the Austronesian languages exhibiting these word order innovations. This is now known as the New Guinea Oceanic hypothesis. (It is generally agreed that the languages in question belong in the Oceanic subgroup of the Austronesian language family.) Section 1.2 briefly reviews the evidence for this hypothesis and summarizes the current state of lower-level subgrouping among the languages of the putative New Guinea Oceanic subgroup.

This chapter presents only the broadest outlines. A fuller picture is available in Wurm's (1976) compendium of information on New Guinea area Austronesian languages, especially if combined with

Lynch's (1976) review of that work. Pawley (1978) provides the most current and complete discussion of the New Guinea Oceanic hypothesis.

1.1 WORD ORDER TYPOLOGY OF NEW GUINEA AUSTRONESIAN LANGUAGES

Ever since Greenberg (1963), it has become customary to discuss word order typology in terms of four major features. The first is the position of the verb (V) in clauses with nominal subjects (S) and objects (O). The other three involve the order of elements within noun phrases. Adpositions may either precede their head nouns--in which case they are prepositions (Pr)--or they may follow their head nouns--in which case they are postpositions (Po). (The label "postposition" is often applied, somewhat more loosely, to certain kinds of suffixes as well.) Genitives (Gen) and adjectives (Adj) may also either precede or follow the nouns they modify.

The elements S, O, and V may be combined to form six different sequences (VSO, SVO, SOV, VOS, OVS, OSV), but in fact only three (VSO, SVO, SOV) are at all common as dominant orders in the world's languages. Of these three, two tend to show similar patterns of cooccurrence with the other features. Both VSO and SVO languages tend to have prepositions rather than postpositions and to place genitives and adjectives <u>after</u> the nouns they modify. SOV languages, on the other hand, tend to be postpositional and to place genitives and adjectives <u>before</u> the nouns they modify. It is thus convenient to refer to VSO and SVO languages together as VO languages, and to contrast them with OV languages. The opposition between these two basic types may be represented in the following abbreviated form:

VO / Pr / N+Gen / N+Adj versus OV / Po / Gen+N / Adj+N

The typological label VO is particularly convenient for discussing Austronesian languages. Austronesian languages nearly everywhere possess VO word order. (The position of subject nominals varies among VSO, SVO, and even VOS.) They also possess the full complement of traits associated with VO order. They are prepositional and most commonly place genitives and adjectives after the nouns they modify. In some cases, genitives and adjectives may be allowed to precede their head nouns, but this order seems restricted to those languages which have a "ligature" that connects elements within a noun phrase (see Foley 1976). Moreover, even these languages allow N+Gen and N+Adj as alternative orders (sometimes even as less "marked," that is, ligatureless, alternatives).

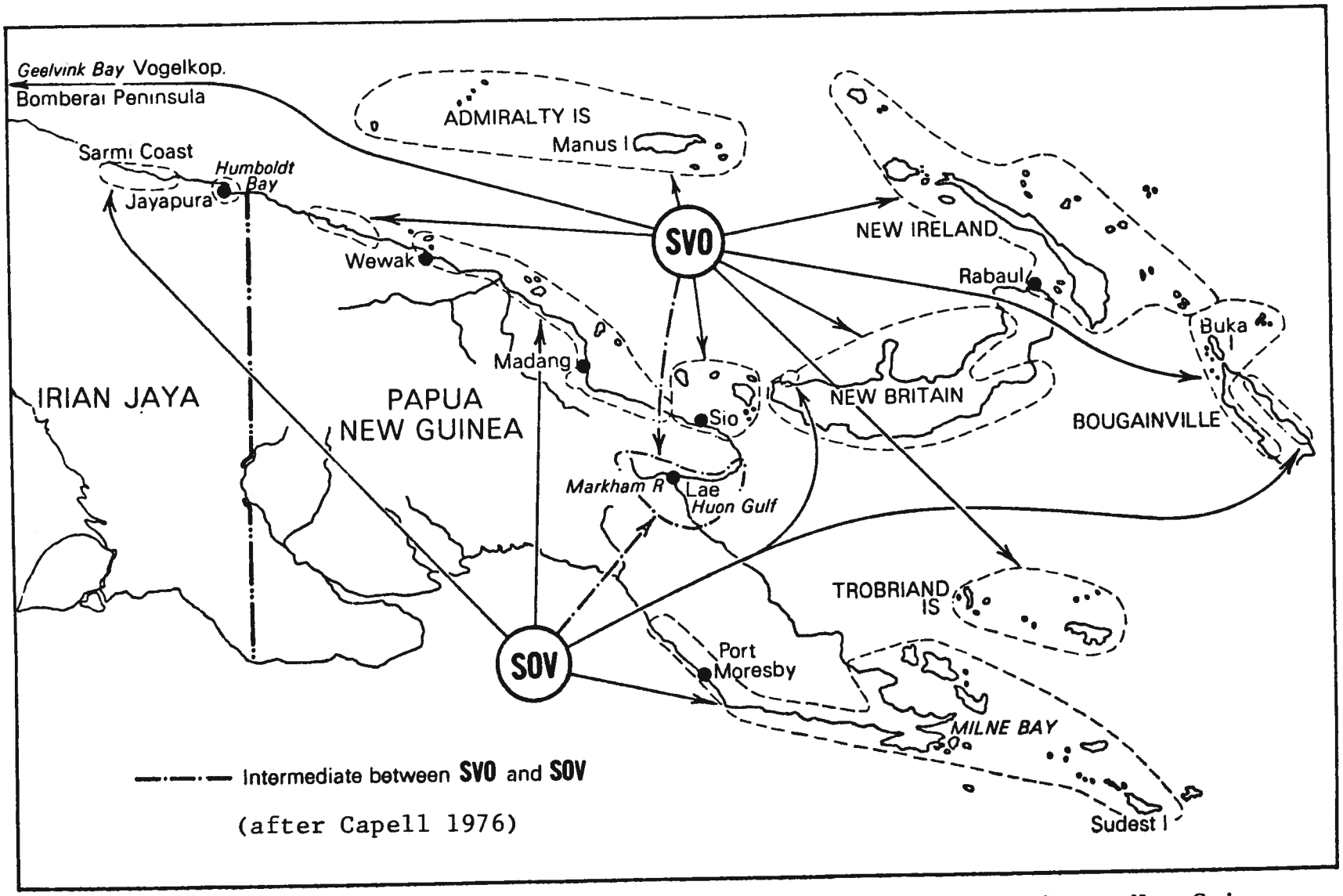
The only body of exception to these common Austronesian word order patterns is found in the vicinity of the New Guinea mainland. There, OV word order is dominant. Distributional evidence within the Austronesian language family suggests that this OV typology in New Guinea Austronesian languages is innovative. It is easier to explain the present Austronesian OV patterns as resulting from contact with non-Austronesian OV languages than it would be to try to explain how Austronesian languages everywhere else--from Malagasy to Easter Island--might have changed from OV to VO order. (I am adopting the assumption that speakers of AN languages first arrived in New Guinea from the west after speakers of the non-AN OV languages had already been long resident in the area.) Non-Austronesian languages on the

New Guinea mainland almost universally possess OV typological traits, except that adjectives generally occur in post-nominal position (Capell 1969:46). There is good evidence throughout the New Guinea area for multilingualism and for borrowing and calquing across as well as within language family boundaries. There seems little doubt that the ancestors of the present-day OV Austronesian languages were at one time as consistently VO as most Austronesian languages still are.

The best known and most extensive typological classification of New Guinea area Austronesian languages has been done by Capell (1969, 1971, 1976). His primary division is between languages with SOV and SVO word order and associated typological traits (see Map).

> Even though there is not a complete dichotomy, . . . SOV is usually accompanied by postpositions and SVO by prepositions, and there are often different arrangements in the equational and descriptive sentences, so that if it is recognized that [SOV typology] may involve a complex of features, the absence of one of them does not invalidate the division (Capell 1976:267).

The SOV group is mostly confined to the New Guinea mainland and adjacent offshore islands. Capell attributes the SOV typology of this group to Papuan (New Guinea area non-Austronesian) influence. Elsewhere, in the area commonly referred to as "Island Melanesia," the languages of the SVO group exhibit more or less standard Austronesian word order traits. Capell used Tolai (also known as Tuna, Kuanua, Gunantunan, Raluana) as an exemplar of the SVO type and Motu as a model of the SOV type. Tolai is spoken near Rabaul on the island of New Britain (in East New Britain Province, Papua New Guinea) and Motu is spoken on the south coast of the New Guinea



Capell's typological classification of Austronesian languages in Papua New Guinea

mainland (in Central Province, PNG). I have chosen different models because I wish to add data from languages with as broad a geographical range as possible on the New Guinea mainland. Nakanai (Johnston 1978) will serve as a rather typical Island Melanesian SVO language. It is spoken around Cape Hoskins near the center of the north coast of the island of New Britain (in West New Britain Province, PNG). Manam (Lichtenberk 1980) and Are (Paisawa, Pagotto, and Kale 1976) will illustrate the SOV type. Manam is spoken on Manam and Boesa islands just off the northwest coast of the Papua New Guinea mainland (in western Madang Province). Are (also known as Mukawa) is spoken on Cape Vogel near the southeastern tip of the New Guinea mainland (in Milne Bay Province, PNG).

NAKANAI (Johnston 1978)

(1a) SVO	e	Baba	kue	la	paia
	ART	B.	strike	ART	dog
	'Baba struck a/the dog'				
(1b) Pr	egiru	mavuta	te	la	hohoi
	3du	sleep	PREP	ART	bush
	'they(2) slept in the bush'				
(1c) N+Gen	la	tatahe	la	bolo	
	ART	excreta	ART	pig	
	'pig excreta'				
(1d) N+Adj	la	mautu	tegirua	isa	bisi
	ART	village	of-3du	one	little
	'their little village'				

MANAM (Lichtenberk 1980)

(2a) SOV tamóata bóro í-te-di
man pig 3s-see-3p
'the man saw the pigs'

(2b) Po roá-gu úma-lo i-malipilípi
spouse-1s garden-in 3s-work.rdp
'my wife is working in the garden'

(2c) Gen+N bóro tá?e-di
pig feces-3p
'pigs' excrements'

(2d) N+Adj bóadi masáre-di
pot broken-3p
'broken pots'

ARE (Paisawa, Pagotto, and Kale 1976)

(3a) SOV sebare kukou i-ravi
man dog 3s-hit
'the man hit the dog'

(3b) Po sina-u yove gaburi-na-ai i-makimakira
mother-1s house under-3s-at 3s-sit.rdp
'my mother was sitting under the house'

(3c) Gen+N poro kamokamo-na
pig belly-3s
'the pig's belly'

(3d) N+Adj nikoi kukou kaikapo-si
these dog big-3p
'these big dogs'

Both Manam and Are retain adjectives in postnominal position, even though they have managed to acquire many other innovative attributes of OV typology. The other OV Austronesian languages show the same retention. This might be puzzling if the change were not externally induced. But the retention of adjectives in postnominal position is not so surprising when one considers adjective position in the Papuan languages. The Papuan languages, the presumed inducers of the change, also possess N+Adj order beside their otherwise OV basic word order typology.

One large group of Austronesian languages on the New Guinea mainland does not fit neatly into either the SOV or the SVO type. Capell (1976:269) considers them to be intermediate, containing features of both types. These are the languages of Morobe Province in the center of the north coast of the Papua New Guinea mainland. Morobe Austronesian languages have SVO word order but prenominal genitives. Prepositions are more common than postpositions but several languages have both. Nor is it uncommon for some types of role relationships to be expressed in ambipositional constructions, constructions containing both a preposition and a postposition. All Morobe Austronesian languages have postnominal adjectives. Data from three Morobe languages will illustrate. Gitua (Lincoln 1976, 1977a) is spoken on the north coast of the Huon Peninsula, just across the Vitiaz and Dampier straits from the western tip of the island of New Britain. Iwal (also known as Kaiwa) (Davidson & Davidson 1976) is spoken on the south coast of the Huon Gulf, inland and to the south

of Salamaua Peninsula. Amari (Holzknecht 1980) is spoken far inland up the Markham River valley.

GITUA (Lincoln 1976, 1977a)

(4a) SVO	nora	yau	a-gan	mwai
	yesterday	1s	1s-eat	taro
	'yesterday I ate taro'			
(4b) Pr	ti-seŋ	ai	neŋgan	ira
	3p-cut	tree	with	adz
	'they cut the tree with an adz'			
(4c) Po	livage	ti-la	umw-ei	
	woman	3p-go	garden-LOC	
	'the women went to the garden'			
(4d) Gen+N	kiam	natu		
	dog	offspring		
	'puppy'			
(4e) N+Adj	pain	kekete		
	child	small		
	'small child'			

IWAL (Davidson & Davidson 1976)

(5a) SVO	avie	ti	nisin	seksek
	woman	one	ir-3s-sweep	rubbish
	'a woman will sweep the rubbish'			
(5b) Pr	ei	geb	ve	ayeu
	3s	3s-give	to	1s
	'he gave it to me'			

(5c) Po tanvang um ane

1ip-ir-go garden LOC

'we(incl) will go to the garden'

(5d) Ambi ei gilgum ve ayeu ane

3s 3s-do for 1s LOC

'he did it for (on behalf of) me'

(5e) Gen+N Rawalung ane ninggab

R. GEN-3s old.garden

'Rawalung's old garden'

(5f) N+Adj wenk bamo ailu

fish big two

'two big fish'

AMARI (Holzknecht 1980)

(6a) SVO ribigi i-ga unas

3p-DEM rl-eat sweet.potato

'they are eating sweet potato'

(6b) Pr dzi i-ni nan da agu

1s rl-say talk to 2s

'I said it to you'

(6c) Pr mama? igi i-kup i sagat igi uŋar-an

child DEM rl-hide OBL woman DEM house-3s

'the child hid at that woman's house'

(6d) Gen+N gai baŋi-n

tree hand-3s

'tree branch'

(6e) N+Adj uŋar isi?

house small

'small house'

Morobe languages straddle the typological fence in other ways as well. Most Austronesian languages mark relative clauses only in clause-initial position. Many of the OV Austronesian languages of Papua New Guinea have clause-final relative markers. Morobe languages have both clause-initial and clause-final relative markers (see Chapter 4). Predicate-bracketing verbal negatives are also common, especially in the Buang and Adzera languages. Patep (Lauck 1976) is a Buang language. Amari (Holzknecht 1980) is an Adzera language.

PATEP (Lauck 1976)

(7a) a o xêvô lêm

1s NEG find NEG

'I didn't find it'

(7b) yuu o tɨyi wê yuu ob nêl kiyang dia ge lêm

3du NEG able REL 3du POT say talk long REL NEG

'they(2) weren't able to give a long speech'

AMARI (Holzknecht 1980)

(8a) rib-igi anuŋ?-ru-mpai u

3p-DEM NEG-CONT-stay NEG

'they are not still here'

(8b) ma-rat i iyam ma?

DEHORT-fear OBL dog DEHORT

'don't be afraid of dogs'

Furthermore, the OV languages generally exhibit innovative patterns of often-complex agglutination in their verbal morphology. The verbal morphology reconstructible for Proto-Oceanic is considerably simpler (see Pawley 1973). One of the innovations of the OV languages is a pattern of causative compounding in which the first verb indicates the manner in which an action is performed and the second verb indicates the result of the action. The Morobe languages, for the most part, have very simple verbal morphology (the Adzera languages having the most complex), but they exhibit patterns of causative verb serialization that resemble the causative compounds of the OV languages. Compare the following causative constructions in serializing Gitua (Morobe Province) and compounding Manam (Madang Province).

GITUA (Peter Lincoln, p.c.)

(9) ti-rap ŋgaya mate

3p-hit pig 3s-die

'they killed the pig'

MANAM (Lichtenberk 1980)

(10) boro di-rau-mate-i

pig 3p-hit-die-3s

'they killed the pig'

The development of SVOV serial causatives and their relationship to SOVV compound causatives is discussed further in Chapter 2.

The distribution of word order typologies in the Papua New Guinea area is summarized in Table 1. The common Austronesian pattern is found in Island Melanesia (New Britain, New Ireland, and elsewhere). Most Austronesian languages on the Papua New Guinea mainland exhibit quite different word order traits. They possess OV typology resembling that of the Papuan (non-Austronesian) languages on the New Guinea mainland. The Morobe languages fall somewhere between these two extremes. They may thus provide clues as to how the OV Austronesian languages became OV.

Table 1

Distribution of Word Order Types in Papua New Guinea

Common Austronesian, Island Melanesia & elsewhere						
VO	/	Prepositions	/	N + Gen	/	N + Adj
PNG Austronesian, Morobe Province						
SVOV	/	Prepositions Postpositions Ambipositions	/	Gen + N	/	N + Adj
PNG Austronesian, elsewhere on the mainland						
SOVV	/	Postpositions	/	Gen + N	/	N + Adj
Common Papuan						
SOV	/	Postpositions	/	Gen + N	/	N + Adj

1.2 HYPOTHESES REGARDING GENETIC RELATIONSHIPS

As has been pointed out, the Austronesian languages of the New Guinea area are typologically quite distinct from Austronesian languages elsewhere. Many of the traits which make them distinct are innovative and widely shared among the languages of the area. This has led linguists to suspect some genetic basis for the innovations.

The idea of a New Guinea subgroup has been around at least since the time of Schmidt (1900, 1902) and Friederici (1912, 1913), but Milke (1965) was the first to try to delineate the extent of this putative subgroup in detail. He proposed that all the Austronesian languages on the New Guinea mainland, at least those east of Humboldt Bay (that is, those on the Papua New Guinea side of the mainland), and those of New Britain as far east as Nakanai formed a single subgroup within the Oceanic subgroup of Austronesian. This putative subgroup now goes by the name "New Guinea Oceanic" (NGO). (In chapters 2, 3, and 4, however, NGO is used as a typological rather than genetic label.) Milke's evidence consisted of 16 lexical isoglosses and a number of grammatical resemblances, along with widespread but not universal merger of Proto-Oceanic (POC) *s and *ns (his *z). Among the grammatical features which he proposed as evidence were two which had been mentioned earlier by Schmidt and Friederici: (1) the preposed genitive (see 3.1), as in (11), and (2) the reinforcement of possessives with preposed independent pronouns (see 3.2), as in (12).

YABEM (Dempwolff 1939)

(11) lau nêŋ kôm
people GEN-1/3p garden
'the people's garden'

(12a) aôm nêm kôm
2s GEN2 garden
'your(sg) garden'

(b) amàc nêm kôm
2p GEN2 garden
'your(pl) garden'

To these, Milke added two other features common among NGO languages: (3) a fundamental distinction between realis (real, actual) and irrealis (conceived, imagined, potential) in the verbal system; and (4) the use of classificatory prefixes on verbs. (The so-called "classificatory prefixes" are components of the causative compounds to be discussed in Chapter 2.) All of Milke's evidence has subsequently been called into question.

Chowning (1973) undertook the first careful criticism of Milke's hypothesis and the evidence on which it rested. She was primarily concerned to show that, if a subgroup of mainland NGO languages exists, it extends no further into New Britain than the Bariai languages spoken on the north coast west of the Willaumez Peninsula. She also cast doubt on many of Milke's lexical isoglosses and suggested, somewhat vaguely, that a NGO subgroup would probably rest on grammatical rather than phonological or lexical evidence.

Subsequently, Pawley (1978) reviewed not only Milke's evidence but evidence from the work of other linguists concerned with the internal and external relationships of New Guinea area Oceanic languages. With regard to Milke's evidence, Pawley noted that some items, such as the preposed genitive and reinforced possessives, do not adequately distinguish New Guinea Oceanic languages from non-Oceanic Austronesian languages of New Guinea and eastern Indonesia; while others, such as the use of classificatory prefixes on verbs and the merger of POC *s and *ns, fail to unify all the New Guinea Oceanic languages. The realis-irrealis opposition suffers from both deficiencies. It is found in Oceanic languages as far removed as the New Hebrides and even in some non-Oceanic Austronesian languages. At the same time, is not found in every NGO language. An added problem is the lack of morphological unity in those languages which do show the distinction. Some languages of the Adzera group, for instance, exhibit a *ma affix for the irrealis and leave the realis unmarked. The adjacent Buang and Huon Coastal languages (also in Morobe Province) make use of a *na irrealis marker, though they also leave realis the unmarked category. Milke's lexical isoglosses were taken to task by Pawley as well. He pointed out the general inadequacy (given the likely possibility of shared retentions) of lexical isoglosses as a basis for subgrouping "unless the lexical forms in question show common changes in comparison with their POC prototypes (irregular formal changes being the most convincing kind of evidence)" (Pawley 1978:131-132).

subgroup is thus hard to come by. Pawley (1978) outlines the (lack of) evidence. There is no lexicostatistical basis for the subgroup, as Dyen (1962) has demonstrated. Both Chowning and Pawley have questioned the lexical isoglosses. The phonological evidence is limited to the merger of POC *d (= *r) and *R (Milke 1965:343; Pawley 1978:143). Since this merger has occurred in many other Oceanic languages, it is hardly a firm base for a unified grouping. Pawley, like Chowning, is forced to appeal primarily to grammatical evidence. But the problem with much of the grammatical evidence so far adduced is that it is confined to general typological traits, not to particular morphemes.

However, one important typological innovation which is tied to a particular grammatical form is the locative postposition or suffix *iai. Pawley considers it "perhaps the single strongest piece of evidence for a NGO subgroup" (1978:138).

> *iai, a postposition marking locative or general relation, is reflected by Motu -ai, Suau yai, Molima -ya, Kove -iai, Gitua -ei. This form can be related to the POC preposition *(q)i 'at' plus the anaphoric pronoun *ai 'there (previously mentioned)' which is attested in Polynesian, Rotuman, Southeast Solomonic and Nuclear Micronesian languages.

The precise distribution of this innovative use of *iai remains to be established, but I have seen no evidence of it in languages west of Morobe Province.

Milke (1965:347) listed other formal correspondences involving a few classificatory prefixes between Gedaged and its congeners in Madang Province, on the one hand, and Mukawa (= Are) and its congeners

in southeast Papua (Northern and Milne Bay provinces, PNG), on the other. Some of the correspondences are questionable, and Milke was not able to find very convincing evidence that Morobe Province languages possess such verbal prefixes. Chapter 2 will show that Morobe languages do possess cognate forms, not as prefixes but as full verbs. The antecedents of the verbal classificatory prefix system appear reconstructible in most of the languages along the north coast, from Kairiru to the Papuan tip. Causative serialization, the antecedent of the classificatory prefix system, however, does not appear reconstructible in Motu and its congeners in Central Province, PNG. Moreover, causative serialization may have arisen independently in the languages which show evidence of it. Chapter 2 will discuss causative serialization and the origins of the classificatory prefix system(s) in more detail.

Problems with the distribution of other grammatical features Milke proposed as evidence have already been mentioned. A further problem is the possibility that the features were independently acquired. If we assume that borrowing morphological elements, particularly affixes, is harder than calquing on relatively gross syntactic or semantic patterns, then a shared syntactic or semantic feature--without shared morphology--provides relatively weak evidence of genetic affiliation. Such features as the preposed genitive, the reinforced possessive, and the realis-irrealis distinction in the verbal system are not tied to specific morphological elements. It is not unlikely that they were borrowed across language and language-

family boundaries after the breakup of Proto-NGO, the putative forebear of the NGO languages.

In spite of the failure thus far for solid evidence to appear in support of the putative subgroup, the NGO hypothesis has not been laid to rest. Knowledge of the languages of the region, while growing rapidly, is still too scant to permit conclusive arguments one way or the other, or to permit the distribution of criterial features to be precisely delimited.

Subgrouping on a smaller scale, however, has made considerable progress in recent years. Grace's (1955, amended in 1971b) tentative classification of Oceanic languages divided the candidates for NGO (as reduced by Chowning) into seven major groups:

1. Sepik
2. Manam & Schouten Is. (Madang & East Sepik Province)
3. Astrolabe Bay (Madang Province)
4. Southwest New Britain
5. Morobe District
6. Milne Bay & Northern District, Papua
7. Central District, Papua

Since then, linguists working in each of these areas have been able to substantiate most of these groupings and have managed to suggest higher-level groupings in every area but Morobe. Pawley (1975) demonstrated the unity of the languages of Central Papua and suggested connections with the Milne Bay languages. Subsequent work by Lithgow (1976) on the Milne Bay languages, Lynch (1978) on the Central Papuan languages, and Ross (1979a, 1979b) on the languages of both areas has

strengthened the case for a subgroup comprising the Austronesian languages of Central, Milne Bay, and Northern provinces, PNG. For the north coast, Ross (1977) and Lincoln (1977b) have shown connections among the languages of the Sepik, Madang, and Rai Coast (the coast north of the Huon Peninsula) areas, as well as internal unity of the groups involved. In Morobe Province south of the Huon Peninsula, however, the situation has proven to be more diverse than previously thought. Hooley (1971), on lexicostatistical evidence, divided the Morobe Austronesian languages into three major subgroups (Buang, Adzera, and Siasi), with one small group (comprising Hote and Yamap) falling intermediate between the Buang and Siasi groups. Bradshaw (1978a), adding qualitative evidence, substantiated the major groupings but suggested that the languages along the coast of the Huon Gulf (the Huon Coastal group) may be somewhat more tenuous members of the Siasi group than Hooley assumed. (Hooley's Siasi group included the languages on the Rai Coast, Siassi Islands, and the western tip of New Britain, as well as those along the coast of the Huon Gulf.)

A combination of geographical, typological, and genetic criteria suggest three major groups of candidates for NGO. The following list is adapted from Lynch's (1976) review of Wurm (1976).

1. North Coast (primarily genetic):
    a. Sepik-Madang group--coast and islands of West Sepik, East Sepik, and Madang Province
    b. Rai group--coast and islands from Karkar Island in Madang Province, through Morobe Province north of the

Huon Peninsula, and across the Vitiaz and Dampier straits to West New Britain Province west of the Willaumez Peninsula

2. Morobe Province (primarily geographical & typological):
   a. Adzera group--inland up the Markham and Lower Watut river valleys
   b. Buang group--inland up the Upper Watut, Bulolo, Snake, and Buang river valleys
   c. Huon Coastal group--coast and islands around the Huon Gulf
3. Papua (primarily genetic & typological):
   a. Papuan Tip group--coast and islands of Northern and Milne Bay Province
   b. Central Papuan group--coast of Central Province

The North Coast languages are typologically the most diverse but hold some promise of being a genetic unit. SOV typology predominates but the Rai group includes solidly SOV languages like Gedaged together with Morobe-type SVO languages such as Gitua. The North Coast languages are widely dispersed geographically. The Morobe Province languages are typologically fairly uniform and geographically compact but so far provide no firm evidence of being a single genetic unit. The Austronesian languages of Papua, on the other hand, are geographically dispersed, rather uniformly SOV in typology, and appear to be members of a single genetic unit. The evidence of genetic affiliation is fairly good for the seven lower-level groupings.

Chapters 2, 3, and 4 will examine evidence that languages from all three major areas have undergone some strikingly similar grammatical changes. Some of these innovations may not at first seem to be the product of parallel developments in separate languages. They might thus raise the hopes of those who are trying to establish a NGO subgroup. However, I will argue that these typological changes are not a firm basis for establishing genetic affiliation. Rather, they provide evidence that Austronesian languages in many parts of the mainland adapted in similar ways to the typology of the non-Austronesian languages they encountered there.

CHAPTER II

VERBS

Chapter 1 presented distributional evidence that, when Oceanic languages arrived in New Guinea, they possessed VO word order typology and that they moved toward OV typology as a result of contact with Papuan languages. At the core of this typological shift is the change in position of the verb in relation to its grammatical object.

This chapter will focus on the position of the verb in Agent-Patient transitive clauses. It will argue that, as part of the move from VO to OV, serial causative SVOV constructions arose and largely displaced the common Austronesian morphological causative in nearly all NGO languages. The serial causative then gave rise to the compound causative and classificatory prefix constructions typically found in those languages that have made the full shift to OV word order. Since the inherited prefix frequently survives alongside the new causative constructions, the development of the serial causative was apparently not a compensatory response to the loss of inherited morphology, but rather a syntactic innovation preferred for other reasons. I will argue that the serial rendition of the Agent-Patient transitive clause was preferred over alternatives containing only one morphologically causativized verb because the serial causative can produce structural ambiguity.

Why would an ambiguous structure be more desirable than an already familiar unambiguous one? In an ambiguous structure, like that of the serial causative, constituents can be parsed in different ways without doing too much violence to the semantics intended. If we assume (1) that the speakers of Austronesian languages were trying to mitigate the differences between their own VO languages and their neighbors' OV languages; and also assume (2) that they wanted to continue speaking their own language while doing so; then their aiming at an ambiguous structure would seem a more comfortable strategy than the "simpler" one of everywhere inverting the order of verb and object. (These assumptions are discussed further in 2.4.2.)

Causative serial constructions achieve just the right sort of structural ambiguity. They contain no clause boundary markers and thus permit speakers and hearers to parse the constructions to suit their own preconceptions about clause structure and word order. At the same time serial causatives have an iconic naturalness that keeps their meanings transparent. They describe cause-and-result events in an order matching the unfolding of those events in the real world. The first verb denotes the manner of action initiated by the Agent; the second describes the effect of that action on the Patient.

One way to get the verb from one position to another within a clause, then, is to render the information of that clause in such a way that verbs fall in both positions in a construction that contains no boundary markers and thus permits multiple analyses. The evidence suggests that Papua New Guinea Austronesian languages adopted this strategy.

The body of this chapter will begin with a brief introduction to serialization as a general phenomenon. Section 2.2 will then describe the distribution of the serial causative and its homologs[1] in Papua New Guinea. The SVOV serial causative is in complementary distribution with its SOVV homologs. Section 2.3 will reconstruct the evolution of these innovative causatives. Section 2.4 will provide evidence that both causative patterns have largely displaced the inherited causative prefix and will offer an explanation for the rise of the serial causative and decline of the morphological causative.

2.1 BACKGROUND DISCUSSION OF SERIALIZATION

The presence of verb serialization in New Guinea Oceanic languages has not been widely recognized. This has not been entirely due to lack of data. Dempwolff's excellent description of Yabem, a thoroughgoing serial verb language, has been available since 1939 (see Bradshaw, in press). However, recent work has turned up many more serializing languages in the area.

The definition of serialization we shall use in this chapter is a fairly standard one. Serialization is the stringing together of finite verb phrases in one clauselike intonation unit without any markers of subordination or coordination. (In most NGO languages, finite verbs are inflected to show the person and number of their subjects and the tense, aspect, or mood of the verb.) One can argue either that such constructions comprise several clauses or that they constitute a single clause. There is good evidence to support either side.

If we assume, with Lyons (1977:431), that there can be only one finite verb per clause, then these constructions must involve an especially close type of connection between separate clauses. But this assumption seems more useful for analyzing European languages than for dealing with true serializing languages. Dempwolff (1939) made a determined effort to counter European grammatical prejudices in his analysis of Yabem. He adopts a more equivocal approach to serialization.

Dempwolff distinguishes three levels of complexity in sentences, dividing them into simple, expanded, and conjoined types. He also distinguishes two major types of serialization: same subject and different subject constructions.

Simple sentences include those "in which <u>several subjects</u> occur with the same predicate, or <u>several predicates</u> occur with the same subject" (1939:66; his emphasis). Same subject serial verb constructions, he says, build a single event-representation [<u>Geschehnisvorstellung</u>] out of several verbal predicates (1939:67). Some of his examples follow.

YABEM (Dempwolff 1939)

(1a)	aôm	ôsô	ômôêŋ	mè
	2s	2s-enter	2s-come	or
	'are you going to come in?'			
(1b)	ŋapalê	kêtaŋ	gêŋgôŋ	àndu
	boy	3s-cry	3s-sit	house
	'the boy sits in the house and cries'			

(1c) biŋsú gêmu gêmêŋ lôm atom

missionary 3s-return 3s-come school not

'the missionary didn't come back to the school'

Expanded sentences include those in which later verbs elaborate upon actions described by earlier verbs in the sentence (1939:68). Such constructions do not concern us here.

Conjoined sentences include those in which several verbal predicates with different subjects are combined to form a serial sentence [Reihensatz] without conjunctions (1939:81). The serial sentence "resembles the sentence type consisting of several verbal predicates with the same subject . . . and differs only insofar as now different subjects have also to be considered" (1939:81). Examples follow.

YABEM (Dempwolff 1939)

(2a) ôkêŋ bôc ʻêndêŋ aê

2s-give pig 3s-reach 1s

'give me some pork'

(2b) ôkasôp êpi màsac atom

2s-spit 3s-upon floor not

'don't spit on the floor'

(-pi 'to ascend into/onto')

(2c) bôc saleŋŋa seŋ aêàcma jaŋgom gêbacnê

pig bush-of 3s-eat 1p-GEN maize 3s-finish.up

'the forest pigs ate up our maize'

Dempwolff finds these constructions somewhat problematical (1939:81):

> . . . from a grammatical point of view, it is often hard to decide whether several independent sentences or a serial sentence is present.
>
> From a psychological point of view, however, each serial sentence contains a single thought structure [Gedankengliederung].

Dempwolff thus recognizes that the separate VPs of serial verb constructions are semantically related in a way that the VPs of separate clauses are not. Semantically, serialized VPs "all refer to subparts or aspects of a single overall event" (Lord 1973:269, 1974:196). Moreover, in most serial constructions, the verbs occur in an order which reflects the unfolding of real world events. Later VPs denote results, goals, further developments, or elaborations upon the events described in earlier VPs (Lord 1974:197). (See also Bradshaw, in press.)

Of course, this semantic unity has syntactic consequences.

(a) There is no intonational or morphological marker of a clause boundary.

(b) Choice of subject in successive VPs within the construction is highly restricted.

(c) Successive VPs may not contrast with regard to negativity, tense, mood, or illocutionary force.

These have been proposed as reasons for not deriving serial verb constructions from separate clauses (see Foley 1980, Lord 1974, Schachter 1974).

The serial verb type most discussed in the African linguistic literature is the same subject type. In a seminal article, Stahlke

(1970:60) begins his survey of African serialization with: "A common phenomenon in many West African languages is the use of a series of verbs, all having the same . . . subject." Subsequent arguments both for and against deriving at least some kinds of serial constructions from underlying coordinate structures have been concerned primarily with same subject serialization. Those who favor such derivations rely heavily on Equi-NP deletion to remove all but the initial occurrence of underlying identical subject NPs. Even Schachter's attempt to do away with Equi-NP deletion in accounting for serial verb constructions is based on the assumption that "serial constructions . . . always have exactly one subject noun phrase, and this noun phrase always precedes the first verb phrase" (Schachter 1974:257).

It may well be that West African languages put greater restrictions on choice of subject in serial constructions, limiting them mostly to same subject constructions. However, one problem may be that subject markers are not always present on West African serial verbs or that, when they are present, they sometimes mislead. Schachter (1974) cites some interesting examples from Akan. In that language, there are cases in which the object of the first verb is understood to be the subject of the second verb. Nevertheless, the prefix of the second verb indexes the subject, not the object, of the first verb, even when such indexing violates selectional restrictions. This seems to be a case where the requirements of syntactic cohesion override semantics. The following example was cited by Schachter from Christaller's (1933:145) dictionary of Akan. In it, the morphological

subject of 'flow' is first person singular to match the subject of the preceding verb. But the semantic subject of 'flow' is obviously the 'corn'.

AKAN (Christaller 1933)

(3)	mede	aburow	migu	nsum
	1s-take	corn	1s-flow	water-in

'I pour the corn into the water'

In languages without misleading subject prefixes, such as Yoruba, the case for both same subject and different subject serial constructions is clearer. Lord (1974) discusses both types in Yoruba and argues convincingly that both share the semantic characteristics of serialization, characteristics that the multiclausal sources proposed for them do not share.

Some languages allow even greater latitude in subject choice in noninitial VPs in a serial string. Numbami and Yabem, in Morobe Province, Papua New Guinea, allow three major patterns. The subject prefix of a noninitial VP in a serial string may index either:

(a) the same subject as the preceding VP;

(b) the object of the preceding VP; or

(c) the subevent described by the preceding VP(s).

Since the label "different subject type" can be used for both (b) and (c), I shall refer to type (b) as the "switch subject type" and type (c) as the "verbal subject type." Only the same subject and switch subject types are important in causative serialization.

In causative serial constructions, the first verb denotes a causing action, the second a result of that action. In SVOV serial causatives, the NP identifying the semantic Patient <u>follows the verb</u> specifying the manner in which the Patient was acted upon, but <u>precedes the verb</u> describing the result of the interaction. Such constructions are found in Benue-Kwa languages in West Africa (see Lord 1974), in seventeenth-century Chinese (Li and Thompson 1974:210), and in NGO languages. Modern Mandarin no longer allows SVOV serial causatives. Instead, a cause-and-result verbal compound occurs in clause-final position. Compare Yoruba, a Kwa language of Nigeria, and Gitua, a Oceanic language of Morobe Province, PNG, with seventeenth-century Chinese and modern Mandarin.

YORUBA (Lord 1974)

(4) ebi´ pa ọmọ náà kú

hunger strike child the die

'the child starved to death'

GITUA (Lincoln 1977a)

(5) Satoko rap araraŋgi mate

S. 3s-hit centipede 3s-die

'Satoko killed the centipede/beat the centipede to death'

CHINESE, 17th century (Li & Thompson 1974)

(6) Wáng-pó shōushi fáng-lǐ gānjìng le

Wang-mother arrange house-inside clean ASP

'Mother Wang cleaned up the house'

Compare modern Mandarin (Li & Thompson 1974)

(7) Wáng-pó bǎ fáng-lǐ shōushi-gānjìng le
Wang-mother OBJ house-inside arrange-clean ASP
'Mother Wang cleaned up the house'

All of these examples of serial causatives involve switch subject serialization. The object of the cause verb is the subject of the result verb. In Papua New Guinea, both switch subject and same subject serial causatives are either extant or reconstructible in most of the candidates for the NGO subgroup.

2.2 DISTRIBUTION OF SVOV AND SOVV CAUSATIVE CONSTRUCTIONS

This section will outline the distribution of innovative causative constructions in NGO languages. The constructions to be considered are all derivable from ancestral serial causatives. There are five surviving homologs. Two are found in VO languages and three in OV languages.

The two VO homologs are the SVOV serial causative itself and the SVOR phrasal causative. In the SVOV construction, both the cause and the result slots are filled by verbs which are independently productive and bear the full range of verbal inflections. In the SVOR construction, the result (R) slot is filled by a class of resultative particles which are not independently productive and/or no longer bear the full range of verbal inflections. Full verbs occupy the cause slot. Gitua and Numbami, both in Morobe Province, provide examples of these two types.

SVOV: GITUA (Peter Lincoln, p.c.)

(8) ti-rap ŋgaya mate[2]

3p-hit pig 3s-die

'they killed the pig'

SVOR: NUMBAMI (Bradshaw, field notes)

(9) ti-lapa bola uni

3p-hit pig dead

'they killed the pig'

The three OV homologs are the SOVV serial causative, the SOV-V compound causative, and the SOc-V classificatory prefix constructions. In the SOVV construction, both the cause and the result slots are filled by verbs which are independently productive and bear the full range of verbal inflections. In the SOV-V compound causative, both the cause and the result slots are filled by independently productive verbs but both verbs combine to form a single word. The cause verb bears only prefixes, the result verb only suffixes. In the SOc-V prefix constructions, only the result slot is filled by independent verbs. The cause slot is filled by a class of prefixes indicating the manner in which (or the instrument with which) the result is achieved. These prefixes are generally known as classificatory prefixes. Kairiru in East Sepik Province, Manam in Madang Province, and Iduna in Milne Bay Province will illustrate the different types.

SOVV: KAIRIRU (Dick Wivell, p.c.)

(10) bur rro-un-i a-myat

pig 3p-hit-3s 3s-die

'they killed the pig'

SOV-V: MANAM (Frank Lichtenberk, p.c.)

(11) ʔai i-zan-sereʔ-i

wood 3s-punch-split-3s

'he split the stick lengthwise'

SOc-V: IDUNA (Huckett 1974)

(12) ai gi-ki-dobo-na

wood 3s-use.hands-break-3s

'he broke the stick with his hands'

Among NGO languages, the VO homologs are in complementary distribution with their OV counterparts. The former are found in VO languages which show a variety of serial constructions apart from the serial causative. The latter are found in OV languages which generally exhibit other types of serial or compound constructions as well. However, the lines between the subtypes within the two word order groups are not so clearly drawn. One language may exhibit both types of innovative VO causatives. Another may exhibit all three types of innovative OV causatives. This suggests that the subtypes form a developmental continuum within each word order type. Each continuum ranges from structurally ambiguous full serial constructions on the one end to constructions progressively disambiguated in the direction of a single clause on the other. After presenting the

distributional evidence for each continuum, I will argue that both continua start from SVOV serial causative constructions.

2.2.1 The VO languages

Morobe Province is the largest repository on the New Guinea mainland of Oceanic languages with VO word order. It is also the largest repository of languages with serial and phrasal causatives. There are indications of such constructions in all major subgroups in the Province. Phrasal causatives even occur in Hote and Labu, two isolates in the Province. Morobe contains three major NGO subgroups: Buang, Huon Coastal, and Adzera. It also contains members of another subgroup which transcends the boundaries of the Province: the Rai group.

2.2.1.1 The Buang languages

Lauck (1976:18) provides a clear and succinct description of causative serialization in Patep, a Buang language. She discusses it under the label "Merged Sequence Sentence." Two of her examples and one from Mapos Buang (Hooley 1970) follow.

PATEP (Lauck 1976)

(13a) miel obêc hi a xib mê
snake POT hit 1s 1-die EMPH
'the snake will surely kill me'

(13b) nga miel bazub tige hɨbu sea
bite snake head that break leave
'he bit the snake's head to pieces'

MAPOS BUANG (Hooley 1970)

(14) dəlov bəggi vəpul

3p-slash rattan break

'they slashed apart the rattan'

Lauck enumerates several characteristics of this sentence type and contrasts it with two other sentence types, the Close-knit Sequence Sentence and the Coordinate Sentence. The following list rearranges and slightly rephrases Lauck's (1976:18-19) discussion.

1. The construction contains no conjunctions. The Close-knit Sequence and Coordinate sentence types both contain conjunctions between the linked components.

2. The construction "is always a single phonological unit." The Close-knit Sequence and Coordinate sentence types allow nonfinal intonation boundaries between the linked components.

3. The object of the first component must be the subject of the second component. No such restriction applies to the other two sentence types.

4. The construction expresses causative notions, in which the second action is "the logical result of the first." The second component may contain only motion or position verbs or a limited number of "completive" verbs such as 'die', 'fall', 'leave', etc. No such restriction applies to the other two sentence types.

5. The two components cannot be separately negated; nor can they have different "aspects" (actual v. potential [= realis v.

irrealis mode]). The same restriction applies to the Close-knit Sequence Sentence but not to the Coordinate Sentence.[3]

2.2.1.2 The Huon Coastal languages

Constructions similar to the Buang serial causatives occur in all four Huon Coastal languages for which adequate data is available: Yabem (Dempwolff 1939, Zahn 1940), Iwal (Davidson & Davidson 1976), Tami (Bamler 1900), and Numbami (my own field notes). However, in those languages a set of resultative particles has evolved due to attrition of the verbal prefixes on the second verb in the series. Some of the Yabem resultatives still show mode (realis v. irrealis) agreement with the preceding verb but the person/number inflection is frozen as third person singular.

YABEM (Zahn 1940)

(15a) dauŋ ẽjõ aõm `ẽndu[4]
smoke 3s-afflict 2s dead
'you'll be dying for a smoke'

(15b) kẽsap ka tonec tulu
3s-cut tree this apart
'he cut this tree down'

IWAL (Davidson & Davidson 1976)

(16a) es bwelk vunu
3p-hit pig dead
'they killed the pig'

(16b) gitle ei butu

3s-cut tree down

'he cut down the tree'

NUMBAMI (Bradshaw, field notes)

(17a) tilapa bola uni (but: bola *i-uni

3p-hit pig dead pig 3s-dead)

'they killed the pig'

(17b) itala ai tomu (but: ai *i-tomu

3s-chop tree broken.off tree 3s-broken.off)

'he chopped down the tree'

TAMI (Bamler 1900)

(18a) gulik kai ton

2s-tie wood fast

'tie up the wood'

(18b) gu niŋgai limai pape sen

2s-let 1xp GEN-1xp child loose

'let our child loose'

These resultative particles are now extremely productive. They need not occur in transitive constructions containing both Agent and Patient. They may also appear in intransitive constructions in which the subject is Patient. Yabem and Numbami provide examples.

YABEM (Dempwolff 1939)

(19a) sêômac lasê

3p-laugh opened

'they broke out in laughter'

(19b) eŋ gêmac `êndu

3s 3s-sick/die dead

'he died'

NUMBAMI (Bradshaw, field notes)

(20a) usana wembi sa wai (usana *i-sa, usana *sa

rain 3s-hold up FIN rain 3s-up rain up)

'the rain has let up'

(20b) ena mata iso lele (ena mata *i-lele

3s-GEN eye 3s-pierce turned 3s-GEN eye 3s-turned)

'his eyes rolled back/ he showed the whites of his eyes' (ena mata *lele

3s-GEN eye turned)

The following list identifies the range of meaning of the most common resultatives in Numbami. Possible cognates (from Numbami unless indicated otherwise) are included in parentheses. (Question marks indicate less likely cognates.)

NUMBAMI resultatives:

(21a) boda 'closed off, covered over' (?bodama 'for nothing, for no apparent reason')

(b) bozoka 'pierced through, penetrated'

(c) gi 'cut off, severed, separated' (?-gigi 'to hang by the neck')

(d) lele 'turned around' (-leleu 'to return')

(e) pale 'smashed, destroyed, ruined' (palele 'soft, weak')

(f)	paya	'stuck fast' (?payama 'completely, for good')
(g)	sa	'up' (POC *[n]sake 'upward; to climb')
(h)	sapu	'mistaken, amiss, wrong' (sapupu 'rotten')
(i)	tamu	'together, joined' (-tamu 'to accompany, join')
(j)	tomu	'snapped, broken off, out of commission'
(k)	tuŋa	'halfway, with part remaining' (-tuŋa 'to trail, follow [tracks]')
(l)	wosa	'burst, broken open, split, broken (of implements)' (POC *posa 'burst, break open')
(m)	uni	'dead, unconscious' (POC *punu 'to strike, kill, extinguish')

Resultatives may not form verbal predicates by themselves. They must be accompanied by a verb. In transitive constructions, the verb indicates the manner in which the result is achieved. (The semantics of intransitive constructions are often not predictable from the component parts. The inflected verb usually makes a minimal semantic contribution.) Following are some transitive constructions involving the resultative boda 'covered over, closed off'.

NUMBAMI verb + resultative constructions:

(22a)	-ambi	'to take, hold, grasp'
(b)	-ambi boda	'to take over, come to dominate'
(23a)	-daga	'to keep'
(b)	-daga boda	'to hide'
(24a)	-ki	'to put, place, give'
(b)	-ki boda	'to block from view'
(25a)	-kuwa	'to cover over, load on top of'
(b)	-kuwa boda	'to cover up, load up'

(26a)	-lapa	'to beat, pound, kill; affect a relatively wide area'
(b)	-lapa boda	'to close, cover (an opening), put the lid on (a jar, etc.)'
(27a)	-liwi	'to circle'
(b)	-liwi boda	'to surround, encircle'
(28a)	-kopola	'to squat, perch'
(b)	-kopola boda	'to surround, besiege'
(29a)	-so	'to stab, pierce, plant; affect a relatively narrow area'
(b)	-so boda	'to plug, cap (an opening), put the cap on (a bottle, etc.)'
(30a)	-wiwisi	'to bind around'
(b)	-wiwisi boda	'to bind up'
(31a)	-yomba	'to wrap, envelope'
(b)	-yomba boda	'to wrap up, envelope'

In some cases, such as -wiwisi boda 'to bind up' and -yomba boda 'to wrap up', the semantics of the inflected verb are quite specific. The resultative does little more than indicate that the result was achieved, that the action was carried through to its conclusion. In other cases, such as -lapa boda 'to cover, put the lid over (an opening)' and -so boda 'to plug, cap (an opening)', the inflected verb has a very broad range of meaning. In phrasal causatives, it sometimes denotes little more than whatever action is required to bring about the result specified. For instance, in the following phrasal causatives, -lapa does not necessarily mean 'to beat, pound, hit' in a literal sense:

(32a)	-lapa boda	'to cover up, cover over, close off (an opening)'
(b)	-lapa lele	'to turn (st) around'
(c)	-lapa pale	'to crush (st)'
(d)	-lapa tomu	'to break (off), draw off (water, etc.)'
(e)	-lapa uni	'to kill'
(f)	-lapa wosa	'to break/burst open, open (a box, etc.)'

Verbs such as -lapa play a very important role in Numbami. They not only enable resultatives to appear in verbal predicates. They also function, in effect, to derive verbs from many nouns. The noun appears as an incorporated object of one of these relatively empty verbs. The most frequent of these verbs in Numbami are:

(33a)	-lapa	'to beat, pound, hit, perform; affect or form over an extended area'
(b)	-so	'to pierce, stab, plant; pass through or affect a restricted area'
(c)	-ambi	'to take, hold'
(d)	-ki	'to put, place, send, give, designate'
(e)	-ŋgo	'to say, utter, scold'
(f)	-pai	'to do, make'

The verbs -jac/-nac 'to hit' and -jam/-nam 'to do, make' play a similar role in Yabem, as do the verbs -la 'to hit' and -ŋka 'to take, hold' in Tami. In fact, Bamler (1900:243) gives separate entries for Tami -la. The first he glosses 'to hit'. The second he compares to

Yabem -jam/-nam, saying that it combines with nouns to make them into verbs. Numbami examples follow:

NUMBAMI noun-verb counterparts:

(34) aeduga 'knee'

-so aeduga 'to kneel, plant the knee'

(35) aga 'tabu'

-ki aga 'to place a tabu (on so/st)'

(36) ano 'fruit'

-ambi ano 'to bear fruit'

(37) biŋa 'talk, word, speech'

-ŋgo biŋa 'to speak'
-ki biŋa 'to send word'

(38) dabola 'trunk; head'

-lapa dabola '(tree) to form a trunk)'

(39) dimila 'calking substance'

-so dimila 'to calk'

(40) dodoŋa 'plug'

-so dodoŋa 'to plug'

(41) gegeama 'play'

-pai gegeama 'to play'

(42) gewa (come-between?)

-pai gewa 'to commit adultery'
-ki gewa 'to mediate'

(43) giliya 'debt'

-ambi giliya 'to receive payment of debt'
-ki/-lapa giliya 'to repay debt'

(44) kakalasa 'foam'

-so kakalasa 'to foam'

(45) kowakowa (feathers shed in molting?)

-so kowakowa 'to molt, shed feathers'

(46) kulakula 'work'

-pai kulakula 'to work'

(47) lauwa 'fight, war, battle'

-pai lauwa 'to fight, do battle'
-ŋgo lauwa (NP) 'to forbid (st)'

(48) luŋana 'steering oar, rudder'

-ambi luŋana 'to steer, guide, take the helm'

(49) manaŋgala '(fish)scale'

-lapa manaŋgala (NP) 'to scale (fish)'

(50) nali 'fixed date or time'

-ŋgo nali 'to set a date or time'

(51) tolotolo 'cough'

-so tolotolo 'to (expel a) cough'

(52) tuwaŋana 'measurement, assessment'

-ambi tuwaŋana 'to measure, judge, assess'
-so tuwaŋana 'to sound, fathom'

(53) tuatua 'story'

-ŋgo tuatua 'to talk-story, tell stories'

(54) wawana 'heat; hot'

-ki wawana 'to torture, persecute'

(55) wena 'theft'

-pai wena (NP) 'to steal (st)'

Verbs such as -lapa 'to hit' are also employed in a large number of idioms in which the postverbal element is a noun uninterpretable in its literal sense or is a morpheme not independently productive.

NUMBAMI idiomatic incorporated-object constructions:

(56a) -lapa abuabu (earth, mud?) 'to be covered with mud'

(b) -lapa dabata 'to be angry, ashamed; to sulk'

(c) -lapa eŋaŋa 'to clear the throat'

(d) -lapa guŋa (grass skirt) 'to be in heat, be horny'

(e) -lapa kayawa 'to wave, fan, gesture'

(f) -lapa masina (blood) 'to rust'

(g) -lapa motawi (custom, behavior) 'to preach'

(h) -lapa salau 'to run aground'

(i) -lapa taluŋa 'to cloud over'

(j) -lapa taŋanowa (ear) 'to cut off part of a branch of coconut or betel nuts'

(k) -lapa wagena (NP) 'to overshadow, stunt the growth of (st)'

(l) -lapa woya (singsing) 'to perform a singsing (traditional dance)'

(m) -lapa yasawi 'to tattoo'

Thus, Numbami and the other Huon Coastal languages possess not only a class of very productive resultative particles which have lost any verbal morphology they may once have had. They also possess a class of highly combinable manner-of-action verbs which have retained their verbal morphology but lost much of their original semantics in many constructions.

2.2.1.3 The Adzera languages

The evidence for serial or phrasal causatives in Adzera languages is very sketchy. Nevertheless, Fischer's (1963:216) brief mention of serialization in the Lower Watut languages of the Adzera group and two of his lexical entries (provided below) suggest that a fuller description of those languages would turn up more phrasal causatives.

ADZERA languages of the Lower Watut river valley (Fischer 1963)

(57a) -giŋg fono 'to sleep deeply, lie dead'

(b) -ts fono 'to beat dead, kill'

A fuller description by Holzknecht (1980) of Amari, another Adzera language spoken in the upper Markham river valley, documents a limited degree of serialization in that language but fails to provide more than a hint of phrasal causative constructions.

AMARI (Holzknecht 1980)

(58a) mpu i-yu gai i-fan
water rl-take wood rl-go
'water carries wood'

(b) is-a ifab funub[5]
hit-PTPL pig dead
'to kill pig'

(c) dzi i-rab untsraf
1s rl-strike.with.knife missed
'I threw (my knife) at it and missed'

2.2.1.4 Labu

Phrasal causatives appear to exist in Labu, an isolate which is either an Adzera language with considerable Huon Coastal influence or a Huon Coastal language with considerable Adzera influence. Siegel and Kamake (n.d.) provide the following examples.

LABU (Siegel & Kamake, n.d.)

(59a)	ini	ya	tawala	sê
	3s	hit?	door	open
	'he opened the door'			
(b)	ini	ya	tawala	sô
	3s	hit?	door	closed
	'he closed the door'			

The verb glossed 'hit?' in these examples appears in many compounds and can often be glossed 'to eat', 'to hit', or 'to do (st) with force'.[6] Some of the compounds in which this verb appears are:

LABU (Siegel & Kamake, n.d.)

(60a)	ini	ya	hônô	'he stole'
(b)	ini	ya	hêna	'he married'
(c)	ini	ya	nono	'he set a date'
(d)	ini	ya	palê	'he didn't know'
(e)	ini	ya	nama	'he waved'

2.2.1.5 Hote

Hote is an isolate which lies both geographically and linguistically between the Buang and Huon Coastal languages. The

following phrasal causatives appear in Muzzey's (1979b) grammatical sketch of the language.

HOTE (Muzzey 1979b)

(61a) yahik yani vunu
1s-hit 3s dead
'I killed him'

(b) ma hakiav valu beŋ atu vi
then 3s-open stone big this open
'then he opened this big stone'

Muzzey's (1979a) lexicon also lists the following compounds reminiscent of those in the Huon Coastal languages.

HOTE (Muzzey 1979a)

(62) hik 'to hit, fight, kill'
(= gik in some environments)

(a) hik kayav 'to wave'

(b) hik siŋ 'to cover, shut'

(c) hik vi 'to open'

(63) wa 'to get, carry'
(= ga in some environments)

(a) wa lovak (get wind) 'to rest'

(b) wa vani 'to steal'

2.2.1.6 The Rai languages

Two representatives of the Rai subgroup in Morobe Province are Sio (Dempwolff 1936) and Gitua (Lincoln 1977a). Dempwolff (1936:10-

11) says that while Sio bears a greater lexical resemblance to Gedaged, an OV Rai language in Madang Province, it bears a strong grammatical resemblance to Yabem. Sio exhibits both same subject and switch subject verb serialization (1936:9). Two examples of switch subject causative serialization follow.

SIO (Dempwolff 1936)

(64a) isuqanzi ne tamata xua sila sikasoŋa

3s-send (anim) GEN-3s people two 3p-go 3p-ask

'he sent his two people, they went, they asked'

(64b) siliŋi lâ lâ kulo lo

3p-pour water 3s-go (inanim) pot inside

(POC *danum 'water', *lako 'go')

'they poured water into pots'

Gitua has already provided examples of the serial causative. It also appears to contain constructions resembling the phrasal causative, unless the following examples simply contain adjectives used as adverbials.

GITUA (Lincoln 1977a)

(65a) ŋa-ŋgiti nabwara

1s-shave clean

'I shaved clean(ly)'

(65b) niu oze pabara

coconut 3s-stand crooked

'the coconut stands crooked(ly)'

2.2.1.7 Summary--The VO languages

Causative serial homologs are found in Buang, Huon Coastal, and (at least to a limited extent) in Adzera languages. They are thus found in all major subgroups of Oceanic languages in Morobe Province. They are also found in two Oceanic languages of uncertain affiliation, Hote and Labu; and in two other Morobe Province languages, Gitua and Sio, whose closest affinities appear to be with other VO and OV languages which spill over into western New Britain and eastern Madang Province. In most of the languages in Morobe, the result slot in the construction is now filled by a class of resultative particles, many of them clearly descended from verbs. This historical development can be abbreviated as follows: SVOV --> SVOR. Also characteristic of many Morobe languages is a class of manner-of-action verbs which have become semantically bleached and which serve as verbalizers for the resultatives, as well as to derive the verbal equivalents of many nominals which appear as the incorporated objects of those verbs.

2.2.2 The OV languages

Just as the VO homologs of the serial causative are found throughout the VO languages of Morobe Province, so the OV homologs are found throughout the OV languages on both flanks of Morobe. In East Sepik and Madang provinces to the northwest and along the Papuan coast and islands to the southeast, innovative OV causatives appear in most

of the languages for which we have adequate data. There are four major subgroups involved: the Sepik-Madang group, the Rai group, the Papuan Tip group, and the Central Papuan group. Only in the Central Papuan group do reflexes of the serial causative appear to be entirely absent.

2.2.2.1 The Sepik-Madang languages

The only two Sepik-Madang languages for which I have adequate data are Kairiru (Wivell 1981) and Manam (Lichtenberk 1980). Both exhibit homologs of the serial causative.

Kairiru, spoken in East Sepik Province, appears to be unique in possessing SOVV serial causatives. It is the only OV New Guinea Oceanic language I know of which is thoroughly serializing and displays little or no verbal compounding.

KAIRIRU (Wivell 1981)

(66a) rri nat salau wonyau rro-un-i a-myat rruon
3p child foolish dog 3p-hit-3s 3s-die FIN
'the foolish children killed the dog'

(b) Wojul qanaq wuru a-ninga-rru rri-yin jimwau
W. betel.catkin two 3s-plant-3du 3du-lie bush
'Wojul plants two betel catkins in the bush'

(c) kyau pung wu-laqa-i a-myai w-un-ieq
1s stone 1s-throw-3s 3s-come 1s-hit-2s
'I throw the stone at you'

Manam, in western Madang Province, is more typical of the OV languages. It exhibits structures intermediate between the SOV-V compound causative and the SOc-V classificatory prefix construction. The initial verbal element in these constructions indicates the manner in which the action denoted by the other verbal is performed (Lichtenberk 1980:214). Lichtenberk, following earlier usage, calls the initial elements "classificatory prefixes." The other verbal he considers the main verb. He lists ten classificatory prefixes, nine of which correspond closely in sound and meaning to independent verbs, all transitive. Only one, rau- 'hit', has no independent counterpart.

MANAM (Lichtenberk 1980)

	Classificatory prefixes		Independent verbs	
(67)	rau-	'hitting action'	(none)	
(68)	dua-	'hitting with feet'	dua	'to hit with sole of foot'
(69)	?ara-	'using teeth'	?arat	'to bite'
(70)	?in-	'using fingers'	?int	'to pinch'
(71)	?oro-	'cutting action'	?orot	'to cut, slice'
(72)	nagu-	'pricking, piercing action'	nagur	'to prick'
(73)	ro?a-	'throwing action'	ro?a?	'to throw'
(74)	tara-	'chopping action'	tara	'to chop'
(75)	tata-	'throwing & breaking action'	tata	'to hit (st) against (st)'
(76)	zaŋ-	'hitting & breaking action'	zaŋ	'to pound, punch'

Since all but one of the prefixes correspond to independent verbs in Manam, one could almost consider such constructions as the following to be the result of relatively straightforward compounding:

MANAM (Lichtenberk 1980)

(77a) ?ái u-?in-sére?-i
wood 1s-use.fingers-break-3s
'I broke the sick (with/between my fingers)'

(b) ?ái u-tara-sére?-i
wood 1s-chop-break-3s
'I chopped the wood'

(c) ?ái i-dua-póato-Ø
wood 3s-stomp-break-3p
'he broke the sticks with his feet'

(d) móli i-?ara-sísi?-i
orange 3s-use.teeth-peel-3s
'he peeled the orange with his teeth'

(e) bóro u-ro?a-pá?a-i
pig 1s-throw-miss-3s
'I threw (st) at the pig but missed'

However, independent verbs in Manam often have stem-final thematic consonants. The prefixes all lack such consonants even when their independent verb counterparts have them. The prefixes also occupy a position directly in front of the (main) verb root identical to that of the inherited causative prefix a?a- (from POC *paka; see 2.4.1). The latter plays a much-reduced role as a transitivizer in present-day

Manam. The distinction between the inherited "pure" transitivizer (or "causativizer") and the innovative prefixes derived from manner-transitive verbs is clear in Manam but considerably less so in many of the other OV New Guinea Oceanic languages.

Lichtenberk does not elaborate on the kinds of main verbs that cooccur with the classificatory prefixes. However, the following list, extracted from his examples, contains verbs whose semantics parallel those of the resultatives in Morobe languages.

MANAM resultative verbs (Lichtenberk 1980)

(78a)	-mate	'to die, be dead'
(b)	-pa?a	'to miss, mishandle'
(c)	-pasi?	'to take out, release'
(d)	-poato?	'to break off'
(e)	-posa?	'to crush, crack, shatter, squash, pulverize'
(f)	-sere?	'to break apart, split'
(g)	-sisi?	'to peel'
(h)	-toba	'to pierce'
(i)	-toto?	'to cut all the way through'

With the exception of -mate 'to die', all these verbs are transitive in their own right. So both the manner-transitive prefix and the result-transitive main verb have the same subject and object. Only in the case of -mate, as in rau-mate 'to hit-die', is there a switch subject relationship between the verbal elements. The object of the manner-transitive prefix is the subject of -mate.

The verbs which cooccur with the innovative classificatory prefixes contrast sharply with those to which the inherited morphological causative may be affixed. The prefix a?a- never occurs with either transitive or active verbs, but only serves to transitivize some statives and a few psychological verbs (Lichtenberk 1980:217).

MANAM morphologically causativized verbs (Lichtenberk 1980)

(79a)	a?a-gita	'to heat'
	cause-be.hot	
(b)	a?a-goaza	'to clean'
	cause-be.clean	
(c)	a?a-?awa	'to instruct'
	cause-know(intr)	
(d)	a?a-matoli	'to thicken'
	cause-be.thick	
(e)	a?a-rodoŋ-a?	'to darken'
	cause-be.dark-tr	
(f)	a?a-salagat	'to lengthen'
	cause-be.long	
(g)	a?a-tu?uraŋ-a?	'to shorten'
	cause-be.short-tr	
(h)	a?a-uya?	'to cure'
	cause-be.well	

Neither the classificatory prefixes nor the inherited causative prefix appear to be used in Manam to derive denominal verbs.

2.2.2.2 The Rai languages

Section 2.2.1.6 presented evidence of SVOV serial causatives in Sio and Gitua, two VO Rai languages in Morobe Province. The Rai group also includes thoroughly OV agglutinating languages like Gedaged in Madang Province. Gedaged and its congeners (Takia, Bilibil, etc.) exhibit some innovative OV serial constructions as well as many compounds. Dempwolff's (n.d.) grammatical sketch provides several examples of serialization.

GEDAGED (Dempwolff, n.d.)

(80a) ganazui pain i-fun-i i-mat
spirit.bird woman 3s-hit-3s 3s-die
'the spirit bird struck the woman and she died'

(b) nadin anaŋ ŋe-naig ŋi-pini-din di-ani
GEN-3p food 1s-cook 1s-give-3p 3p-eat
'I cooked their food, gave it to them, and they ate (it)'

Some of these serialized sequences have compound equivalents (Dempwolff, n.d.:62), such as:

GEDAGED (Dempwolff, n.d.)

(81) i-pizi-ama i-bit-ama
3s-stomp-1xp 3s-push.away-1xp
OR
i-pizi-bit-ama
3s-stomp-push.away-1xp
'He separates us by force (use feet = use force)'

Mager's dictionary provides similar examples:

GEDAGED (Mager 1952)

(82a) bog kag peze-belai

eagle gourd use.feet-pierce

'the eagle struck the gourd with its claws and penetrated it'

(b) pini-ag bili-ag

shoot-1s pierce-1s

'he shot at me and pierced me'

(c) pini-ag bedani/bedan-ag

shoot-1s miss/miss-1s

'he shot at me and missed (me)'

Mager's dictionary also lists an extraordinary number of verbal compounds which consist of an initial verbal element indicating some manner of action and a final element indicating a result. Many of the compounds appear to have acquired meanings not strictly predictable from the sum of their components. In addition, Gedaged vowel morphophonemics sometimes obscure the relationships between forms occurring in different compounds. Some of the most common initial elements in these compounds are listed below, together with the unsuffixed variant of their independent verbal counterparts and with POC etymologies, if any.

GEDAGED prefixes (Mager 1952)

(83) be-, bi-, bo-, bu- 'using hands'

abi 'to take hold of'
(POC *kampit 'to take, hold')

(84) peze-, pizi-, puzu- 'using feet or force'

paze 'to tread, step; set; afflict, oppress'

(85) pini-, punu- 'shooting'

pane 'to shoot'
(POC *panaq 'to shoot')

(86) teze-, tizi-, tuzu- 'chopping'

taze 'to hew, chop, cut into'
(POC *taRaq 'to hew, chop')

Some of the compounds these verbs occur in follow.

GEDAGED verbal compounds (Mager 1952)

(87a)	be-pasi	'to take hold of and tear off, detach, disengage, loosen'
(b)	teze-pasi	'to pierce, open a way; do thoroughly; loosen with violence'
(88a)	be-gale	'to scratch with fingernails or claws'
(b)	peze-gale	'to peel off (bark, skin) while climbing with the feet'
(c)	teze-gale	'to scale off, exfoliate, shed skin'
(89a)	bu-fazi	'to take hold of and squeeze, crush, crumble, bruise'
(b)	teze-fazi	'to disperse thoroughly, utterly fail'
(90a)	be-temani	'to put together, join, accumulate'
(b)	peze-temani	'to bring together, to step or kneel on st and bind it'

(c)	teze-temani	'to use an edge of something, force it against a bundle and tie together'
(91a)	peze-bedani	'to slip, skid, go astray, err'
(b)	teze-bedani	'to miss, slip, err, go astray, transgress'
(92a)	bibi-ɣini	'to take and toy with, tease, knead, fondle; kill time'
(b)	pizi-ɣini	'to trample down or underfoot'
(c)	tizi-ɣini	'to cut in pieces, hack, mince, chop up'
(93a)	bi-gile	'to tear or pinch off a part of st'
(b)	tizi-gile	'to cut into so that chips fly or bark comes off'
(94a)	puzu-fuli	'to knead (make round, crush) with one's foot'
(b)	tuzu-fuli	'to hew or plane down an elevation so that the object (canoe, post) becomes round'

The second elements in these compounds are in most cases also relatable to independent verbs, most of them transitive.

GEDAGED result verbs (Mager 1952)

(95a)	bedani	'to destroy, squander, throw away'
(b)	buli	'to turn back, change, transform'
(c)	fazi	'to scatter, disperse, spread, disband, demobilize'
(d)	gale	'to scratch (peel, pull, knock) off, skin, pare, trim'
(e)	gaze	'to scratch lightly, write, draw, tattoo'
(f)	loani	'to (cause to) be concave, curved, bent, arched'

(g)	pasi	'to free, loosen, undo, untie, disconnect, abolish, disjoin'
(h)	sa	'to ascend, climb, mount; appear, arise, grow, develop'
(i)	temani	'to gather, join'

Some verbs, such as buli, may occur in initial position in some compounds, in final position in others:

(96a)	buli	'to turn back, change, transform'
(b)	buli-sa	'to turn upside down, turn up'
(c)	buli-la	'to turn over'
(d)	puzu-buli	'to push or roll away st with one's feet'
(e)	punu-buli	'to glance off, recoil, rebound'
(f)	teze-buli	'to try to chop and have the tool spring back'
(g)	tuzu-buli	'to cut without effect'

Thus, Gedaged appears to possess a class of highly combinable manner verbs whose meanings are often attenuated, as well as a class of highly combinable result verbs with fairly generalized meanings. Both of the verbs in Gedaged compound and serial causative constructions may be transitive, and there is more often a same subject than a switch subject relationship between them.

2.2.2.3 The Papuan Tip languages

All of the Austronesian languages of the Papuan Tip (Milne Bay and Northern provinces, PNG) appear to have classificatory prefixes. The first comprehensive investigation of these prefixes was done by

Capell (1943), who distinguished two types of derivational prefixes: "modal" and "classificatory." The modal prefixes include the common Austronesian ones deriving causative, stative, and reciprocal verbs. The classificatory prefixes "indicate the manner in which an action is performed, whether by speaking, by hand or by itself, etc." (Ezard 1976:1164). Capell gives many examples of verbal compounds and of classificatory prefixes attached to nominal and adjectival as well as verbal roots. However, the details of Capell's pioneering work are not always reliable.

Ezard (1976) provides a more up-to-date comprehensive treatment based on relatively detailed knowledge of one language, Tawala, and more reliable data from other languages. Like Capell, Ezard makes a distinction between modal and classificatory prefixes, but he claims that the distinction rests on structural as well as semantic criteria. He lists ten classificatory prefixes in Tawala.

TAWALA classificatory prefixes (Ezard 1976)

(97) hana biting involved

(a) hana-hedali 'to break with teeth'
bite-break

(b) hana-loloya 'to tear with teeth'
bite-tear

(98) tu feet involved

(a) tu-hedali 'to break with feet'
step-break

(b) tu-loloya 'to tear with feet'
step-tear

(99) tupa sharp knock involved

(a) tupa-hedali 'to break by knocking'
knock-break

(b) tupa-loloya 'to tear by bumping'
knock-tear

(100) guna happens by itself

(a) guna-hedali 'to break by itself'
SPONTAN-break

(b) guna-loloya 'to tear by itself'
SPONTAN-tear

(101) kawa(i) proclaiming (st) to be a particular quality

(a) kawai-apapoe 'to proclaim (st) bad or broken'
proclaim-bad

(b) kawa-moina 'to proclaim (st) true'
proclaim-true

(102) pali speaking involved

(a) pali-wele 'to talk to (so)'
talk-give

(b) pali-gudugudu 'to oppose (a proposition)'
talk-door.rdp

(103) welu movement involved

(a) welu-lui 'to disappear inside'

move-enter

(b) welu-bahabaha 'to go along talking'

move-talk.rdp

(104) tu small movement or cessation of movement (= tu feet involved?)

(a) tu-hopu 'to go down a little'

step?-descend

(b) tu-towolo 'to stop'

step?-stand

(105) hulu multiple action

(a) hulu-geleteya 'to spill over'

MULT-arrive

(b) hulu-niyeya 'to cast lots'

MULT-bring

Contrasting with these classificatory prefixes are five causative prefixes whose meanings are not easily discernible. Listed in order of frequency, they are: wi-, lu- (lou- in some dialects), li-, wo-, and hu-. The functions of the various prefixes seem to overlap, except that wo- sometimes has the unique function of indicating 'to cause by hand'. The primary difference between lu- and li- seems to be that lu- generally forms intransitives while li- forms transitives. (The source of li- is most likely lu-wi-.) These prefixes share several functions. They causativize or transitivize other verbs:

TAWALA (Ezard 1976)

(106a) wi-am 'to cause (so) to eat'
eat

(b) wi-towolo 'to stand (st) up'
stand

(c) wi-hilage 'to kill with poison'
be.finished/dead

(d) li-hilage 'to kill (by direct participation)'
be.finished/dead

(e) li-peu 'to cause (st) to fall'
fall

(f) hu-hopu 'to put (st) down'
descend

(g) hu-geleta 'to cause to arrive'
arrive

They form similative ('resembling/characteristic of . . .') constructions:

(107a) wi-wawine 'to be pregnant'
female

(b) lu-hewahewali 'to act like unmarried youths'
youth.rdp

(c) lu-emoteya 'to pile'
one

(d) li-bolu 'to meet together'
group

And they derive verbs from certain nouns and adjectives:

(108a)	wi-gawiya		'to fight'
	war		
(b)	lu-bogahu		'to smoke (cigarettes)'
	smoke		
(c)	lu-ginahi		'to make sago'
	sago		
(d)	li-damalu		'to straighten'
	straight		
(e)	li-dao		'to lengthen'
	long		

Ezard argues that the causative and classificatory prefixes differ structurally as well as semantically. Whereas all the classificatory prefixes (except for monosyllabic tu-) form the progressive aspect by full reduplication of the prefix, the modal causatives have separate forms for the progressive.

TAWALA modal causative prefixes (Ezard 1976)

(109)	Simple form	Progressive form
(a)	wi-	i-
(b)	lu-	lau-
(c)	li-	lai-
(d)	wo-	woo-
(e)	hu-	hau-

However, the different strategies for forming the progressive would seem to have more to do with the shape of the prefix than with its semantic class. This can be seen from the fact that tu- does not reduplicate like the other classificatory prefixes--which are all dysyllabic--even though it belongs with them semantically. Moreover, wo- is not any more clearly a modal prefix than a classificatory one. It matches, in shape as well as meaning, classificatory prefixes in surrounding languages which indicate 'action by hand'. In fact, both Capell (1943:247) and Lithgow (1976:478) list Tawala wo- as a classificatory prefix in their general surveys of the languages of the area.

It is not only in Tawala that the distinction between classificatory and general causative prefixes is murky. Ezard suggests, on the basis of examples like the following, that the Tawala causatives "are developing separate areas of meaning" (1976:1166):

TAWALA (Ezard 1976)

(110a)	wi-hilage	'to kill with poison'
(b)	li-hilage	'to kill (by direct participation)'
(c)	lu-hilage	'to be tired'
(d)	wo-hilage	'to die of overwork'
(111a)	lu-geleta	'to become clear'
(b)	wo-geleta	'to be revealed'
(c)	hu-geleta	'to cause to arrive'

It is more likely that the prefixes are now similar only because they have lost separate areas of meaning. Phonological reduction and semantic bleaching have combined to form new general causatives from erstwhile classificatory prefixes. This has led to a proliferation of general causatives in Papuan Tip languages. Lithgow (1976:479), for instance, lists the following general causative (v. classificatory) prefixes in five representative Milne Bay Province languages:

MUYUW	ka-, ta-, kata-, va-, ya-
DOBU	e-, lo-, loe-, gie-
IDUNA	ve-, lu-, luve-, ki-, kive-
WEDAU	am-, rau-, wana-, vi-
SUAU	rau-, tai-

Capell, more influenced by etymology, keeps reflexes of the common Austronesian causative *pa(ka)- separate from the others, which he lists as classificatory prefixes. However, he repeatedly resorts to glosses such as 'assumption of state' for prefixes whose meanings are indeterminate. Among the "classificatory" prefixes so-glossed are Mukawa (= Are), Suau, Wedau rau-; Paiwa, Tavara (= Tawala) rou-; Panayati (= Misima), Tubetube ro-; and Ubir ru- (Capell 1943). All of these prefixes are relatable to the Manam classificatory prefix rau- 'hitting action' and to Gitua -rap 'to hit', Numbami -lapa 'to beat, pound, hit, kill, perform, affect or form over an extended area', and Tami -la 'to hit; do, make (verbalizer)'.

Thus, at one end of the continuum, classificatory prefix constructions are hard to separate from general causativizing or

verbalizing constructions. One has to go far afield to reconstruct the meanings of many of the classificatory prefixes. But there are other prefixes whose meanings are easily reconstructible because they correspond to independent verbs in the same language. Such "prefixes" are more like the Manam classificatory prefixes. They play a classificatory role but the constructions in which they appear resemble straightforward verbal compounds. Ezard (1976) and Lithgow (1976) ignore such compounds but Capell lists the initial elements of some compounds among his classificatory prefixes when they have widespread cognates. One such form is derivable from POC *taRaq 'to adze, hew, plane, chop, cut into' and is widely attested: Ubir tar(a)- 'action by cutting or severing'; Mukawa (= Are), Paiwa, Tavara (= Tawala) tara- 'cutting action'; Panayati (= Misima) tar- 'cutting action'; Dobu tala- 'cutting action'; Kiriwina (= Kilivila) ta- 'action by cutting'; and Tubetube ta- 'action by striking' (Capell 1943). These forms are relatable to Numbami -tala 'to chop, cut, hew'; Iwal -tle 'to cut'; Manam -tara 'to chop off (tree branches); dig out (canoe)' and tara- 'chopping or piercing action'; and Gedaged -taze 'to hew, plane, cut into' and teze-, tizi-, tuzu- 'action by cutting, piercing, severing'. An adequate description of classificatory prefixes in Papuan Tip languages thus needs to take into account correspondences among classificatory prefixes in one language, causative prefixes in another, and elements of verbal compounds--or even independent verbs--in another. Too narrow a focus is one of the weaknesses of Ezard's otherwise very useful work. After

repeating Ezard's lists of classificatory prefixes from three Papuan Tip languages, we will present a somewhat fuller picture of the verbal syntax and morphology of Iduna, with data extracted from Huckett (1974, 1976).

NIMOWA classificatory prefixes (Gregory Kunai, p.c., in Ezard 1976)

(112a)	saŋa-		teeth involved
		saŋa-tem	'to break with the teeth'
(b)	go-		knife involved
		go-tem	'to cut off with a knife'
(c)	mwana-		hands involved
		mwana-bebe	'to break with the hands'
(d)	su-		bump involved
		su-bebe	'to bump and break'
(e)	pi-		feet involved
		pi-bebe	'to stand on and break'
(f)	ton-		burning involved
		ton-bebe	'to break by burning'
(g)	taga-		hit involved
		taga-bebe	'to hit and break'

SUDEST classificatory prefixes (John Ruta, p.c., in Ezard 1976)[7]

(113a)	rir-		teeth involved
		rir-ten	'to break with the teeth'
(b)	ki-		knife involved
		ki-ten	'to cut off with a knife'

(c) mwana- hands involved

mwana-ŋgila 'to break with the hands'

(d) du- bump involved

du-bebe 'to bump and break'

(e) vuri- feet involved

vuri-ŋgila 'to stand on and break'

(f) ŋambu- burning involved

ŋambu-bebe 'to burn and break'

(g) riri- hit involved

riri-ŋgila 'to hit and break'

IAMALELE classificatory prefixes (John Beaumont, p.c., in Ezard 1976)

(114) daba 'to cut'

(a) kini-daba 'to cut through'

(b) ʔala-dabai 'to be burned through by fire'

(c) ʔutu-dabau 'to cut with the teeth'

(d) kia-dabau 'to break with the hands'

(e) tu-dabai 'to break with the foot'

(f) ani-dabai 'to break by itself'

(g) si-dabau 'to pull and break'

(h) bi-dabau 'to push and break'

(i) va-baiya 'to stand on and break'

(j) ve-baiya 'to be broken by a fall'

(k) yagi-baiya 'to be broken by wind'

(l) ʔeto-bwekai 'to pierce by throwing an instrument'

Iduna (aka Vivigani) is an SOV language with serial, compound, and classificatory prefix constructions in its verbal system along with several innovative general causative prefixes.

Iduna shows some serialization. Huckett (1974:85-88) mentions five types of verb-verb sequences. In all cases, one verbal slot or the other is severely restricted. The verbs in each type of sequence must show the same tense inflection (nonfuture Ø, future -na-, or potential [= counterfactual] -da-).[8] Four types involve same subject serialization. Only one, the completive construction in which the second verb must be -havaina 'to finish' inflected for third singular, involves different subject (apparently verbal subject) serialization. The other constructions are: (1) quotative, in which the second verb must be -gayo 'quote'; (2) repetitive, in which the second verb must be the same as the first; (3) initiatory, in which the first verb must be -vebutu 'to begin'; and (4) motion, in which the first verb must be a motion verb (only -na 'to go' and -'ela 'to come' occur in the examples).

More complex kinds of serialization exist as well but it is often hard to interpret Huckett's examples. Huckett (1976:139 ff.) provides extensive examples of what she labels "Serial Constructions," but she uses the label for any sequence of two or more clauses describing successive events, regardless of whether or not conjunctions are present; whether or not there are any restrictions on tense, aspect, or subject; whether or not the clauses agree in negation; and whether or not nonfinal intonation boundaries intervene. I have been able to find no cases of causative serialization except where the result

describes a change in location. The first of the following examples is a switch subject construction, the second a same subject construction.

IDUNA (Huckett 1976)

(115a) ga-tai-na gi-lakalaka-'ela
1s-pull-3s 3s-ascend.rdp-come
'I pulled it and it kept coming up'

(b) waka againe hi-yogo-di hi-hobuye-di taliye-ya
boat POSTP-3s-LOC 3p-tie-3p 3p-lower-3p beach-LOC
hi-se-di
3p-put-3p
'they tied her to the boat and lowered her onto the beach'
(The woman in the example is a mother. Mothers are indexed with 3p markers.)

Iduna has a rich system of causative affixation and compounding. Huckett (1974:124-125) distinguishes two types of causatives: general and specific. The general causative prefixes are: ye-, lu-, ki-, kive-, luve-. The specific causatives are classificatory prefixes. Like Tawala wo-, Iduna ki- sometimes appears to be a general causative and other times appears to indicate 'to cause with the hand(s)'. Examples of the two types of causatives follow.

IDUNA general causatives (Hucket 1974, 1976)

(116) ve- 'to do/make X'

(a) ve-'a 'to feed (so); rear (pigs)'
eat

(116b) ve-be'u 'to drop (st)'

fall

(c) ve-ho'e 'to wean (a child)'

be. weaned

(d) ve-life 'to cover (st), clothe (so)'

cover

(e) ve-yova 'to kill (so)'

attack

(f) ve-'awa-boge 'to eat breakfast'

mouth-night

(g) ve-gufa-'alu'aluga 'to be carried away by current'

river-carry.away.rdp

(h) ve-natu 'to bear a child'

child

(117) lu- 'to do/make X (by vigorous action?/affecting an extended area?)'

(a) lu-bai-boda 'to terrace'

cross.sticks-close.off

(b) lu-bwaitu'a 'to become blunt'

blunt

(c) lu-dobo 'to break (animal's hindlegs, etc.)'

break

(d) lu-fifi 'to make (st) round (by cutting)'

curl.around

(e) lu-fuwa 'to hatch'

break

(f) lu-gaviya 'to make war'

war

(g) lu-giligili 'to sweep'

broom

(h) lu-hege 'to send (st) away'

throw.away

(i) lu-koyoye 'to act badly toward (so)'

do/go.bad

(j) lulu-mamale 'to be preaching'

(118) ki- (= 'i- ?) 'to do/make X (with hands)'

(a) ki-'alove 'to let go of (st)'

(b) ki-boda 'to close (st) off'

close.off

(c) ki-dewadewa 'to prepare'

good

(d) ki-dobo 'to break (with the hands)'

break

(e) ki-vila 'to twist (st)'

turn

(f) 'i-bawebawe 'to crawl'

pig.rdp

(g) 'i-kolakola 'to wash (dishes, etc.)'

wash.rdp

(h) 'i-vekavekamoga 'to carve up (st)'

(i) 'i-vidaga 'to chop (wood)'

chop

(119) kive- (= 'ive- ?) 'to do/make X (with the hands)'

(a) kive-'avi 'to grab hold of (st)'
(cf. 'abi 'to hold')

(b) kive-be'u 'to drop (st); knock (st) down (with hands'
fall

(c) kive-buta 'to baptize (so)'
wet

(d) kive-yamumu 'to make (so's insides) happy'
good

(e) 'ive-'alika 'to kill (st) (holding spear, etc.)'
die

(120) luve- 'to do/make X (by vigorous action?)'

(a) luve-'alika 'to kill (st)'
die

(b) luve-kukwauhi 'to be blackened'
black

(c) luve-ta'ali 'to strike (a match)'
explode

IDUNA specific causatives (Huckett 1974)

(121) ki-, kive- 'using hands' (see general causative ki-, kive- for examples)

(122) bi- 'dropping'

bi-fuwa 'to cause (st) to break by dropping it'
break

(123) 'eto 'using a sharp instrument'

(a) 'eto-balebale 'to sew across (st)'

horizontal

(b) 'eto-ladi 'to write'

mark(v)

(c) 'eto-ve-tuwafaili 'to cause (st) to leap up (using spear'

(124) 'eno 'lying down'

(a) 'eno-bala 'to lie down'

go.across

(b) 'eno-ve-fota 'to lean back against'

stick(v)

Huckett does not provide an exhaustive list of specific causatives so it is not possible to provide a full list of Iduna classificatory prefixes. However, Iduna subgroups closely with Tawala and Iamalele and may possess similar sorts of prefixes. Some of the prefixes in other languages may correspond to the initial elements of compounds in Iduna. Derived and compound noun and verb stems are very common in Iduna (Huckett 1974:69) so it is relatively easy to extract examples of compounds from Huckett's data. The list that follows gives examples of verbs that play a role in compounds that parallels the role of the classificatory prefixes.

IDUNA classificatory elements of verbal compounds (Huckett 1974, 1976)

(125) hawa- 'to speak'

(a) hawa-davadava 'to praise'

(b) hawa-lu-magigi-bou 'to speak surlily'

face-go.dry

(c) hawa-lu-ve-tonove 'to taunt'

(d) hawa-ta 'to forbid'

(e) hawa-ve-keme 'to command'

(f) ve-hawa-tabutabu 'to put a tabu on (st)'

forbidden

(126) lau- 'to hit'

(a) lau-fata 'to repay'

(b) lau-tai 'to pull' (lu-lau-tai 'to be pulling')

pull

(c) lau-woi 'to paddle'

paddle(v)

(127) se- 'to put'

(a) se-boda 'to block (st) off'

close.off

(b) se-dewadewa 'to set in order'

good

(c) se-hobuye 'to put (st) down'

lower(v)

(d) si-lakahi 'to pull (st) out'

raise/big

(e) si-ve-kuku 'to hang (st) up'

hang

(128) madu- 'to run'

(a) madu-gahe 'to speak fast'
speak

(b) madu-tala 'to chop quickly'
cut

(129) tomo- 'to cut'

(a) tomo-bahi 'to cut up (seed taro, etc.)'

(b) tomo-fofoli 'to cut up (seed yams, etc.)'
apart?

(130) hege- 'to throw away'

(a) hege-hobuye 'to leave (st) behind'
lower

(b) hege-lakalakahi 'to heave (st) on top of (st)'
raise.rdp

(c) hege-ve-'abi 'to give a handful'
hold

(131) gahe- 'to speak'

(a) gahe-lakalaka 'to be jealous of (so)'
ascend.rdp

(b) gahe-tala-hobuhobu 'to speak hidden talk'
cut-descend.rdp

Iduna and the other Papuan Tip languages thus appear to display almost the full range of OV causative serial homologs. True causative serialization (SOVV) is not well represented but compound causatives (SOV-V) and classificatory prefix constructions (SOc-V) are found in

every language for which we have adequate data. Another common feature of the Papuan Tip languages is a proliferation of causative prefixes. Certain classificatory prefixes have either lost or become dissociated from their independent verbal counterparts and have become so semantically bleached that they are now hard to distinguish from the inherited "pure" causative prefix *pa(ka)-.

2.2.2.4 Summary--The OV languages

Reflexes of causative serialization are found in Kairiru and Manam in the Sepik-Madang group of languages; in Gedaged and its immediate congeners in the Rai group; and in every known member of the Papuan Tip group. Kairiru exhibits full OV serialization, with no compounding. The other languages show considerable compounding with much less serialization. In Gedaged there is some alternation between serial and compound causative constructions.

In every language but Kairiru, a relatively small stock of manner-transitive verbs, often with very generalized meanings, form the initial elements of verb+verb causative compounds. The noninitial verb may be either transitive, with the same subject as the initial verb, or intransitive, with the object of the initial verb as its subject. Same subject constructions with two transitive verbs appear to be more common. In the Papuan Tip languages, the same kinds of manner transitives also derive verbs from nouns and adjectives in verb+noun and verb+adjective constructions. (The frozen verb+noun order attests to the earlier VO syntax of the present-day OV

compounding languages.) The meanings of these compounds are often highly idiomatic.

When these manner transitives have become dissociated from their independent verb antecedents, they have given rise to a new grammatical category--classificatory prefixes. This dissociation has resulted from the phonological and semantic erosion of the prefixes or from the loss of their independent verbal counterparts. The most productive of these prefixes have often become so semantically bleached as to make their original meanings irrecoverable without comparative evidence. The now-meaningless prefixes have been reanalyzed (at least by linguists) as general causative prefixes resembling the inherited causative prefix common in Austronesian languages. These developments can be recapitulated schematically in the following fashion: S O V V, S (O) V N/Adj --> S O V-V, S (O) V-N/Adj --> S O clas-V, S (O) clas-N/Adj --> S O caus-V, S (O) caus-N/Adj.

2.3 RECONSTRUCTION OF THE PATH OF CHANGE

In 1965, Milke pointed out correspondences between certain classificatory prefixes in Gedaged and certain ones in Papuan Tip languages (1965:346-347). He proposed that the classificatory prefixes were a morphological innovation providing evidence for a NGO subgroup. He was apparently unaware of the presence of identical constructions in Manam. However, Milke was hard put to find classificatory prefixes in Morobe languages. He mentions that there are "a number of recurrent first syllables in verbs (a-, ja-, etc.)

which may be classificatory prefixes" and he compares Adzera "ririz 'particle to compound verbs meaning: away from, out of . . .'" with Gedaged teze-, tizi- 'action by cutting, piercing, severing' (1965:347). Although the *t and the *R of POC *taRaq 'to hew, chop, cut into' both yield Adzera /r/ and respectively yield Gedaged /t/ and /z/, I find Milke's Adzera evidence entirely unconvincing. If he had been looking for main verbs rather than prefixes, he might have had better luck.

There are no classificatory prefixes in Morobe Province, but there are main verbs which play a role similar to that of the prefixes. And there are result verbs or resultative particles in Morobe Province whose semantics resemble those of the verbs occurring with classificatory prefixes in the OV languages on either side of Morobe. Some of the morphemes involved are cognate as well. POC *taRaq 'to hew, chop, cut into' is virtually ubiquitous as an initial verb in serial and compound causative constructions. Reflexes of POC *punu 'to strike, kill, extinguish' are universal as resultatives in the Morobe area (excluding the Rai languages). However, in Kairiru the reflex of *punu appears as a manner transitive. In Gedaged, it appears as either a manner or a result verb. Reflexes of *punu turn up in result position in causative compounds in Papuan Tip languages. Capell (1943:177) reconstructs a form *tomu 'to cut or break off' widely reflected in Papuan Tip languages. Its reflexes appear in result position in Misima (= Panayati), Nimowa, and Sudest; and in classificatory prefix position in Suau and Iduna. In Numbami (Morobe Province), tomu is a resultative meaning 'broken off'. POC *kampit

'to take, snatch, carry, gather' is widely reflected in initial position in phrasal causative and incorporated object constructions in Morobe languages. Its reflexes occur in the same position in compound causative, classificatory prefix, and incorporated object constructions in Gedaged (Madang Province) and Papuan Tip languages. Reflexes of POC *mate 'to die' show up in Kairiru, Manam, Gedaged, and Gitua as result verbs. Perhaps one of the most productive manner-transitive verbs is reconstructible as *(dR)apa (or as POC *[dR]apat if cognate with Roviana rapata 'to attack'), meaning 'to strike, hit, beat'. It shows up as a transitive verb in Morobe Province serial causative and incorporated object constructions; as the only classificatory prefix without an independent verb counterpart in Manam; and as an almost meaningless, general causative prefix in almost every Papuan Tip language. Many of the Papuan Tip languages also show a less phonologically reduced, independent verb of a similar shape with the meaning 'to hit'.

The VO and OV innovative causative constructions thus resemble each other in the semantics of the components involved, in the order in which verbal and incorporated object components occur, and, in many cases, in the shapes of the individual morphemes as well. Moreover, the two groups of innovative causatives are in complementary distribution in Papua New Guinea and both differ from the causative pattern commonly found in Oceanic languages elsewhere. These circumstances seem to invite the reconstruction of a single ancestral pattern that will account for both the VO and OV constructions.

Distributional evidence within the Austronesian language family suggests that the VO, serializing languages of Morobe Province are more conservative of ancestral word order than the OV languages elsewhere in Papua New Guinea. The syntactic pattern ancestral to both the serial and compound causative constructions should thus be compatible with VO basic word order. The Morobe Province languages already provide evidence for an SVOV pattern in which the first verb indicates a causing action and the second a result. SVOV syntax is compatible with VO basic word order and such a reconstruction will also account for the compounding pattern if we assume that the compounding languages shifted their basic word order from VO to OV after serial causative constructions were well established. (Perhaps Central Papuan languages like Motu have no classificatory prefixes because they shifted before the serial causative was well established.)

Two major changes are thus sufficient to account for the causative compounds in OV languages along the north coast of the Papua New Guinea mainland. First, SVOV serial causative constructions developed. This stage is attested in the VO languages of Morobe province. The languages to the northwest and southeast then underwent a further change: they shifted from VO to OV basic word order.[9] The SVOV causative thus became an SOVV causative. In some of the Morobe languages, which apparently never made the full shift to OV basic word order, the SVOV serial causative produced an SVOR phrasal causative when the final verbs in the construction lost their verbal status and became resultative particles. In most of the OV languages, the SOVV

serial causative produced SOVV compound causative and classificatory prefix constructions. The OV languages show progressive deverbalization of the nonfinal verb in the construction. These developments are outlined in Table 2.

These hypothesized developments are sufficient to account for the correspondences between the innovative VO and OV causative constructions, as well as for the fact that both are in complementary distribution. But is the path outlined in Table 2 necessarily the one the languages followed? There can be no question that the Oceanic languages with present OV word order underwent a shift from earlier VO word order. Nor can there be any doubt that Morobe Oceanic languages developed a serial causative. Many still exhibit it, and the phrasal causative found in others also clearly derives from an earlier serial causative. So the question that remains is: Did a serial causative stage necessarily precede the compound causative? In the next section I will argue that it did. First, I will show that the inherited causative pattern has been displaced in both the VO and OV languages. Then, I will suggest reasons why the serial causative might have been preferred over the inherited causative. I will argue that the development of serial causative constructions was not a phenomenon separate from the shift from VO to OV syntax, but rather an integral first step in that shift.

2.4 REASONS FOR THE CHANGE

Why would speakers adapting their SVO languages to the SOV languages of their neighbors choose serialization as a path of change?

Table 2

Reflexes of the Serial Causative in Papua New Guinea Austronesian Languages

* S	V_t	O	Vi		(Switch S)	'they hit pig die'	
* S	Vt	O	Vt		(Same S)	'they hit pig kill/cause-die'	
The VO languages							
S	V	O	V	GITUA	(Switch S)	ti-rap	ŋgaya	mate
						3p-hit	pig	3s-die
S	V	O	R	NUMBAMI	(fr Same S)	ti-lapa	bolo	uni
						3p-hit	pig	dead
The OV languages							
S	O	V	V	KAIRIRU	(Switch S)	bur	rro-un-i	a-myat
						pig	3p-hit-3s	3s-die
S	O	V-V		GEDAGED	(fr Same S)	boz	du-punu-fun-i	
						pig	3p-shoot-kill-3s	
S	O	clas-V		MANAM	(fr Switch S)	boro	di-rau-mate-i	
						pig	3p-hit-die-3s	
S	O	clas-V		IDUNA	(fr Same S)	bawe	hi-lu-ve-'alika-na	
						pig	3p-*hit-cause-die-3s	

Givón (1975) suggests that the Niger-Congo languages which serialized on the way from SOV to SVO did so in order to compensate for the loss of ancestral case marking on their nouns. I think this explanation can be ruled out in the NGO case. The NGO languages which are now fully SOV have innovated a variety of (postpositional) nominal case markers, but not because they first lost ancestral morphology. Not many nominal case markers are reconstructible for POC (Pawley 1973:141). And the best attested, such as dative/benefactive *pani and locative *(q)i, are no less common in NGO languages than they are in other areas. Similarly, manner-transitive verbs have taken over the functions of the inherited morphological causative whether or not the latter is lost. Finally, the move from SOV to SVO may be explainable as at least partly an attempt to disambiguate case roles when nominal morphology is lost. The move from SVO to SOV cannot be explained in the same way. In NGO languages, it appears that neither word order change nor serialization can be explained as a compensatory response to the loss of inherited morphology. Instead, it appears that the development of at least one important type of serialization--causative serialization--was itself a mechanism of word order change. And the word order change, it seems generally agreed, was externally, not internally, induced.

2.4.1 The morphological causative supplanted

In contrast to Austronesian languages almost everywhere else, the Oceanic languages on the north coast of the PNG mainland show an unusual disinclination to make use of the morphological causative

inherited from Proto-Oceanic and Proto-Austronesian. The innovative causatives appear to have supplanted to varying degrees the inherited prefix *pa(ka)-.

Both in Oceanic languages and in Austronesian languages west of Oceanic, the causative prefix is ubiquitous. In virtually any grammatical description of a Philippine language one can find mention of a pa- causative affix. Pa- causatives also occur in all the aboriginal (Austronesian) languages of Formosa studied by Starosta (1974:283). The pa- causative even turns up in distant Malagasy (Codrington 1885:185). The causative prefix is also well attested in Oceanic languages. Schütz (in prep.) considers it one of the prefixes most characteristic of Oceanic languages. He notes that, in Pawley's (1972) grammatical comparison of Eastern Oceanic languages, it is the first verbal prefix listed (1972:45) and also the best attested--all but one of the 31 languages compared show an appropriate reflex. The same is true of Codrington's (1885:183-184) table of verbal prefixes in 32 Melanesian languages. (The two lists overlap by about 50 percent. Only Ambrym lacks the prefix in Codrington's list; only Tasiko lacks it in Pawley's.) A sample of Austronesian causative constructions follows.

AUSTRONESIAN CAUSATIVES

RUKAI, Formosa (P. Li 1973:70)

(132)	ʔa-ʔacay	kuani	taraalu?	sa	babuy
	cause-die	that	hunter	ART	boar
	'that hunter killed a boar'				

ILOKANO, the Philippines (Lawrence Reid, p.c.)

(133) im-pa-kan na diay baboy
GF-cause-eat 3s that pig
'he fed the pig'

MALAGASY, Madagascar (Simeon Rajaona, p.c.)

(134) n-amp-anasa ny lamba aho
PAST-cause-wash the clothes 1s
'I had the clothes washed'

ROVIANA, the Solomon Islands (Todd 1978:1039)

(135) va-mate-a sa si keke boko pa inevana
cause-die-3s 3s PART a pig for feast
'he killed a pig for the feast'

BAUAN, Fiji (Apenisa Seduadua, p.c.)

(136) eratou vaka-mate-a na vuaka
3p cause-die-3s ART pig
'they killed the pig'

HAWAIIAN, the Hawaiian Islands (Bill Wilson, p.c.)

(137) ho'o-make lākou i ka pua'a
cause-die 3p OBJ the pig
'they killed the pig'

The widespread occurrence of the prefix in most Eastern Oceanic languages is matched by a widespread multiplicity of function (Schütz, in prep.). Pawley (1972:45) notes three common functions of the prefix in the languages supporting his reconstruction of *paka- for Eastern Oceanic: causative ('causing/allowing . . .'); multiplicative

('repeatedly/extensively . . .'); and similative ('resembling/characteristic of . . .'). The prefix is so productive in Polynesian and Fijian languages that Churchward's (1959) Tongan dictionary, for instance, has 112 pages of words beginning with faka-, the Tongan form of the prefix (Schütz, in prep.).

In the Papua New Guinea languages with reflexes of the serial causative, on the other hand, the prefix has markedly diminished in function and in some cases disappeared altogether.

The Manam reflex of *paka- is a?a:. It only serves to derive transitives from a limited number of statives and psychological verbs (Lichtenberk 1980:217).

The reflex of the morphological causative in Gedaged and its congeners is variously pa-, pe-, pi-, or pu-. Mager (1952:233) defines it as "a petrified prefix" and says:

> It is not always clear when this prefix (and its variants) is a prefix and when it is a reduplication or a part of the root. Some times we can discern that it is a causative prefix, at times it expresses intensification, or it gives the word an opposite meaning.

In Gitua, the reflexes of causative *pa(ka)- and reciprocal *paRi have fallen together as pa- (Lincoln 1977a:24). Pa- can indicate reciprocal or multiple action, but its causative function has been almost entirely displaced by serial causative constructions. Thus, pa-mate (lit. 'to cause to die') only means 'to extinguish (fire)'. The serial causative is required to render the literal sense of 'to kill'.

The causative prefix appears completely lost elsewhere in Morobe Province. I have been able to find no evidence of it in the Buang,

Adzera, and Huon Coastal languages, nor in Hote and Labu, two languages whose affiliation is uncertain.

The Papuan Tip languages show a proliferation of causative prefixes. Reflexes of causative *pa(ka)- are well attested but are not always easy to tell--either semantically or phonologically--from the reflexes of reciprocal *paRi- (Capell 1943:113, 237-242). Other causative prefixes have arisen due to the near-total semantic bleaching of some of the classificatory prefixes. The prefixes, which, as transitive action verbs, used to describe the manner in which the result was achieved, now indicate little more than that the result was achieved. Capell uses the gloss 'assumption of state' for such prefixes. The new causative prefixes now perform functions often identical to the functions of the inherited causative prefix. The same is true of many manner-transitive verbs in the VO languages. A comparison of some morphologically causative verbs in Hawaiian (Pukui, Elbert, and Mookini 1975) with analogous new causative constructions in Papua New Guinea Oceanic languages will illustrate the way in which transitive action verbs have taken on the functions of the morphological causative inherited from POC. The Hawaiian reflex of *paka is ho'o-.

HAWAIIAN	ho'o-hana ('work') 'to employ, cause to work'
WEDAU	rau-karãi ('work') 'to set (so) to work'
HAWAIIAN	ho'o-helele'i ('falling') 'to scatter, sow'
WEDAU	ravi-awawari ('falling') 'to sow broadcast'

HAWAIIAN	ho'o-hua ('fruit') 'to bear fruit'
NUMBAMI	-ambi ano ('fruit') 'to bear fruit'
HAWAIIAN	ho'o-huli ('turn over') 'to turn, change, convert'
IWAL	-amb nalili ('turned around') 'to turn (st) around'
HAWAIIAN	ho'o-loli ('turn, change') 'to change, amend'
NUMBAMI	-ambi lele ('turned') 'to translate'
HAWAIIAN	ho'o-luli ('shake') 'to rock (so); to sway'
WEDAU	ravi-dagudagu ('restless') 'to shake, disturb'
HAWAIIAN	ho'o-make ('die') 'to kill, let die'
MANAM	rau-mate ('die') 'to kill'
HAWAIIAN	ho'o-piha ('full') 'to fill'
TUBETUBE	ro-karapowani ('full') 'to fill'
HAWAIIAN	ho'o-pi'i ('ascend') 'to cause to rise'
GEDAGED	bi-sa ('ascend') 'to lift up, raise'
HAWAIIAN	ho'o-puka ('perforation') 'to make a hole or opening'
NUMBAMI	-so bozoka ('pierced through') 'to make a hole or opening'

2.4.2 Ambiguous syntax preferred

What accounts for the decline of the inherited morphological causative and the rise of the serial causatives in NGO languages? From a strictly structural point of view, the path of causative serialization seems an unnecessarily complicated way to move from SVO to SOV. The most grammatically economical way would be to add one rule inverting every VO to OV. But what is grammatically economical in this case seems sociolinguistically implausible.

I assume that speakers of neighboring Austronesian and non-Austronesian languages were familiar with each other's languages, at least to the extent that each could understand when spoken to in the other language(s) and could be assured of being understood when using their own language. Even when fluent in the other language(s), speakers may have wished to speak their own language for emblematic reasons, to signal their identity as members of a particular linguistic group. Or they may have had to speak to monolinguals some of the time. In such circumstances, speakers may have tended to mitigate the differences between the various languages they used. They may increasingly have favored structures which were originally highly marked or syntactically ambiguous in their own language(s) precisely becuase such structures resembled the patterns of their interlocutors' language(s). Some of these structures could have been analyzed according to the patterns of either language type. (See Chapter 5.)

Causative serial constructions permit just this sort of multiple analysis. (See Hankamer 1977 for more discussion of the role of multiple analyses.) They contain no clause boundary markers and thus permit speakers and hearers to parse the constructions to suit their own preconceptions about clause structure and word order. At the same time, serial causatives run little risk of being misunderstood.[10] They describe cause-and-result events in an order matching the unfolding of those events in the real world. The first verb denotes the manner in which the Agent behaved; the second describes the effect of that behavior on the Patient.

Serial causatives can be parsed in various ways depending upon where the parser decides to insert a clause boundary and whether the construction involves a same subject or switch subject relationship between the verbs. A further option is not to insist on parsing the structure into two separate clauses.

If one decides the construction contains two clauses, one can insist on perceiving a clause boundary in either of two likely locations: either before or after the Patient NP. A clause boundary after the Patient NP will produce an initial SVO clause and thus make the structure compatible with SVO word order. In the switch subject type, the second clause will be intransitive, with no overt subject NP; while in the same subject type, the second clause will be transitive but contain neither a subject or an object NP. As an illustration, take the serial construction, 'I chopped the tree toppled'. If one inserts a clause boundary between 'the tree' and 'toppled', then one has an SVO clause 'I chopped the tree', and a second clause with just the verb 'toppled'. A switch subject reading would produce 'I chopped the tree and it toppled' while a same subject reading would yield 'I chopped the tree and toppled it'.

But suppose one felt that a clause boundary before the Patient was more in line with one's preconceptions. In this case, the first clause would consist of a subject and a verb with no object NP, while the second clause would contain either a Patient NP acting as subject of an intransitive verb, or a Patient NP acting as object of a transitive verb. Again take the example 'I chopped the tree toppled'.

A switch subject version could be parsed into 'I chopped and the tree toppled', while a same subject version could be parsed to read 'I chopped and toppled the tree'. Both versions with the clause boundary before the Patient are thus compatible with SOV word order. The switch subject version contains no overt object NP and the same subject version contains an object NP in front of the final verb.

If one exercises the option of not inserting any clause boundary in a serial causative, then one has a clause that is both verb-medial and verb-final. An interpretation under which the manner verb is the main verb will be compatible with SVO prejudices, while one in which the result verb is the main verb will conform to SOV prejudices. Semantics will not easily decide. There seems no more reason to suppose that the manner-of-action is ancillary to the result-of-action than there is to presume that the result is subordinate to the manner. The manner verb describes the role of the Agent while the result verb describes the effect on the Patient. Neither the Agent nor Patient is a dispensable member of the Agent-Patient transitive clause. These parsing options are summarized in Table 3.

Table 3

Parsing Options for SVOV Serial Causatives

	Compatible with SVO	Compatible with SOV
One clause	S V_{main} O V_{sub}	S V_{sub} O V_{main}
Two clauses		
Switch subject	S V O ## V_{i}	S V ## S V_{i}
Same subject	S V O ## V_{t}	S V ## O V_{t}

Reflexes of both switch subject and same subject serial causatives are found throughout NGO languages. Very often, reflexes of both types are found in the same languages, as in Manam (see Table 4). However, it appears that same subject serial causatives are more common. In Manam, for instance, the only intransitive result verb that appears in homologs of the serial causative is -<u>mate</u> 'to die, be dead'.

Table 4

Reflexes of Two Types of Serial Causatives in Manam

Switch subject:	*S s-V-o O=S s-V	==>	S O s-V-V-o
	boro i-mate pig 3s-die		'the pig died/is dead'
(di) boro 3p pig	di-rau-mate-i 3p-hit-die-3s		'they killed the pig'
Same subject:	*S s-V-o O s-V-o	==>	S O s-V-V-o
(ŋai) ?ai 3s wood	i-sere?-i 3s-split-3s		'he split the wood'
(ŋai) ?ai 3s wood	i-zan-sere?-i 3s-punch-split-3s		'he split the stick lengthwise'

There is also evidence that speakers of NGO languages adopted the one-clause analysis of causative serial constructions. In almost every language, either the manner or the result verb has lost its verbal status. Prevailing word order patterns seem to have been the sole determinant of which of the two verbs became grammaticalized. Many of the languages which have <u>not</u> made the full shift to SOV (those in Morobe Province) have grammaticalized the clause-final result verbs. The reflexes of those verbs now form a class of resultative particles. In contrast, the nonfinal manner verbs have grammaticalized in the fully SOV languages. They have yielded a set of prefixes classifying the manner of action by which various results are achieved. Some of these prefixes have degenerated to the point

where their meanings are indeterminable on solely language-internal evidence. These contrasting patterns of grammaticalization are summarized in Table 5.

Table 5

Different Resolutions for Two Verbs in One Clause

The VO Solution, adopted by Numbami and other VO languages:

S V_{manner} O V_{result} ==> S V_{main} O Result

The OV Solution, adopted by Manam and other OV languages:

S V_{manner} O V_{result} ==> S O Manner-V_{main}

One way to get the verb from one position to another within a clause, then, is to render the information of that clause in such a way that verbs fall in both positions in a construction that contains no boundary markers and thus permits multiple analyses. The evidence suggests that NGO languages adopted this strategy in changing from SVO to SOV. The availability of this strategy suggests that serialization need not arise from either coordinate or subordinate relationships between two separate clauses (contra Hyman 1971:41, 1975:139). In fact, there is no evidence that I am aware of--at least in NGO languages--that causative serial constructions were ever two fully separate clauses. The languages are adequately supplied with conjunctions, conjunctions that are often ubiquitous in other constructions. But no conjunctions show up between the constituents of serial causatives, not even as morphological remnants. NGO serial

causatives were apparently from their very inception structures containing one clause worth of semantics and two clauses worth of verbs, without any intonational or morphological indication of a clause boundary.

NOTES TO CHAPTER II

1. The distinction made in this chapter between homologs and analogs is borrowed from evolutionary biology. Analogous constructions are similar in function but different in structure and origin. An insect's wings and a bird's wings are analogs. Homologous constructions are assumed to share the same or corresponding ancestral components, but they are no longer identical in structure or function because they have evolved differently. A cow's forelegs and a bird's wings are homologs.

2. In the realis verbal paradigm in Gitua, the third singular form of the verb lacks a subject prefix. However, it is unambiguously third singular.

3. The Buang languages have a discontinuous verbal negator which brackets the string of elements to be negated. Potential "aspect" is marked by a preverbal particle. An older inflectional potential (or irrealis) marker is reconstructible as the prefix *na-. However, it is now so severely eroded that the only remaining trace is usually the addition of prenasalization to certain obstruents at the beginning of verb roots (see Lynch 1975). The prefixes identifying subject person and number are also severely eroded in the Buang languages.

4. The resultatives glossed 'dead' in the examples cited all appear to derive from POC *punu 'to strike, kill, extinguish'. The present phrasal causative thus probably derives from an earlier same subject (and same object) causative serial construction: 'they-hit the-pig they-killed-it'. Iwal vunu and Numbami uni

show regular reflexes. Yabem should show low tone *-nù, but instead shows -ndu if the frozen third singular irrealis prefix ê- is subtracted. (Note that in 19b `êndu retains its frozen irrealis prefix even though it accompanies a verb inflected with third singular realis gê-.) The epenthetic /d/, being a voiced obstruent, is compatible with low tone and makes the tone of the root predictable. Low tone would not be predictable from the shape of *-nu and would therefore be marked with a grave accent in the orthography (see Dempwolff 1939:7, Bradshaw 1979).

5. POC *punu 'to strike, kill, extinguish' appears to be the source of fono in the Lower Watut languages and funub in Amari. Except for the final b on funub, the reflexes are as expected. See also note 4.

6. Labu reflexes of POC etyma are severely eroded. This verb could be descended from POC *kampit 'to hold', *kani 'to eat', or the form ancestral to Numbami -lapa 'to hit' and Tami -la 'to hit'. The conjugation of this verb is full of suppletive forms and it most likely results from a falling together of these etyma.

7. I have slightly modified Ezard's (1976) orthography for the Sudest forms in order to make the examples easier to type.

8. Nonfuture Ø distinguishes present and past actual events. Future -na- apparently indicates that an unrealized event is likely to take place. Counterfactual -da- is used for hypothetical, desiderative, dubitative future, and negative nonfuture events. The irrealis category in languages with just a two-way

(realis/irrealis) distinction generally does the work of the Iduna future and counterfactual categories. However, negatives can usually occur with realis as well as irrealis verbs. In Iduna, nonfuture negative verbs must be inflected with -da-. (Huckett 1974:80)

9. The SVOV pattern would have facilitated the shift to OV in two ways. The first has to do with same subject serial causatives. The SVOV construction would have created a class of verbs--the result transitives of same subject serial causatives--which could take preverbal object complements. The objects of those result transitives may have remained in preverbal position even when the verbs occurred in simple transitive--not serial causative--constructions. The remainder of the change to OV word order would then have been a matter of enlarging this class of verbs.

The second factor would have affected switch subject serial causatives as much as, if not more than, same subject serial causatives. The SVOV construction would have created many verb pairs which frequently cooccurred. Many SVOV constructions would have contained no overt object NPs. In such cases, the cause and result verbs would have been juxtaposed. The most common cause-and-result pairs must surely have come to be considered a single, if sometimes discontinuous, unit. A tendency to bring (or keep) such units together would seem natural enough. But why would it be preferable to get the object out of the way by shifting it to preverbal rather than postverbal position? If OV word order was clearly the target of these manipulations, perhaps no other

explanation is needed. However, more immediate considerations may also have had a role to play. In switch subject serial causatives, the result verb is intransitive. Placing the Patient NP (object of the first verb, subject of the second) before both verbs may have seemed preferable to placing it after the intransitive result verb. In same subject serial causatives, the result verb is transitive. If transitive result verbs formed a class with preverbal objects, it may have seemed preferable to place the object NP before both verbs rather than after the transitive result verb. At the very least, these more immediate considerations would have provided reasonable (if not powerful) excuses to make a comfortable move in the desired direction of OV word order.

10. Slobin (1982) presents evidence that children have a harder time learning periphrastic causatives than they do learning morphological causatives. I claim only that serial causatives, not periphrastic causatives, are semantically transparent. The periphrastic causative verb ('do', 'make', 'cause', etc.) carries more grammatical information than it does information about the real (extralinguistic) world. The serial causative verb ('chop', 'hit', 'grab', 'twist', etc.), on the other hand, carries more real-world than grammatical information.

    The periphrastic causative indicates a causative relationship between one event or entity and another event. The entity responsible for the causing event may be described but the specific nature of the causing event must be inferred from

context. The serial causative describes both causing event and resulting event. It leaves the causative relationship to be inferred from the construction--from the order in which the two events are described and from the semantic and grammatical bonds between the two descriptions.

The periphrastic causative involves embedding. The result verb is grammatically subordinate to the causative verb. The serial causative involves no embedding. The cause and result verbs share one or more arguments but neither is subordinate to the other.

CHAPTER III

GENITIVE

Much has been written about the prenominal position of the genitive in the Austronesian languages of New Guinea and eastern Indonesia. The first part of this chapter will briefly review some of the ideas of earlier researchers about the significance of this feature. The significance of the feature is still the subject of controversy, and the exact boundary between the languages with preposed and those with postposed genitives is not yet clearly drawn; but the existence of the preposed genitive in languages throughout the area is now well established, and the innovativeness of the feature when found in AN languages is also generally agreed upon. Accordingly, this chapter will assume that no further evidence is needed that NGO languages have preposed genitives. (The examples throughout the chapter, however, abound with such evidence.) Instead, the bulk of this chapter will outline three widespread grammatical innovations that accompany the change in genitive word order in NGO languages.

3.1 BACKGROUND DISCUSSION OF GENITIVE PREPOSING

Over most of the territory occupied by Austronesian languages, genitive (or "possessor") nominals (Gen) follow head (or "possessed") nominals (N) in noun-noun genitive constructions. However, the reverse order (Gen + N) prevails in the neighborhood of New Guinea and

nearby islands of Indonesia (from Sulawesi and Flores east). The distinctive "preposition of the genitive" in the AN languages of the latter area has engendered more discussion than any of their other syntactic features. Various explanations have been offered. Kanski and Kasprusch (1931) review some of these explanations and conclude that the preposed genitive most likely results from the influence of Papuan languages, which also have preposed genitives and which share a very similar geographical range. This still seems the most likely explanation, although it remains a mystery why the preposed genitive has a wider distribution than any of the other grammatical features attributed to Papuan influence.[1] Even leaving Papuan influence aside, however, the narrower and contiguous geographical distribution of the preposed genitive, when compared with the unrestricted distribution of the postposed genitive, suggests that the former is innovative and originated somewhere in "extreme eastern Indonesia" (Blust 1974:12).

The boundary between languages with preposed genitives and those with postposed genitives forms a wide arc running to the west, north, and east of the island of New Guinea. The southwest-to-northwest portion of this arc is frequently referred to as the "Brandes line" (after Brandes 1884), and the northwest-to-southeast portion has been called the "line of Friederici" (after Friederici 1913). (See, for example, Kanski and Kasprusch 1931, Cowan 1952).

The Brandes line was first assumed to be a genetic boundary (a linguistic analog of the Wallace Line perhaps). However, there was some disagreement about which genetic units it separated. Brandes

(1884) himself thought it set off two groups of Indonesian languages. Jonker (1914) argued that two such Indonesian subgroups could not be distinguished. Schmidt (1926) thought the Brandes line marked the border between Indonesian and Melanesian languages.[2] Kanski and Kasprusch (1931) offered a compromise. They identified four groups of languages:

1. Indonesian, west of the Brandes line
2. Papuan-influenced Indonesian, east of the Brandes line
3. Papuan-influenced Melanesian, west of Friederici's line
4. Melanesian, east of Friederici's line

Like Kanski and Kasprusch (and Jonker), most scholars today would not consider genitive word order to be a valid criterion for subgrouping. Another feature of genitive constructions was put forth as a better basis for distinguishing Indonesian from Melanesian languages. In western Austronesian ("Indonesian") languages, genitive pronouns can be suffixed (or encliticized) to all nouns. In eastern Austronesian ("Melanesian") languages, genitive pronouns can be suffixed directly to nouns only in case the possessed entity is an inalienable relationship to the possessor. In practice, this means that most body-part and kin terms are directly suffixed. Most other nouns are not. Instead, head nouns (denoting possessed entities) in constructions expressing an alienable relationship are preceded by genitive pronouns.

Schmidt (1926:424) and Kanski and Kasprusch (1931:889) regarded the influence of Papuan languages as responsible for the origin of the grammatical distinction between alienable and inalienable possession

in eastern Austronesian languages as a whole. Under Papuan influence, they argued, the AN languages in transition from Indonesia to Melanesia began to lose their original postposed genitives and to acquire preposed ones. Nouns denoting alienables formed the vanguard of this change. Nouns denoting inalienables, such as body parts and kin terms (which involve animate--usually human--possessors, one could add), were slower to lose the original genitive pronouns because reference to an inalienable almost always requires reference to a possessor as well. The inalienables retained their postposed pronouns long enough for the latter to become an integral part of the noun itself. The general change was thus arrested, with inalienables forming a relic category.

One major weakness of this hypothesis is that it ignores the distinction between pronominal and nominal genitives. In eastern AN languages generally, it may be more common for independent genitive pronouns to precede head nominals in cases of alienable possession. (There is considerable variation.) In all but the more narrowly defined "Papuan-influenced" languages, however, genitive nominals follow head nominals, whether or not alienable possession is involved. This hypothesis, then, leads one to the false expectation that genitive nominals precede head nominals in all languages in which the alienable-inalienable distinction exists.

The alienable-inalienable distinction is reconstructible for Proto-Oceanic (Pawley 1973:153-169), the ancestor of most of the languages of eastern Austronesia. However, it is not unique to that

group. It also occurs in many languages of eastern Indonesia which are not daughters of Proto-Oceanic (Collins 1980:39 ff., Stresemann 1927:6). So even the presence or absence of the alienable-inalienable distinction does not adequately indicate genetic affiliation.

The traditional recognition of differences between "Indonesian" and "Melanesian" languages is now generally phrased in terms of "Oceanic" and "non-Oceanic" languages. The former term denotes what is generally recognized as a genetic unit (primarily on the basis of phonological criteria). The negative term "non-Oceanic" lumps together all other AN languages without implying that they form a single genetic unit. The boundary between the two groups of languages distinguished by the new phraseology has also shifted somewhat farther to the east since the time of Brandes, Schmidt, and Friederici. The new boundary, which in an earlier era would have been called "Grace's line" (after Grace 1955:338, 1971a:31), is assumed to have a firmer genetic basis than the two earlier boundaries. Grace's line, separating Oceanic from non-Oceanic languages, runs north-northeast to south-southwest, intersecting 140°E longitude between New Guinea and Micronesia. The scope of this thesis is restricted to the AN languages west of Friederici's line and east of Grace's line. These languages can be characterized as "Papuan-influenced Oceanic." However, before restricting discussion to these languages, it will be helpful to review the various boundaries and the nature of the groups of languages they set apart.

The Brandes line marks the western boundary of a group of languages with innovative genitive word order. This group of

typologically similar, but genetically not so closely related, languages is bounded on the east by Friederici's line. Somewhere east of the Brandes line is the western boundary of a group of languages showing an innovative grammatical distinction between alienable and inalienable genitives. Most of these languages are members of the Oceanic subgroup, a genetic unit, but the westernmost languages are not. East of this boundary lies Grace's line, the western boundary of the Oceanic subgroup. The eastern boundary of the Oceanic subgroup, and of all AN languages showing the alienable-inalienable distinction, is the eastern border of Austronesian as a whole (east of Easter Island). (I am assuming that the distinction between a and o genitives in Polynesian can be considered akin to the alienable-inalienable distinction in the rest of Oceanic.)

At least three types of genitive constructions are reconstructible for Proto-Oceanic. One type, a noun-noun genitive phrase, is also reconstructible for Proto-Austronesian. Two types of pronominal genitive constructions are reconstructible: one for cases of inalienable possession, one for alienable.

Blust (1974) reconstructs for PAN a noun-noun genitive phrase with the order N + Gen and an intervening genitive particle ni (or i). (For more recent discussion of this reconstruction and the alternation between ni and i, see Reid (1982) and references therein.) Two of his reconstructions and accompanying evidence follow. Equivalent constructions in Numbami, a NGO language, are included to illustrate the different word order in NGO languages.

AN noun-noun genitives (Blust 1974)

PAN

(1)	*puqun	ni	kaS$_2$iw	*daSun	ni	kaS$_2$iw
	trunk/root	GEN	tree/wood	leaf	GEN	tree/wood

MALAY

(2)	pohon	kayu	daun	kayu
	trunk/base	tree/wood	leaf	tree/wood

FIJIAN

(3)	vū	ni	kau	drau	ni	kau
	root/basis	GEN	tree/wood	leaf	GEN	tree/wood
	'tree (trunk) (v. wood)'			'tree leaf'		

NUMBAMI (Bradshaw, field notes)

(4)	ai	dabola	ai	lau
	tree/wood	head/basis	tree/wood	leaf
	'tree trunk'		'tree leaf'	

Pawley (1973:169) and Geraghty (1978:226) suggest that the same type of genitive phrase can be reconstructed for POC. However, the exact function of this type of construction in POC is not entirely clear. It was used when the genitive noun was either nonreferential (v. referential), generic (v. specific), inanimate (v. animate), common (v. proper), or some combination of the above. Pawley (1973:169) thinks inanimateness is the most important criterion. Geraghty (1978:226) says that, in all Fijian languages, the construction is used for generic common noun possessors (and in some languages for

certain types of nongeneric common noun possessors), no matter whether an alienable or inalienable relationship is involved. My own opinion is that the construction was used when the genitive noun was descriptive rather than referential. It seems fairly clear that the construction was not used for pronominal genitives in POC. So the most neutral label for this type of genitive may be "nonpronominal."

As far as I have been able to determine, functional equivalents of nonpronominal genitives exist in all NGO languages, even though they may be nothing more than noun-noun compounds. However, the particle ni (or its variant i) nowhere survives, even in constructions containing postposed genitives. (See 3.3 for an argument that NGO postposed genitives are all relatively recent developments.) Compare the following nonpronominal genitives in two Fijian languages, Tubaniwai and Lau, with functionally similar nonreferential genitives in Numbami, a NGO language.

FIJIAN nonpronominal genitives (Geraghty 1978)

TUBANIWAI

(5a) rau ni kai '(tree) leaves'
leaf GEN tree

(b) were ni kwai Valagi 'European-style house'
house GEN native-of overseas

LAU

(6a) drau ni kacu '(tree) leaves'
leaf GEN tree

(6b)	wai	ni	gone	'children's water (for children to drink, to be applied to children, to help produce children, etc.)'
	water	GEN	child	

NUMBAMI nonreferential genitives (Bradshaw, field notes)

(7a)	ai	ano		'(tree) fruit'
	tree	fruit		
(b)	bani	bumewe	na	'European-style food'
	food	European	GENsg	

The distinction between alienable and inalienable possession in Oceanic languages necessitates the reconstruction of two separate structures for POC pronominal genitive constructions.

POC pronominal genitive constructions (Pawley 1973:166-167)

(8a)	Inalienable:	N_{psd}-PRO_{psr}
(b)	Alienable:	GEN-PRO_{psr} N_{psd}

The elements occurring in the slot -PRO_{psr} form a class of suffixed possessive pronouns. The symbol GEN marks the position of one of a small number of genitive classifiers. The classifiers together with the suffixed possessives form one or more sets of independent genitive pronouns.[3]

Pawley's reconstructions of POC pronominal genitive constructions are as well attested in NGO languages as they are in OC languages elsewhere. His supporting evidence includes data from such NGO languages as Manam, Gedaged, Wedau, Dobu, Suau, and Motu. In general, there is no consistent difference between New Guinea and extra-New Guinea OC languages in the placement of pronominal elements in

genitive constructions. The languages within either group vary considerably in the placement of independent genitive pronouns. (Compare, for example, the results of Lincoln's (1976:20) survey of pronominal genitives in OC languages along the Rai Coast of New Guinea with the results of Tryon's (1973:311-322) survey of the same in OC languages in the New Hebrides.) Where NGO languages differ consistently from the standard OC pattern is in the placement of genitive nominals. In most OC languages, genitive nominals coreferent with the genitive pronouns may occur in the same construction. These genitive nominals <u>precede</u> the pronominal genitive construction in NGO languages but <u>follow</u> it in other OC languages. Examples from (Bauan) Fijian, a non-NGO language, and Are, a NGO language of Milne Bay Province, Papua New Guinea, will illustrate.

FIJIAN (Lynch 1973)

Inalienable:

(9a)	na	ulu-na	na	tagane	'the man's head'
	ART	head-3s	ART	man	

General:

(9b)	na	no-na	vale	na	yalewa	'the woman's house'
	ART	GEN-3s	house	ART	woman	

Edible:

(9c)	na	ke-na	dalo	na	turaga
	ART	GEN-3s	taro	ART	chief

'the chief's taro (to eat)'

ARE (Paisawa, Pagotto, and Kale 1975)

Inalienable:

(10a) poro kamokamo-na 'the pig's belly'
pig belly-3s

General:

(10b) wasike a-na bau 'the woman's garden'
woman GEN-3s garden

Edible:

(10c) sina-na ka-na besa
mother-3s GEN-3s banana
'her mother's cooked banana (to eat)'

The grammar of alienable genitive constructions is often quite elaborate in OC languages. The form of the genitive classifier may vary according to the function or the shape of the possessed entity (according to whether it is edible or drinkable; leaf-shaped, stick-shaped, or round, etc.). Although the position of the independent genitive pronouns may vary with these grammatical distinctions, the position of the genitive nominal rarely varies. It precedes the head noun in NGO languages and follows the head noun elsewhere.

The remainder of this chapter will outline three widespread grammatical innovations that accompany the change in genitive word order in NGO languages. First, many languages use preposed focal pronouns to reinforce pronominal genitives (see 3.2). Some languages have created new genitive pronouns of greater morphological complexity out of this combination. Others have allowed the preposed focal

pronouns to take over the functions of the genitive pronouns. Second, many languages allow a degree of variability in genitive word order (see 3.3). Gen + N order expresses the more usual sorts of genitive relationships while N + Gen order often has somewhat different semantics. Both kinds of constructions appear innovative in relation to the N + Gen order reconstructible for POC. Finally, a surprising number of NGO languages have elaborated the functions of the possessive suffixes (see 3.4). In some constructions, the suffixes denote the person and number of the genitive nominal; in others, the person and number of the head nominal.

3.2 FOCAL PRONOUNS IN GENITIVE CONSTRUCTIONS

Oceanic languages commonly have more than one set of pronouns. There is usually at least one set of pronominal affixes (or clitics) whose syntactic behavior is quite different from that of nouns. There is another set of pronouns which occupy essentially the same positions as nouns. The latter set is usually labelled "free," "independent," or "focal" to distinguish it from the pronominal affixes or clitics. These pronouns are used as a means of contrasting, focusing, or disambiguating referents, not just as automatic markers of person and number. One feature of NGO languages is the use of preposed focal pronouns to "reinforce" pronominal genitives. This feature, in conjunction with the preposition of genitive nouns, has been repeatedly cited as a grammatical innovation of NGO languages (Schmidt 1900, Friederici 1913, Milke 1965, Chowning 1973, Pawley 1978). However, there seems no reason to consider these to be two different

features. Focal pronouns generally appear in the same positions as nouns. So it is not surprising that the preposition of nouns denoting possessors should be accompanied by the preposition of focal pronouns denoting possessors. Only the position of the focal pronouns is innovative. And it matches the position of corresponding nouns. The function of the pronouns in NGO languages does not significantly differ from their function in other OC languages: they serve to contrast, focus, or disambiguate pronominal referents. (Compare, for example, the role of focal pronouns in Fijian (Geraghty 1978:190-191) and Eastern Oceanic languages in general (Pawley 1972:36) with their role in Yabem (Dempwolff 1939:28-29) or Manam (Lichtenberk 1980:272-276).) The following examples from Manam, Yabem, and Motu will illustrate the distributional similarity between genitive nominals and independent pronouns in NGO possessive constructions.

MANAM (Lichtenberk 1980)

Inalienables:

(11a)	(ŋáu)	ruaŋá-gu	'my friend'
	1s	friend-1s	
(b)	bóro	tá?e-di	'pigs' feces'
	pig	feces-3p	

Alienables:

(11c)	(ŋáu)	?úlu	?aná-gu
	1s	breadfruit	GEN-1s
	'my breadfruit (to eat)'		

(11d) áine níu ʔán-di

woman coconut GEN-3p

'the women's coconuts (to drink)'

YABEM (Dempwolff 1939)

Inalienables:

(12a) (aê) lemo-c 'my arm'

1s arm-1s

(b) ŋapalê lêma-Ø 'the boy's arm'

boy arm-3s

Alienables:

(12c) (êsêàc-)nêŋ kôm 'their garden'

3p-GENpl garden

(d) lau-nêŋ kôm 'the people's garden'

people-GENpl garden

MOTU (Lawes 1896, Taylor 1970)

Inalienables:

(13a) (lau) ae-gu 'my leg'

1s leg-1s

(b) sisia ae-na 'the dog's leg'

dog leg-3s

Alienables:

(13c) (lau-)e-gu biku 'my banana'

1s-GEN-1s banana

(d) tau e-na ruma 'the man's house'

man GEN-3s house

The innovative preposition of nominal and focal pronominal possessors is attested in all NGO languages. However, in many languages the focal pronouns have come to play more than just a reinforcing role in genitive constructions. When the set of possessive suffixes on inalienable nouns and on independent genitive pronouns fails to distinguish adequately the person and number of the possessor, the reinforcing pronouns serve not only to emphasize or contrast but also to make unambiguous the person and number of the possessor. Languages which have relied on preposed focal pronouns to compensate for the loss of inherited suffixal morphology have frequently experienced diverse morphological consequences.

In cases of inalienable possession, the reinforcing pronoun immediately precedes the noun denoting the possessed entity. There is no intervening genitive pronoun. As possessive suffixes on the possessed noun are eroded, preposed focal pronouns have frequently come to double as preposed genitives. Some languages have extended this pattern of genitive marking to cases of alienable possession as well. This development is recapitulated in the following formula.

Inalienable possession:

(14) $(PRO_{foc})\ N_{psd}\text{-}PRO_{suf} \dashrightarrow PRO_{foc/gen}\ N_{psd}(\text{-}PRO_{suf})$

In cases of alienable possession, the direction of change depends on the relative position of the independent genitive pronoun and the head noun, and on whether or not the inalienable pattern has been extended. When the genitive pronoun comes between the head noun and

the preposed reinforcing pronoun, the focal and genitive pronouns have sometimes fused into a morphologically more complex genitive pronoun.

Morphological fusion of focal and genitive pronouns:

(15) (PRO_{foc}) $GEN\text{-}PRO_{suf}$ N_{psd} --> PRO_{foc}-$GEN\text{-}PRO_{suf}$ N_{psd}

When the head noun intervenes between the preposed focal pronoun and the postposed genitive pronoun, the focal pronoun has sometimes taken over the functions of the genitive pronoun. The resulting construction resembles that used for inalienable possession.

Reinterpretation of focal pronouns as genitives:

(16) (PRO_{foc}) N_{psd} $GEN\text{-}PRO_{suf}$ --> $PRO_{foc/gen}$ N_{psd} $(GEN\text{-}PRO_{suf})$

Both the fusion of focal and genitive pronouns and the reinterpretation of focal pronouns as genitives constitute morphological innovations. However, they both seem quite natural products of the change in word order coupled with normal phonological erosion. The likelihood of independent convergent development is high and the importance of these innovations for subgrouping is correspondingly low.

The fusion of focal and genitive pronouns is exemplified by Hiri Motu (aka Police Motu, Pidgin Motu). It is a particularly good example because the innovative morphology runs throughout the possessive paradigm. Hiri Motu genitive pronouns now contain an initial pronominal element derived from the focal pronoun; a genitive classifier; and a final pronominal element derived from the set of suffixed possessives.

HIRI MOTU (Dutton & Voorhoeve 1974)

	Focal pronoun	Genitive pronoun	
(17)	lau	lau-e-gu	1s
	oi	oi-e-mu	2s
	ia	i-e-na	3s
	ai	ai-e-mai	1xp
	ita	is-e-da	1ip
	umui	umui-e-mu(i)	2p
	idia	idi-e-dia	3p

The fused genitive pronouns are used in Hiri Motu for inalienable as well as alienable possession. (Syntactically, there is no distinction between the two categories.) Third singular -na and third plural -dia function as singular/plural markers but the suffixes are not productive as markers of inalienable possession. (In Standard Motu the suffixes remain productive and the grammatical distinction between alienable and inalienable possession has not been lost.)

In other languages, this morphological fusion has not affected all members of the genitive pronoun paradigm. Two such languages are Iwal and Numbami, both in Morobe Province, PNG.

IWAL (Davidson & Davidson 1976)

	Focal pronoun	Genitive pronoun	Suffixed possessive	
(18)	ayeu	aw-a-ŋg	-ŋg	1s
	mie	mi-a-m	-m	2s
	ei	a-ne	-Ø	3s
	amei	a-meimei	-ŋgamei	1xp
	eitit	a-nd	-nd	1ip
	yem	a-im	-ŋgaim	2p
	eisir	a-s	-s	3p

NUMBAMI (Bradshaw, field notes)

	Focal pronoun	Genitive pronoun	Suffixed possessive	
(19)	woya	na-ŋgi	-ŋgi, -Ø	1s
	aiya	a-na-mi	-mi, -Ø	2s
	e	e-na	-na, -Ø	3s
	i	i-na-mi	-Ø	1xp
	aita	aita-ndi	-Ø	1ip
	amu	amu-ndi	-Ø	2p
	ai	ai-ndi	-Ø	3p

The suffixed possessives are productive in Iwal but not in Numbami except on a handful of kin terms. The preposed genitive pronouns are required in Numbami for any kind of pronominal possession, whether alienable or inalienable. Bradshaw (1978a:77-82) provides more examples of Morobe Province languages with innovative fused genitive pronouns.

In contrast to the languages showing morphologically elaborated preposed genitives are a number which show morphological simplification of preposed genitives. In the latter languages, the preposition of nouns or focal pronouns, with no accompanying genitive morphology, is sufficient to indicate possession.

Most NGO languages distinguish noun-noun genitives from simple noun-noun compounds. Simple juxtaposition of two nouns, with no additional morphology, often suffices to form constructions in which the first noun describes a type of whole associated with the part denoted by the second noun. However, some sort of genitive marking is usually required when the first noun actually refers to a particular entity. Compare the following examples from Numbami, in Morobe

Province. (Recall that Numbami has all but lost any grammatical distinction between alienable and inalienable possession.)

NUMBAMI (Bradshaw, field notes)

Noun-noun compounds:

(20a) dabola uli 'head hair'
head hair

(b) kakawa uli 'chicken feathers'
chicken feathers

Noun-noun genitives:

(21a) dabola na uli
head GENsg hair
'the hair of a (particular person's) head'

(b) kakawa na uli
chicken GENsg feathers
'the chicken's feathers'

However, in the following examples from Ali, Kairiru, and Patep, a Buang language, simple juxtaposition suffices to form noun-noun genitives in which the first noun is referential. The pronouns in the same type of construction are also referential, of course.

ALI (Klaffl & Vormann 1905)

(22a) yît mam 'our father' (no incl-excl distinction)
1p father(1s/1p)

(b) am ano 'your (pl) house'
2p house

(22c) Tamleit' ano 'Tamleit's house'
T. house

(d) mieŋtau ano 'the hen's house'
hen house

KAIRIRU (Wivell 1981)

(23a) kyau malal 'my garden'
1s garden

(b) yieq vanu 'your (sg) village'
2s village

(c) Punajiel ramat wolap 'Punajiel's bigman'
P. man big

(d) qat anka 'the canoe's anchor'
canoe anchor

PATEP (Adams 1976)

(24a) xam mone 'your (pl) money'
2p money

(b) he vya 'their talk/words'
3p talk/word

(c) anutu vya 'God's word'
God talk/word

(d) xomxo ngwe gɨlis 'another person's flattery'
person other grease

There are several different ways in which this simplification of preposed genitives could have come about. All languages which use focal pronouns as preposed genitives have lost some person and number

distinctions among the genitive pronouns and the suffixed possessives. Some languages may have attempted to compensate for this loss by generalizing the inalienable possessive pattern in which the bare focal pronoun immediately precedes the noun denoting the possessed item, with no intervening genitive morphology. Languages in which the independent genitive pronouns used in alienable possession were postposed to the head noun may have been especially susceptible to this generalizing process. The preposed reinforcing pronouns may have made the postposed genitive pronouns increasingly redundant.

Many languages show no possessive suffix on inalienables when the possessor is third singular. Noun-noun inalienable genitive constructions with third singular possessors thus do not overtly differ from noun-noun compounds. This is almost true in Manam, where only stress shift on the unsuffixed head noun distinguishes certain genitive from "juxtapositive" noun-noun constructions (Lichtenberk 1980:310-312). In pronominal genitive constructions, the preposed "reinforcing" pronoun may be the only immediate indicator of the possessor. To the extent that other possessive morphology erodes and gives rise to ambiguity, the reinforcement provided by the preposed focal pronouns becomes more and more necessary. In Amari, an Adzera language of Morobe Province, for instance, the preposed focal pronouns are crucial for distinguishing singular from plural and inclusive from exclusive possessors:

AMARI (Holzknecht 1980)

Inalienables:

(25a) dzi/agi/aga rama-ŋ?(-gaŋ?)
1s/1ip/1xp father-1-GEN1
'my/our(incl)/our(excl) father(s)'

(b) u/agam rama-m(-gam)
2s/2p father-2-GEN2
'your (sg/pl) father(s)'

(c) araŋan/rib-igi rama-n(-gan)
3s/3p-DEM father-3-GEN3
'his/their father(s)'

Alienables:

(26a) dzi/agi/aga gai-gaŋ?
1s/1ip/1xp tree-GEN1
'my/our(incl)/our(excl) tree'

(b) u/agam gai-gam
2s/2p tree-GEN2
'your (sg/pl) tree'

(c) araŋan/rib-igi gai-gan
3s/3p-DEM tree-GEN3
'his/their tree'

In Amari, the postposed genitive pronoun (ga-PRO_{suf}) appears to have lost its independent status and become suffixed to the head noun. In other languages perhaps the postposed genitive has been lost altogether.

This is not to say that all languages in which preposed focal pronouns double as genitives lack independent genitive pronouns. Patep, a Buang language of Morobe Province, has two sets of preposed independent genitive pronouns. Other languages, like Kairiru, have re-created independent genitives from the focal pronouns.

In Patep, some classes of inalienable nouns take suffixes which distinguish first, second, and third person possessors but fail to distinguish singular from plural or inclusive from exclusive possessors (Lauck 1980:8). Other classes of suffix-possessed nouns distinguish inclusive from exclusive possessors but distinguish singular from plural only in first person. The forms which appear to be descended from the original genitive pronouns fall into the latter category.

PATEP possessive classifiers (Lauck 1980)

	Nonfood	Food	
(27)	nê-g	xo-g	1s
	nê-d	xe-d	1ip
	nê-m	xo-m	1xp/2s/2p
	nê-n	xe-n	3s/3p

The person and number of the possessor can be unambiguously indicated by the use of preposed focal pronouns, which distinguish not only first, second, and third person singular and plural but dual and trial as well. In cases of alienable possession, the possessor may be marked by either the preposed possessive classifier, the preposed

focal pronoun, or the combination of focal pronoun and possessive classifier.

PATEP (Linda Lauck, p.c.)

(28)	nê-g	xumac	OR	a	xumac	OR	a	nê-g	xumac
	GEN-1s	house		1s	house		1s	GEN-1s	house
				'my house'					

Instead of incorporating the focal pronoun into the genitive pronoun in order to compensate for the loss of genitive person and number distinctions, Patep appears to have simply made the genitive pronoun optional.

In Kairiru, re-created independent genitives appear interchangeable with the focal pronouns in some pronominal genitive constructions (Wivell 1981:50-51). Both sets of pronouns may occur either preposed or postposed to head nouns (see 3.2). At first glance, the Kairiru independent genitives appear to resemble the augmented genitive pronouns in languages like Hiri Motu. However, closer examination reveals important differences. Most of the languages which have augmented the morphology of their original genitive pronouns show an initial pronominal element derived from the focal pronouns; a genitive classifier (or remnant thereof); and a final pronominal element derived from the possessive suffixes. Kairiru shows an initial element that bears a greater resemblance to the set of subject prefixes than to the focal pronouns; a medial element -<u>ga</u>- which may be the remnant of a genitive classifier; and a final element which in almost every case matches the focal or object

pronoun. (The focal pronouns and object suffixes differ only slightly.) Instead of a structure like PRO_{foc}-GEN-PRO_{suf}, Kairiru shows the structure PRO_{subj}-GEN-$PRO_{foc/obj}$. The most intriguing exception involves the first person inclusive pronouns. Kairiru seems not only to have re-created independent genitive pronouns, but also to have re-created first person inclusive pronouns, both genitive and focal.

KAIRIRU, Koragur dialect (Wivell 1981 and p.c.)

	Subject prefixes	Independent genitives	Focal pronouns	Object suffixes	Possessive suffixes	
(29)	wu-	wokyau	kyau	-(ky)au/-am	-k	1s
	qo-	yieqayieq	yieq	-(y)ieq	-m	2s
	a-	yaqai	ei	-i/-Ø	-ny	3s
	ti-	taqatu	tu	-tu	-tu	1xdu
	ti-	taqatu	tuyieq	-tu	-tu	1idu
	qu-	moqum	qum	-qum	-qum	2du
	rri-	rraqarru	rru	-rru	-rru	3du
	ta-	taqait	qait	-qait	-qait	1xp
	ta-	tamoit	taqam	-qait	-qait	1ip
	ka-	maqam	qam	-qam	-qam	2p
	rra-	rraqarri	rri	-rri/-Ø	-rri	3p

Neighboring AN languages in the Sepik area (Ali, Tumleo, and others) have lost the inclusive-exclusive distinction throughout their pronominal paradigms. In most cases, the morphology of the present first plural pronouns matches that of the former first plural inclusive category. Kairiru also makes no inclusive-exclusive distinction except in the focal pronouns and in the plural (but not dual) independent genitives. Both the independent genitive and the focal first plural and first dual inclusive pronouns appear to result

from a combination of first person and second person pronominal elements. The focal first plural inclusive pronoun is composed of the first plural subject prefix ta- and the second plural focal pronoun or object suffix qam. The focal first dual inclusive pronoun is composed of first dual tu and second singular yieq, both from the set of focal pronouns. Kairiru's re-creation of the inclusive pronouns thus resembles Tok Pisin's creation of the same category by the combination of second person yu and first person mi into inclusive yumi.

3.3 WORD ORDER VARIATION IN GENITIVE CONSTRUCTIONS

Many NGO languages allow a degree of variability in the position of genitive elements. The word order differences are often accompanied by other semantic and/or morphological differences. In noun-noun constructions, Gen + N order generally expresses a possessor-possessed or whole-part genitive relationship, while N + Gen order usually has somewhat divergent semantics. In Gen + N constructions, morphological markers of the genitive relationship either come between the genitive and the head noun or are postposed (or suffixed) to the head noun. In N + Gen constructions, grammatical markers tend to occur in postgenitive, NP-final position. As in other N + Modifier attributive constructions (see Chapter 4), the general rule seems to be that, if modifiers occur after the head noun, some marker of NP-final position is called for.

Ali, a language in West Sepik Province, PNG, is a paradigm case. It contrasts two types of simple noun-noun constructions: genitive ($N_{gen} + N_{head}$) and purposive ($N_{head} + N_{modif}$).

ALI noun-noun constructions (Klaffl & Vormann 1905)

Genitive:

(30a)	mieŋtau	ano	'the hens' house'
	hen	house	
(b)	Tamleit'	ano	'Tamleit's house'
	T.	house	

Purposive:

(31a)	ano	mieŋtau	'house for hens (henhouse)'
	house	hen	
(b)	rieŋ	lĩp	'water for fire (petroleum)'
	water	fire	

Ali also has two types of noun-noun genitive constructions: one in which the genitive is suffixed with a special genitive marker -eŋ, and one in which the genitive is unmarked. If the genitive is suffixed, it may either precede or follow the head noun; if unsuffixed, it may only precede.

ALI suffixed v. unsuffixed genitives (Klaffl & Vormann 1905)

(32a)	Tamleit'	ano	v.	Tamleit'-eŋ	ano
	T.	house		Tamleit'-GEN	house
		'Tamleit's house'			
(b)	*ano	Tamleit'	v.	ano	Tamleit'-eŋ
				house	Tamleit'-GEN
		'Tamleit's house'			

Pronominal genitive constructions behave the same way. Bare focal pronouns in prenominal position function as preposed genitives. The focal pronouns suffixed with -eŋ form a class of genitive pronouns which can occur after the head noun. These genitive pronouns can occur even after inalienably possessed nouns.

ALI pronominal genitive constructions (Klaffl & Vormann 1905)

(33a) yît mam 'our father'
1p father(1s/1p)

(b) am ano 'your (pl) house'
2p house

(34a) ano eo-weŋ 'my house'
house 1s-GEN

(b) ano yi-eŋ 'your (sg) house'
house 2s-GEN

(35a) (eo) mate-k 'my eye'
1s eye-1s

(b) (yi) ati-m 'your (sg) liver' (glossed Herz by Klaffl)
2s liver-2s

(36a) mate-k eo-weŋ 'my eye'
eye-1s 1s-GEN

(b) ati-m yi-eŋ 'your (sg) liver'
liver-2s 2s-GEN

Other West Sepik AN languages behave similarly. However, the degree to which the suffix is required on postposed genitives varies. In Yakamul, the genitive suffix -eŋ appears always to be present on

postposed genitive pronouns; in Ali, it is sometimes reduced to -e or absent altogether; Ulau-Suain appears to have no genitive suffix (Klaffl & Vormann 1905:9, 46, 49). Schultze (1911:9) and Klaffl (Klaffl & Vormann 1905:54) disagree about the presence of a genitive suffix in Tumleo. Klaffl gives -(s)en as the Tumleo form of the suffix and provides a full paradigm of genitive pronouns derived from the focal pronouns by the suffixation of -(s)en (which usually has the shape -en). Schultze agrees that a suffix -sen exists in Tumleo but says that it is not really genitive in meaning. According to Schultze, Tumleo pronominal genitive constructions in which the focal pronoun is postposed to the head nominal are not distinguished by any additional morphology. However, they are distinguished by less neutral semantics. The preposed genitive is neutral, while the postposed genitive serves to emphasize or contrast the possessor.

TUMLEO (Schultze 1911)

(37a)	jeijei	sauwie-n	'his spouse'
	3s	spouse-3s	
(b)	sauwie-n	jeijei	'his spouse'
	spouse-3s	3s	

Kairiru, in East Sepik Province, displays apparently free variation in genitive word order. Nouns and pronouns denoting possessors, with or without genitive morphology, may occur either before or after head nouns. The semantic distinction is not entirely clear. However, postposed genitives are usually followed by the intensifier gon. The particle gon is almost always present when the

possessor is denoted by a postposed noun or focal pronoun, neither of which is otherwise marked as genitive. The particle is present about half of the time when the possessor is denoted by a postposed independent genitive pronoun. It is much rarer following NPs with preposed genitives. (These frequencies are based on a rough count of the data in those portions of Wivell's (1981) thesis available to me.) The particle qon thus seems to function at least part of the time as a marker--in NP-final position--of postposed genitives. One can therefore argue that, although postposed genitives may be as frequent as preposed genitives, the postposed variant is the (morphologically) marked one.

KAIRIRU (Wivell 1981)

(38a)	kyau malal	pyal kyau qon
	1s garden	house 1s int
	'my garden'	'my house'
(b)	yieq vanu	wurr yieq qon
	2s village	banana 2s int
	'your (sg) village'	'your (sg) banana'
(c)	Punajiel ramat wolap	wonyau Waimin ei qon
	P. man big	dog W. 3s int
	'Punajiel's big man'	'Waimin's dog'
(d)	Nur yaqai qajuo-ny	qarrui kyes yaqai qon
	N. GEN3s cousin-3s	sail name GEN3s int
	'Nur's cousins'	'the sail's name'

Numbami and Yabem, two Morobe Province languages, show a slightly different distinction between types of genitive constructions. The order Gen + N occurs in whole-part and referential genitive constructions. The simple whole-part genitive is really a noun-noun compound. It contains no genitive morphology. The noun denoting the whole is preposed; the one denoting the part is postposed. Referential genitives are preposed and may be pronominal. Genitive formants come between the preposed genitive and the postposed head noun. (The genitive formant in the Yabem examples below is used for nonpersonal possessors.) The genitive in such constructions cannot have nonspecific reference. It cannot denote some not-uniquely-identifiable member(s) or quantity of the set it names. However, it may have generic reference. That is, it can refer to any and all members (or the entire quantity) of the set it describes. The order N + Gen occurs in attributive genitive constructions. The postposed attributive genitive cannot be pronominal. Genitive formants occur in postgenitive, NP-final position. Although the same formants are used for referential and attributive genitives, the semantics and functions of the two types are quite distinct. The (postnominal) attributive genitive denotes a <u>type of entity</u> characteristically associated with the entity described by the head noun. Attributive genitives are often used in neologisms and in distinguishing homophonous and polysemous words. The (prenominal) referential genitive, on the other hand, denotes a <u>particular entity</u> associated with the entity described by the head noun. It is used as much to refer to that particular entity as it is to delimit the reference of the head noun.

NUMBAMI genitive constructions (Bradshaw, field notes)

Whole-part:

(39a) tina-daba 'headwater'

water-head

(b) nima-daba 'thumb'

hand-head

(c) wuwu-lau 'betel pepper leaf'

betel.pepper-leaf

Referential:

(40a) kaila ndi kapala

inlander GENpl house

'the houses built by inlanders; house(s) belonging to a particular group of inlanders'

(b) bumewe na walabeŋa

European GENsg fish.poison

'the European's fish poison/dynamite/explosives'

(c) wuwu na lau

betel.pepper GENsg leaf

'the leaves of the betel pepper plant; particular betel pepper plant's leaf'

Attributive:

(41a) walabeŋa bumewe na

fish.poison European GENsg

'dynamite, explosives, European means of stunning fish'

(b) waŋga ai-dudu na

canoe tree-top GENsg

'airplane'

(c) wuwu Buzina ndi

betel.pepper B. GENpl

'type of betel pepper from up the coast, from (unspecified) Buzina people at Salamaua'

YABEM genitive constructions (Dempwolff 1939)

Whole-part:

(42a) bu-mata 'spring'

water-eye

(b) ja-dauŋ 'smoke from a fire'

fire-smoke

(c) labi-saŋ 'sago spine'

sago-spine

Referential:

(43a) ka ŋa-laka 'the tree's/trees' branch(es)'

tree GEN-branch

(b) lôm ŋa-tau 'the owner of the men's house'

men's.house GEN-owner

(c) talec ŋa-latu 'chickens; hen's offspring'

hen GEN-offspring

Attributive:

(44a) ku bu-ŋa 'water pot'

pot water-GEN

(b) ŋapalê papia-ŋa 'schoolchild'

child paper-GEN

(c) gêŋ wê-ŋa

thing singsing-GEN

'musical instruments, dance paraphernalia'

The final case of variation in genitive word order comes from Motu, in Central Province, PNG. In that language, Gen + N order expresses the normal sort of possessive relationship while N + Gen expresses a purposive relationship ('N for Gen') between the entities involved (Lawes 1896:5).

MOTU (Lawes 1896)

Possessive:

(45a) memero a-dia tohu

boys GEN-3p sugarcane

'the boys' sugarcane (to eat)'

(b) boroma e-na ruma

pig GEN-3s house

'the pig's house'

Purposive:

(46a) dabua hahine e-na

dress woman GEN-3s

'a woman's dress'

(b) bigu tadi-gu a-na

banana brother-1s GEN-3s

'banana for my brother (to eat)'

Are the postposed genitives in these languages relics of ancestral word order or are they more recent developments? Schmidt, whose comments are included in Klaffl and Vormann's work, argues that the postposed genitives in Ali and other Sepik languages are innovative (Klaffl & Vormann 1905:9-10). He observes that genitive formants or particles precede the genitive nouns or pronouns in other AN languages. Those languages show the order N_{head} GEN N_{gen}. The postgenitive position of genitive particles or formants in NGO languages thus appears innovative. NGO languages show the order N_{head} N_{gen} GEN. In most cases, the alternation in NGO languages which show genitive word order variability is between N_{gen} GEN N_{head} and N_{head} N_{gen} GEN, with genitive formants retained in the same position with regard to the genitive nominal whether the nominal occurs preposed or postposed to the head noun. The divergent semantics of the postposed genitives in NGO languages also sets these constructions off from similar constructions in non-NGO languages.

3.4 NONGENITIVE FUNCTIONS OF THE "POSSESSIVE" SUFFIXES

A widespread feature of NGO languages is the use of "possessive" suffixes to index the person and number not only of the "possessor" or genitive nominal but also of the head noun of a noun phrase or of the subject of a predicate phrase. The different functions of the suffixes depend to a certain extent on the nature of the construction in which the suffix appears. If only the third person forms are considered, the nongenitive role of the suffixes can be labelled number-marking or plural-marking. But these labels do not suffice to

describe the nongenitive role of the suffixes in languages such as Manam, in which the first and second person suffixes form part of the same paradigmatic set as the third person suffixes. Even in genitive functions, however, the third person members of the paradigm seem to occur more frequently than the non-third person members. In nongenitive functions, the relative frequency of third person members seems higher still.

The distinctiveness of NGO languages in this regard lies not in the fact that genitive forms perform not-strictly-genitive functions, nor in the fact that number is morphologically marked in many types of noun phrases. It is not at all uncommon in OC languages for the possessive suffixes to mark the person and number of entities other than possessors. But the suffixes nearly always mark the relationship of one entity to another (in nominal constructions) or of one entity to an event (in nominalized constructions). It is quite rare for the suffixes to mark the person and number of the head noun of the NP in which they occur. Similarly, it is not uncommon for OC languages to have morphological markers of number in noun phrases (or of "plurality" when singular can be considered the unmarked category). But it is very rare for the possessive suffixes to play this role. Plural NPs are usually marked by one or more of the following means: (1) reduplication of the head noun or an adjective; (2) plural articles (derived from preposed pronominal elements); and (3) (usually postposed) quantifiers of some sort (Codrington 1885:148-149, Ray 1926:65).

The exact range of use of the possessive suffixes in NGO languages is not at all common in OC languages elsewhere. Roviana, an OC language of New Georgia in the northeast Solomon Islands, is the only documented case I am aware of in which the suffixes play a role similar to the one they play in NGO languages. In that language, one class of adjectives is suffixed to show the person and number of the head noun (when the adjective is attributive) or of the subject of the sentence (when the adjective is predicative) (Waterhouse 1949:237). Thus, the word 'bad' has the following shapes depending on the person and number of its head noun or its subject: kalea-gu (1s), kalea-mu (2s), kalea-na (3s), kalea-mami (1xp), kalea-da (1ip), kalea-mia (2p), kalea-di (3p). Two examples of adjectives appearing in NPs follow.

ROVIANA (Waterhouse 1949)

(47a)	keke	toqere	ululu-na	'a high mountain'
	one	mountain	high-3s	
(b)	binalabala	kalea-di		'evil thoughts'
	thought	bad-3p		

On the basis of the Roviana evidence and of presumed relics of the same usage in Southeast Solomonic languages, Pawley (1978:141-142) argues that the use of the suffixes characteristic of NGO languages is not an innovation but rather a retention from POC. He suggests that in POC "all modifying nouns, adjectives and relative clauses . . . require[d] a possessive suffix in specific noun phrases" (1978:142). This reconstruction seems a bit hasty and there are several reasons to remain skeptical about it.

First, why is this feature so well preserved in the most grammatically innovative languages and so ill preserved in the most grammatically conservative languages? Even if the use of the suffixes to mark the person and number of head nouns as well as the person and number of genitives should turn out to be reconstructible for POC, what encouraged its preservation in NGO languages while encouraging its demise elsewhere in Oceanic?

Second, if all modifying nouns required possessive suffixes, then in noun-noun inalienable genitive constructions the head noun would be suffixed to agree with the person and number of the genitive while the genitive modifier would be suffixed to agree with the person and number of the head noun. This seems a rather unlikely reconstruction.

Third, although the possessive suffixes in NGO languages frequently occur on nominal modifiers, they do not occur on preposed nominal modifiers. Instead, they remain in NP-final position. The most significant generalization about the nongenitive role of the suffixes in NGO languages may be that they mark NP-final position in NPs containing modifiers, not that they mark the modifiers themselves.

The full range of use of the possessive suffixes in POC cannot be determined without more data than are now available. During the presentation that follows of data from NGO languages, it will be useful to keep in mind the question of whether the behavior exhibited by these languages is innovative or retentive.

One language with a plural-marking suffix descended from the third plural suffix is Sobei, a coastal language on the north coast of

West Irian (the Indonesia-administered half of the island of New Guinea). Sobei appears to be a member of the Oceanic subgroup (Grace 1971a), but has not so far been proposed as a candidate for NGO. In Sobei, a restricted class of nouns and adjectives are pluralizable by means of a suffix -(r)i, which resembles the third plural pronominal stem ri (Sterner 1976). Some kin terms which do not take the possessive suffixes nevertheless have plural forms ending in -(r)i: wawa-ri 'uncle-pl', tinan-i 'mother-pl', nabai-yi 'cousin-pl'. Other inalienably possessed nouns show -ri- between the stem and the plural possessive suffixes. There is no third plural possessive suffix after the plural marker -ri. The reciprocal (or perhaps collective) suffix -se is required on pluralized kin terms (Sterner 1976:167).

SOBEI pluralized inalienables (Sterner 1976)

	'breast'	'father'	
(48)	?	tema-'	1s
	?	tema-m	2s
	siso-n	tema-n	3s
	siso-ri-r	tema-ri-r-se	1ip
	siso-ri-m	tema-ri-m-se	1xp
	siso-ri-m	tema-ri-m-se	2p
	siso-ri	tema-ri-se	3p

Some nouns and adjectives in plural (but not dual) NPs can also be pluralized with -ri. The suffix is sometimes optional.

SOBEI dual v. plural NPs (Sterner 1976)

(49)	fnou	daidu	v.	fnou/fno-ri	tou	myo-ri
	hole	two		hole/hole-pl	three	large-pl
	'two holes'			'three large holes'		

Ali and Tumleo, two NGO languages in West Sepik Province, PNG, show some similarity to Sobei. Klaffl (Klaffl & Vormann 1905:11) says that in Ali it is hard to tell if inalienables are suffixed to agree with the number of the possessor or the number of the possessed entity. Thus, 'their brothers' is taheĭ-r (3p) but 'their (2) brother' is taheĭ-n (3s) or, less commonly, taheĭ-r (3p). However, when the suffixed noun is followed by an independent genitive pronoun the suffix always agrees with the pronoun: taheĭ-r re-yeŋ (brother-3p 3p-GEN) 'their brothers'. (Klaffl may have been confused by a difference between dual and plural forms.) Schultze (1911) describes two different plural-marking strategies in Tumleo. One, the use of a preposed personal pronoun, is common among Oceanic languages: rej aleo (3p crocodile) 'the crocodiles', rej anij (3p person) 'the people' (1911:7). The other strategy is much rarer in Oceanic languages but resembles that of Sobei. If the possessor is plural, the suffix -re immediately follows the stem of the possessed noun and precedes the possessive suffix. (There is no third plural possessive suffix following -re). If the possessor is singular but the possessed entity is plural, the plural suffix -re follows the possessive suffix. (It may be that the suffixing strategy is employed for inalienables, the pronoun-preposing strategy for alienables.)

TUMLEO plural suffixation (Schultze 1911)

Singular possessor, plural possessed:

(50a) natu-k-re 'my children'

(b) natu-m-re 'your (sg) children'

(50c) natu-n-re 'his/her children'

Plural possessor:

(51a) natu-re-d 'our (incl/excl) children'

(b) natu-re-m 'your (pl) children'

(c) natu-re 'their children'

There is a small bit of evidence that in Kairiru, an East Sepik Province language, at least one or two adjectives are suffixed to show the person and number of the nouns they modify. Only one adjective, lipa- 'big', is known for sure to take the suffixes. One more adjective in the data available, sqainy 'small', appears to end in the third singular suffix in a context where that suffix would be appropriate, but it is not known whether other suffixes can take the place of -ny in other contexts.

KAIRIRU (Wivell 1981 and p.c.)

(52a) tuyieq ramat lipa-tu
1idu person big-1du
'you and I are the big men/elders'

(b) Penau sqainy qon sek qe-i Flal
P. small(-3s?) int very from/with-3s F.
'Penau is very much smaller than Flal'

Manam, a western Madang Province language, makes extensive use of the suffixes. The term "possessive" seriously underrepresents their role. Lichtenberk (1980) thus abandons the term and calls the suffixes "adnominal" instead. In Manam, the adnominal suffixes

> can be attached not only to the head nouns of possessive constructions or to the possessive markers [genitive classifiers] to index the person and number of the possessor NP, but also to demonstratives, one class of adjectives, and certain numerals to index the person and number of the head noun when used attributively, or of the subject when used in predicator position (1980:265).

MANAM adnominal suffixes (Lichtenberk 1980)

On demonstratives:

(53a)	áine	ŋára-Ø	'that woman'
	woman	that-3s	
(b)	áine	ŋára-di	'those women'
	woman	that-3p	
(c)	áine	ŋara-día-ru[4]	'those (two) women'
	woman	that-3p-du	
(d)	áine	ŋara-día-to	'those (few) women'
	woman	that-3p-pauc	

On attributive adjectives:

(54a)	bóadi	másare-Ø	'broken pot'
	pot	broken-3s	
(b)	bóro	wawáwa-di	'white pigs'
	pig	white-3p	

On predicate adjectives:

(55a)	(ŋáu)	zi?azi?á-gu	'I am dirty'
	1s	dirty-1s	
(b)	(?ái?o)	zi?azi?á-ŋ	'you are dirty'
	2s	dirty-2s	

On numerals:

(56a) níu te?é-na-la 'only one coconut'

coconut one-3s-limiter

(b) tanépwa té?e-di 'some chiefs'

chief one-3p

(One function of te?e 'one' is to introduce new referents, even when those referents are plural.)

The adnominal suffixes are not obligatory in all environments. When nonsingular number is indicated by some other means, the appropriate suffix is frequently left off.

Some, like Pawley (1978:141), may wish to analyze the "possessive"-suffixed adjectives as inalienable nouns. This analysis may have some historical validity but it is no longer true. The semantics of the class of adjectives taking adnominal suffixes in various NGO languages suggest that this class may have originated as a class of nouns denoting inalienable qualities. The following, for example, are adnominal-suffixed adjectives in Manam.

MANAM adnominal-suffixed adjectives (Lichtenberk 1980)

(57)	?apisa-	'selfish'	masare-	'broken'
	bababa-	'clumsy'	mete?ele-	'tiny'
	daradara- (dara 'blood')	'red'	sagode-	'well mannered'
	goala?a-	'bad'	zi?azi?a-	'dirty'

However, it is possible to demonstrate that the suffixed adjectives are not the heads of the NPs in which they occur--as inalienably

possessed nouns are. Lichtenberk demonstrates this in his description of Manam. His argument (1980:319-322) follows.

In Manam, there are three classes of verbs which differ according to the form of the object suffix used to index plural non-higher animals. In all three classes, plural higher animals (including pigs and humans) are indexed by means of the suffix -(i)di. In one class of verbs, plural non-higher animals are also indexed by -(i)di. In the other two classes, different means are used. If wawawa- 'white' were the head of the following two NPs, both NPs should be indexed in the same way.

(58a) bóro wawáwa-di 'white pigs' (not 'pigs' whiteness')
pig white-3p

(b) pátu wawáwa-di 'white stones' (not 'stones' whiteness')
stone white-3p

However, the following sentences show that the two NPs are indexed differently.

MANAM (Lichtenberk 1980)
Class I verb:

(59a) bóro wawáwa-di u-dó?-idi
pig white-3p 1s-take-3p(higher animal)
'I took the white pigs'

(b) pátu wawáwa-di u-dó?-i
stone white-3p 1s-take-3p(non-higher animal)
'I took the white stones'

Class II verb:

(60a) bóro wawáwa-di u-bága-di

pig white-3p 1s-fetch-3p(higher animal)

'I fetched the white pigs'

(b) pátu wawáwa-di u-bága-Ø

stone white-3p 1s-fetch-3p(non-higher animal)

'I fetched the white stones'

Lichtenberk (1980:321) concludes:

> Therefore, unless one wants to argue that in one case whiteness is non-higher-animal, while in the other it is higher-animal, or that the object suffixes on the verbs are determined not by the heads of the object NP constructions but by the attributes, the conclusion must be that it is patu and boro that are the heads of their respective constructions, and that wawawa is an attributive.

Similar arguments could no doubt be made to show that the adnominal-suffixed demonstratives and numerals are not the heads of the NPs in which they occur. However, so far as I am aware, no one has suggested that the suffixed numerals and demonstratives are in fact inalienable nouns.

Gedaged, a central Madang Province language, also has a class of adjectives derived from nouns by means of "possessive" suffixes (Dempwolff n.d.:35). The adjective dazan 'red', for example, is derived from the noun daz- 'blood' (inalienable). Dempwolff (n.d.:35) says,

> Almost all qualitatives ending with -n are originally nouns with the third person singular suffix and may--but not must--accept all other possessive suffixes.

He cites the following examples.

GEDAGED suffixed adjectives (Dempwolff n.d.)

(61)	filia-	'rich'	melau-, melu-	'ripe'
	gado-, gidi-	'lovely'	muzua-	'heavy'
	gamu-, gumu-	'pleasing'	sala-, sela-	'bad'
	gegau-, gugu-	'hard'	uja-	'large, great'
	kebaza-	'white'	waza-, weza-	'dear'
	melae-	'long'		

On predicate adjectives, the suffixes agree with the subject (Dempwolff n.d.:38).

GEDAGED predicate adjectives (Dempwolff n.d.)

(62a)	ŋa	sala-g		'I am bad (or ugly)'
	1s	bad-1s		
(b)	bubu-mi	muzua-mi		'your hearts are heavy'
	liver-2p	heavy-2p		
(c)	tamolpain	sela-din	mok	'the people are very bad'
	man-woman	bad-3p	very	

The role of the suffixes as multifunctional person and number markers is not as well attested in Morobe AN languages as it is elsewhere in PNG. This may be due partly to the fact that the suffixes themselves are not well preserved. Most languages show considerable morphological erosion. In the three major Morobe subgroups--Adzera, Buang, and Huon Coastal--only one language I am aware of (Iwal) maintains the full set of seven person and number distinctions among the possessive suffixes (1s, 2s, 3s, 1xp, 1ip, 2p,

3p). However, the suffixes are generally well preserved in the Rai languages, a group whose membership includes Morobe Province languages. No Morobe members of the Rai group show any evidence (as far as I have been able to determine) that their possessive suffixes perform other than genitive functions. Only two languages in Morobe Province show some evidence of genitive affixes on nominal modifiers. Both are members of the Huon Coastal group.

Yabem possesses two features which may be construed to indicate that nominal modifiers were at one time more widely marked as genitive. These features involve the members of the demonstrative paradigms and the nonpersonal genitive formant <u>na</u> used as a marker of nominal modifiers.

Yabem has four demonstrative paradigms, each performing different functions and each containing three members correlated with first, second, and third person. The forms follow.

YABEM demonstratives (Dempwolff 1939, Zahn 1940)

(63)	tonec	onec	tec	nec	1st person
	tonaŋ	onaŋ/ônaŋ	taŋ	naŋ	2d person
	tônê	ônê	tê	nê	3d person

The endings which distinguish the members of each paradigm bear some resemblance to the singular possessive suffixes. The resemblance is not exact between the second person suffix and the corresponding demonstrative ending. However, when one takes into account the severe phonological erosion of Yabem roots, it is not hard to believe that the final nasal on the second person demonstratives derives from an

earlier m. (The only consonants which may occur syllable-finally in Yabem are p, b, m, ŋ and c [ʔ]. The least marked syllable-final nasal appears to be ŋ.)

YABEM possessive suffixes (Dempwolff 1939, Zahn 1940)

(64)	On inalienable nouns:		On genitive pronouns:	
	lemoc	'hand-1s'	(aê-)ŋoc	(1s-)GEN1s
	lêmam	'hand-2s'	(aôm-)nêm	(2s-)GEN2
	lêma	'hand-3s'	(ê-)nê	(3s-)GEN3s
	lemeŋ	'hand-1p/3p'	(aêàc-)ma	(1p-)GEN1xp
	lemeŋ	'hand-1p/3p'	(aêàc-)nêŋ	(1p-)GEN1p/3p
	lemem	'hand-2p'	(amàc-)nêm	(2p-)GEN2
	lemeŋ	'hand-1p/3p'	(êsêàc-)nêŋ	(3p-)GEN1p/3p

When used as nominal modifiers, Yabem demonstratives occur in NP-final position. The two short sets function as markers of relative clauses describing specific (not generic) events. The t-initial short set--tec, taŋ, tê--marks the beginning of the (postnominal) relative clause; the n-initial set--nec, naŋ, nê--marks the end of the clause and the NP containing it. If the demonstrative endings derive from possessive suffixes, the suffixes would also have served as markers of NP-final position.

YABEM relative clauses (Dempwolff 1939)

(65a)	lip,	tec	aê	gawa	nec,	gêjac	mocseŋ	teŋ
	trap	REL	1s	1s-set	REL	3s-catch	bushfowl	one

'the trap I set caught a bushfowl'

(b) kôm, taŋ amàc asap naŋ, ênam ŋanô ŋapep atom
field REL 2p 2p-cut REL 3s-make fruit well not
'the fields you cut will not bear fruit well'

(c) na-ôpi nip, tê kêkô nê, ôna
go-2s-climb coconut REL 3s-stand REL 2s-go
'go climb up those coconut palms over there'

Dempwolff (1939) and Zahn (1940) describe in several places morphemes of the shape ŋa in Yabem. As a prefix, ŋa- occurs on (postgenitive) head nouns denoting parts of wholes; on a class of (postnominal) adjectives; and on the same class of roots when they are used as (postverbal) adverbs. In genitive constructions, ŋa- indicates that the "possessor" is not a person. The other possessive pronouns are used to indicate personal possessors. Compare ŋa-gôm (GEN-breastbone) 'its (an animal's) breastbone' and nê gôm (GEN3s-breastbone) 'his/her breastbone' (Dempwolff 1939:23).

YABEM ŋa- (Dempwolff 1939, Zahn 1940)
On head nouns denoting parts of wholes:

(66a) àndu ŋa-lêlôm
house GEN-inside
'the inside(s) of the house(s)'

(b) bôc tau ŋa-gêdô
pig self GEN-snout
'the same pig's snout'

On adjectives:

(67a) intêna ŋa-lemoŋ

road ADJ-muddy

'muddy road' (cf. lemoŋ 'mud, slime')

(b) ðbo ŋa-dani

cloth ADJ-dense

'closely woven cloth' (cf. (ŋa)dani 'thicket, entanglement')

On adverbs:

(68a) asiŋ waŋ ŋa-gaô

2p-paddle canoe light(ly)

'paddle with a light hand'

(b) waŋ gêlac ŋa-jam

canoe 3s-sail good-well

'the canoe sails excellently'

As a postposition, -ŋa occurs on (postnominal or postverbal) modifiers denoting purpose, destination, or characteristically associated entity-types or event-types. When -ŋa is postposed to verbal constructions modifying nominal heads, it occurs in the same position as the relative-clause-final demonstratives. However, there are no clause-initial markers preceding verbal modifiers ending in -ŋa. Another difference between verbal modifiers marked by -ŋa and those occurring in "true" relative clauses is that the former describe generic events (event-types) while the latter describe specific (individual) events.[5]

YABEM -ŋa (Dempwolff 1939, Zahn 1940)

On nouns modifying nouns:

(69a) bôc saleŋ-ŋa 'feral pig(s)'
pig bush-MOD

(b) bakep bu-ŋa 'water bucket'
bucket water-MOD

On nouns modifying verbs:

(70a) sêsiŋ waŋ malac-ŋa sêja
3p-paddle canoe village-MOD 3p-go
'they paddled off toward the village'

(b) sêsiŋ waŋ ŋa-dêmôê-ŋa
3p-paddle canoe GEN-backside-MOD
'they paddled the canoe backwards'

On VPs modifying nouns:

(71a) bakep sêkwasiŋ ðbo-ŋa
bucket 3p-wash cloth-MOD
'wash bucket'

(b) waŋ sèboŋ lau-ŋa
canoe 3p-transport people-MOD
'canoe to transport people'

Kela, a language apparently closely related to Yabem, is much less well known. The only data I have are a tentative phonemic statement by Ken and Margaret Collier (1975) and a few fieldnotes I collected myself. What little there is shows traces of affixation resembling that of ŋa- and -ŋa in Yabem. Nouns denoting parts of

wholes tend to show a prefix ŋa-. Some adjectives show the same prefix, or a (presumed) suffix -ŋ, or both.

KELA (Collier & Collier 1975; Bradshaw, field notes)

Parts of wholes:

(72)	ŋawakan	'root'
	ŋalaun	'leaf'
	ŋaula	'flower'
	ŋatua	'bone'
	ŋakalu	'sinew'
	ŋase	'name'

Adjectives:

(73)	baliŋ	'long' (from Yabem baliŋ 'long'?)
	bolokiŋ	'many'
	nambiŋ	'short' (Yabem dambê 'short')
	geleŋatuaŋ	'thorny'
	gelepeleŋ	'ripe'
	ŋaboŋ	'cold'
	ŋapuŋa	'heavy' (Numbami bunama 'heavy')

The use of third person singular and plural suffixes on adjectives to indicate the number of the head noun in NPs is reconstructible for the ancestor of virtually all the AN languages of former Papua (Northern, Milne Bay, and Central provinces, PNG) (Ross 1979a:45, 1979b:8). Ross calls this ancestor language Proto-Papuan Tip. His reconstructions and supporting evidence follow.

PROTO-PAPUAN TIP number marking on adjectives (Ross 1979b)

PPT

(74)	*numa	var[iq]u-na	*numa	var[iq]u-di
	house	new-3s	house	new-3p

ARE

(75)	yove	wau-na	yove	wau-si

DOBU

(76)	anua	au/au-na	anua	au/au-di

SUAU

(77)	numa	hali/haliu-na	numa	hali/haliu-di

SINAUGORO

(78)	numa	valigu-na	numa	valigu-ria
	'a new house'		'new houses'	

However, in most languages the number-marking function of the suffixes is evident on other sorts of nominal constituents as well. And in some cases the suffixes mark the person and number of the head noun.

In Are (aka Mukawa), a language of Northern Province, PNG, 3s -na and 3p -si distinguish singular from plural head nouns in nominalizations as well as in adjective-modified NPs.

ARE number marking (Paisawa, Pagotto, & Kale 1976)

On adjectives:

(79a)	bau	kaikapo-na	'big garden'
	garden	big-sg	
(b)	bau	kaikapo-si	'big gardens'
	garden	big-pl	

On nominalizations:

Actor:

(80a)	veravera-na		'runner'
	run.rdp-sg		
(b)	tomatoma-si		'drinkers'
	drink.rdp-pl		

Locality:

(81a)	gimona	gawari-na	'market'
	buy	place-sg	
(b)	kiruma	yove-si	'schools'
	write	house-pl	

Instrument:

(82a)	toma	sawari-na	'thing to drink with'
	drink	thing-sg	
(b)	birawa	sawari-si	'things to fight with'
	fight	thing-pl	

The role of singular -na and plural -si is somewhat ambiguous in constructions involving the locative postposition -ai. If the constituent to which the suffix is attached is analyzed as the head noun, then the suffix is still genitive in function. If the preceding noun, however, is analyzed as the head of the locative phrase, and the suffixed constituent is considered to be part of a complex locative postposition, then -na and -si look more like straightforward number markers.

ARE complex locative phrases (Paisawa, Pagotto, & Kale 1976)

(83a)	yove	basu-na-ai	'in the middle of the house'
	house	middle-3s-LOC	
(b)	yove	basu-si-ai	'between the houses'
	house	middle-3p-LOC	

In Iduna (aka Vivigani), a Milne Bay Province language, adjectives are inflected for person and number in agreement with the nouns they modify (Huckett 1974:73). In addition, adverbs are suffixed with third person singular -na, except for ma'inuwa- 'slowly', which is suffixed to agree in person and number with the subject prefix of the verb it modifies (Huckett 1974:73). The addition of the suffixes to verbs and nouns is a productive means of deriving adjectives.

IDUNA derived adjectives (Huckett 1974)

Nouns:

(84a)	tunuga	'length'	-->	tunugi-na	'long (3s)'
(b)	boyala	'ripe fruit'	-->	boyali-na	'ripe (3s)'

Verbs:

(85a)	-buta	'become wet'	-->	buta-na	'wet (3s)'
(b)	-koyo	'do/go bad'	-->	koyo-di	'bad (3p)'

Several examples of suffixed adjectives in predicate and attributive functions follow.

IDUNA suffixed-adjective constructions (Huckett 1974)

Attributive adjectives:

(86a) Wa'ilaka ya-na bawe lakahi-na
W. GEN-3s pig big-3s
'Wa'ilaka's big pig'

(b) ai mukwa-di lukumi-di
wood rotting-3p leafy-3p
'rotting, leafy twigs'

Predicate adjectives:

(87a) boi ime kwavakwava-me-yao
before 1xp ignorant-1xp-coll
'before, we were ignorant'

(b) nima-ku dubaduba-na
hand-1s wet.rdp-3s
'my hands are wet'

Yamalele, another Milne Bay Province language, appears rather closely related to Iduna (Ross 1979b:fig. 5). It shows the same sort of adjective-suffixation.

YAMALELE suffixed adjectives (Beaumont & Beaumont 1975)

Attributive adjectives:

(88a) Daniela ma ya-na bawe bwaiki-na
D. with GEN-3s pig big-3s
'Daniel has a big pig with him'

(b) Livai, Eliuda ma 'a-di sieti ivau-di
L. E. with GEN-3p shirt new-3p
'Livai and Eliuda have new shirts'

Predicate adjectives:

(89a) ya-ma 'eno kebu atumai-di
GEN-1xp sleep not good-3p
'our sleep wasn't good'

(b) fwayafwaya de'e kebu 'a-na 'isa atumai-na-ga
ground this not GEN-3s appearance good-3s-?
'the appearance of the earth wasn't good'

In Tawala, also a Milne Bay Province language, 3s -na and 3p -hi mark singular and plural on modifiers in some constructions, on head nouns in others. Adjectives are postposed to head nouns and suffixed with -na or -hi. Among the constructions in which the head nouns are similarly suffixed are those containing demonstratives. (I do not have adequate data to be sure about other types of constructions.) Demonstratives are either preposed or postposed, apparently depending on whether or not the NP is topicalized. A final point of interest about Tawala is that a number-marking suffix may follow a true possessive suffix of the same shape on inalienable nouns.

TAWALA number-marking suffixes (Ezard 1978)

On adjectives:

(90a) keyala baanei-na 'a huge casuarina'
casuarina big-sg

(90b) lawa tewela oloto-na 'a human male child'
person child male-sg

On demonstrative-modified nouns:

(91a) naka lawa-na 'that person'
that person-sg

(b) geka ginouli-na 'this thing'
this thing-sg

(c) geka houga-na 'at this time'
this time-sg

(d) geka houga-hi 'in these times'
this time-pl

(92a) odubo-hi naka, ... 'as for the old days, ...'
old-pl that

(b) natu-na-na naka, ... 'as for her offspring, ...'
offspring-3s-sg that

In Dobu, the final Milne Bay Province language to be discussed in this section, adjectives are suffixed to show the person and number of their head nouns, even when the adjectives occur in place of their head nouns. Certain quantifiers are also suffixed in the same way but, even when they quantify plural entities, they do not require plural -di (Lithgow 1975:44). The suffixes also occur on a postposed definitizer marking previously mentioned referents. Sometimes it takes the place of the definitizer. (The role of the number-marking suffixes in Tawala also seems to have something to do with the definiteness of the NP suffixed.) When the number-marker acts as a

definitizer, it may be suffixed to an inalienable noun after the true possessive suffix.

DOBU adnominal suffixes (Lithgow 1975)

On adjectives:

(93a) waine kaikaiyale-na 'an old woman'
woman old.woman-3s

(b) kaiwe 'ala'alasi-na 'burning fire'
fire flaming-3s

(94a) 'a-na masula mesomeso-na 'her cooked food'
GEN-3s food cooked-3s

(b) tubu-na-o nima me'oloto-di
grandchild-3s-coll five male-3p
'her five grandsons'

(95a) me'oloto-di 'males'
male-3p

(b) mama'i-na 'raw food'
raw-3s

On definites:

(96a) tubu-na-o ni-di
grandchild-3s-coll DEF-3p
'those grandchildren of hers'

(b) tubu-di-na
grandparent-3p-DEF3s
'that grandmother of theirs'

On quantifiers:

(97a) tuta yau-na 'many times'
time many-3s

(b) tomota (yau)yau-di/yau-na 'many people'
person (rdp)many-3p/many-3s

(c) yau-ma 'many of us (excl)'
many-1xp

In Motu, a Central Province language, one class of adjectives is suffixed to show the person and number of its head noun or its subject. Nouns modified by preposed nouns or relative clauses are suffixed in the same fashion. The suffixes used in such constructions are identical to those occurring on inalienable nouns. These features are shared by other Central Province AN languages, except that some languages may index only number (with the third person suffixes) and not the full person-and-number paradigm (Ross 1979a:18). Motu examples follow. Taylor (1970), from whom the relative-clause data come, considers the suffixes on relative-clause head nouns to be relativizers. He uses the gloss REL for the suffixes I gloss sg (singular) and pl (plural). The class of relativizers is restricted to -na (sg) and -dia (pl) (Taylor 1970:51).

MOTU number-marking suffixes (Lawes 1896, Taylor 1970)
On adjectives:

(98a) mero bada-na 'big boy'
boy big-sg

(98b) sisia bada-dia 'big dogs'
dog big-pl

On noun-modified nouns:

(99a) hanua tau-na 'man of the village'
village man-sg

(b) hanua tau-dia 'men of the village'
village man-pl

On relative-clause heads:

(100a) sisia ese pusi e-kori-a gau-na
dog SUBJ cat 3-bite-3s thing-sg
'the dog that bit the cat'

(b) pusi sisia ese e-kori-a gau-na
cat dog SUBJ 3-bite-3s thing-sg
'the cat that the dog bit'

The preceding data show that the person-and-number-marking role of the possessive suffixes in NGO languages involves more than just the suffixation of adjectives. In Sobei (a language of West Irian) and in West Sepik Province languages, the third plural suffix functions as a plural marker on some nouns and, in Sobei, on some adjectives. In the thoroughly SOV languages of Madang Province and former Papua (Northern, Milne Bay, and Central provinces, PNG), the suffixes function as general person-and-number markers on various types of nominal constituents. The suffixes seem to be more important as markers of NP-final position than as markers of noun-modifiers. The same use of the possessive suffixes is not so well attested in

Morobe Province languages, which (perhaps not coincidentally) have SVO basic word order. However, in at least two languages--Yabem and Kela (certainly Kawa, aka Bukaua, as well)--genitive formants prefixed to certain nouns denoting inalienables (nonpersonal parts of wholes) are also prefixed to adjectives. A formant of the same shape is suffixed to various kinds of postnominal modifiers.

If the multifunctionality of the possessive suffixes is not a retention from POC, how did it come about? The following scenario suggests one possible avenue. Suppose we adopt Dempwolff's (n.d.:35) suggestion that the class of possessive-suffixed adjectives originated as nouns denoting inalienable qualities or attributes. In languages with preposed genitive nouns (or reinforcing focal pronouns) the suffixes would more often have occurred in NP-final position than they would in languages with postposed genitives. Suppose further that we adopt Pawley's (1978:141-142) suggestion that the same class of inalienable qualitatives indexed the person and number of their head nouns when they occurred as adjectives, which are postposed, either optionally or (more often) obligatorily, in all AN languages. In two types of NPs, those containing preposed inalienable genitive modifiers and those containing postposed inalienable attributive modifiers, the suffixes would have occurred in NP-final position. As NGO languages moved toward SOV word order, there may have been a tendency for the suffixes to generalize as markers of NP-final position in NPs containing modifiers. This tendency may have persisted even after those modifiers were transferred to prenominal position. (Chapter 4 will discuss this tendency further.)

3.5 SUMMARY AND EVALUATION OF GENITIVE INNOVATIONS

This chapter has outlined three areas of innovation that accompany the change in genitive word order in NGO languages. It now concludes with a brief summary and evaluation of these areas.

(1) Many NGO languages use preposed focal pronouns to reinforce pronominal genitives (3.2). The position of the focal pronouns is innovative, but it is only one facet of a more general innovation--the preposition of genitive nouns. (Focal pronouns generally occupy the same positions as nouns in OC languages.) The function of the focal pronouns is not significantly innovative. They serve to contrast, focus, or disambiguate pronominal referents, just as they do in OC languages elsewhere. However, in many NGO languages the focal pronouns have come to play more than just a reinforcing role. The languages which rely most heavily on the focal pronouns in genitive constructions tend to be those which have suffered the greatest erosion of the possessive suffixes. Compensation for the loss of the inherited suffixes has produced two types of morphological innovations, both sporadically distributed. (a) In alienable genitive constructions, the preposed focal pronouns have fused with the preposed genitive pronouns. Some languages have extended this pattern to cover cases of inalienable possession as well. (b) In inalienable genitive constructions, the preposed bare focal pronouns have been reinterpreted as genitive pronouns. Some languages have extended this pattern to cover cases of alienable possession as well. Both morphological innovations are quite striking when compared with the genitive morphology of OC languages elsewhere. Yet neither is very

surprising when one takes into account the typologically innovative position of the focal pronouns and the common tendency for suffixal morphology to erode over time. The likelihood of independent languages producing the same morphological innovation is high and the importance of the innovative morphology for subgrouping is correspondingly low.

(2) Many NGO languages allow a degree of variability in genitive word order (3.3). Gen + N order expresses the expected sorts of possessor-possessed and whole-part genitive relationships. The semantics of the N + Gen pattern differ from language to language and also differ from the core of notions usually expressed by genitive constructions. The postposed genitives in the NGO languages that have them do not appear to be relics of ancestral word order. Genitive formants or particles tend to precede genitive nouns or pronouns in most AN languages. Those languages show the order N_{head} GEN N_{gen}. NGO languages show the order N_{head} N_{gen} GEN. In most cases, the alternation in NGO languages which show genitive word order variability is between N_{gen} GEN N_{head} and N_{head} N_{gen} GEN, with genitive formants retained in the same position with regard to the genitive nominal whether that nominal occurs preposed or postposed to the head noun. As in other N + Modifier attributive constructions in NGO languages, the general rule seems to be that, if modifiers occur after the head nouns, some marker of NP-final position is called for. The divergent semantics of the postposed genitives in NGO languages also sets these constructions off from similar constructions in

non-NGO languages. NGO postposed genitives appear to be innovative and to have originated more recently than the preposed genitives.

(3) Many NGO languages make use of the possessive suffixes to mark the person and number not only of genitive modifiers but also of head nouns (3.4). The distinctiveness of this feature lies not in the fact that genitive forms perform nongenitive functions, nor in the fact that person and number are marked within the NP itself. Rather, it lies in the fact that the possessive suffixes do the job of marking the person and number of the NPs in which they occur. The suffixation of adjectives to index the person and number of their head nouns (when used attributively) or subjects (when used predicatively) is not unique to NGO languages; it also occurs in Roviana, a Solomon Islands language. But the suffixation of all sorts of nominal constituents--demonstratives, quantifiers, and modified head nouns themselves--to show the person and number of the NP in which the suffixes occur is, as far as I know, unique to NGO languages. Even if one of the functions of the possessive suffixes in Proto-Oceanic was to mark the person and number of the head nouns or subjects of adjectives, NGO languages seem to have elaborated this function far more than other OC languages. Reconstruction of person-and-number-marking suffixes on all nominal modifiers in POC is not justified. That kind of suffixation does not occur outside of the New Guinea area and, even among NGO languages, it does not occur on prenominal modifiers. Instead, the suffixes remain in postnominal position. The most significant generalization about the nongenitive role of the suffixes

in NGO languages is that they mark NP-final position in NPs containing modifiers, not that they mark modifiers themselves.

NOTES TO CHAPTER 3

1. Lawrence Reid (p.c.) has suggested that genitives may have been optionally preposed in Proto-Austronesian. This would have made it easier for preposed genitives to become the dominant pattern in New Guinea-area Austronesian languages.

2. Brandes and Jonker were more familiar with the languages of Indonesia and were impressed with how similar in other respects the languages with preposed genitives were to Indonesian languages in general. Schmidt was more familiar with Melanesian languages and was impressed with how similar the genitive-preposing languages were to Melanesian languages. (Kanski and Kasprusch 1931:884)

3. The structure of the independent genitive pronouns provides another argument against the hypothesis that the alienable-inalienable distinction arose as a result of Papuan-influenced word order change. If the genitive classifiers were originally nouns ('drink-my [of] water', etc.), the order of morphemes is normal for OC languages with no trace of Papuan influence. Even if the classifiers derive from verbs with pronominal object suffixes, as Lynch (1973) suggests, the order of morphemes (V-obj) is normal for OC languages.

4. My analysis of the adnominal-suffix alternations between 3p -<u>di</u> and -<u>dia</u>-, 3s -Ø and -<u>na</u>-, etc., differs from that of Lichtenberk (1980:41-50). I have adopted this analysis because it simplifies morpheme-glossing and because it makes clearer the historical relationships between the alternants.

5. The grammatical distinction between verbal modifiers describing specific v. generic events matches a similar distinction in Yabem nominal constructions. Dempwolff (1939:19, my translation) describes this distinction in the introduction to his chapter on nouns:

> In Yabem, nouns as such have no special markers like the article in German.
>
> Nor are they divided into grammatical genders. However, there is another division of the conceptual category of "things" (Ding-Vorstellungen) into two subcategories: "individuals" (Einzelwesen) and "types" (Gattungen). In most cases, one can also regard this distinction as one between "person" (Person) and "thing" (Sache).
>
> These two subcategories, however, are not discernible from the morphology of the noun itself; they only show up in grammatical constructions:
>
> (a) Plural subject prefixes are only possible when individuals (Einzelwesen) are subject; the subject prefix is singular when types (Gattungen) are subject.
>
> (b) Only nouns which describe individuals can be suffixed to indicate dual or plural number, as well as feminine gender.

(c) The personal pronouns can only replace a term denoting an individual, a person; the third person pronoun 'he, she, it' cannot be used for types, for things.

(d) The notion of belonging to a person is expressed in a manner distinct from that of belonging to a thing. There are thus two genitive constructions.

(e) Locative expressions that relate to persons completely differ from those that concern things.

CHAPTER IV

OTHER NOMINAL MODIFIERS

Chapter 3 noted, among other things, a common tendency among NGO languages for NP-final position to be marked in NPs containing modifiers. In many languages, the suffixes used to index inalienable possessors have taken on the additional duty of marking NP-final position. This chapter will examine similar innovations in NPs containing modifiers other than genitives. Adjectival and nominal modifiers have already been discussed in connection with genitives in Chapter 3. The bulk of this chapter, therefore, will deal with the position and marking of relative clauses.

The innovativeness of relative-clause marking in NGO languages is not widely recognized. Discussion of clausal modifiers thus deserves as much documentation as can be provided on present evidence. Another reason for giving NGO relative-clause marking extended treatment here is its exoticness. Relative-clause markers in clause-final position are exotic by AN standards, while the combination of both clause-initial and clause-final markers is exotic by the standards of most language families. NGO relative-clause marking is thus of interest to syntactic typologists.

Of particular interest is the possible presence of incipient relative-clause bracketing in Tok Pisin (aka New Guinea Pidgin, Neo-Melanesian). Sankoff and Brown (1976) describe this development and

offer an explanation for it. They argue that "relativization is only a special instance of the application of general 'bracketing' devices used in the organization of information" (1976:631), thus implying that relative-clause bracketing has some sort of universal basis in discourse. This implication has been seconded by Slobin (1977), who enthusiastically cites Sankoff and Brown's analysis of Tok Pisin and finds parallels in colloquial and children's varieties of Turkish. If Sankoff and Brown's analysis is correct, and if relative-clause bracketing in Tok Pisin is parallel to that found in NGO languages, then NGO bracketed relatives may have little to do with the particular pattern of morphosyntactic change that is the subject of this dissertation. However, after presenting relative-clause data from NGO languages, this chapter will examine Sankoff and Brown's hypothesis and conclude that the relative-clause bracketing they describe is not parallel in function and did not originate in the same way as the bracketing found in NGO languages.

4.1 ADJECTIVES MODIFYING NOUNS

Adjectives in all NGO languages are postnominal. Adjectives are also postnominal (sometimes optionally, more often obligatorily) in all extra-New Guinea AN languages. So their position does not appear to have changed in the NGO languages. However, the morphological marking of adjectives in many NGO languages differs consistently from adjective-marking in most extra-New Guinea AN languages. Section 3.4 showed that adjectives in many NGO languages are suffixed to mark the person and number of their head nouns (when used attributively) or

subjects (when used predicatively). The suffixes attached to the adjectives are the same ones used on nouns to index possessors in inalienable genitive constructions. The same suffixes appear in NP-final position in other types of NPs containing modifiers, in some languages even when those modifiers are prenominal. This seems to suggest that the suffixes play a more important role as markers of NP-final position than they do as markers of adjectives or other modifiers in themselves.

Suffixed adjectives are found in Sobei, in West Irian; in Manam and Gedaged, in Madang Province, PNG; and in virtually all the AN languages of former Papua (Northern, Milne Bay, and Central provinces, PNG). Possible traces exist in Kairiru, in East Sepik Province; and in Yabem, Kawa, and Kela, in Morobe Province. Evidence is presented in section 3.4. Nothing more will be added here.

4.2 NOUNS MODIFYING NOUNS

In general, nouns modifying other nouns precede the latter in NGO languages. Unmarked genitive nouns in constructions expressing possessor-possessed or whole-part relationships are universally prenominal (see Chapter 3). However, certain kinds of nominal modifiers may (or must) follow their head nouns in some languages. NPs containing postposed nominal modifiers usually also contain grammatical markers in NP-final position. Section 3.3 discusses differences between preposed and postposed genitive modifiers in several languages.

In most NGO languages, nominal and adjectival modifiers are clearly distinguished. Nominal modifiers are preposed; adjectival modifiers are postposed. In some languages, however, the same markers appear in NP-final position in NPs containing either type of modifier. In Motu, for instance, word order alone distinguishes adjectival from nominal uses of certain forms.

MOTU adjectival v. nominal modifiers (Lawes 1896)

(1a)	ranu	siahu-na	'hot water'
	water	hot-sg	
(b)	siahu	ranu-na	'holy water'
	heat/power	water-sg	
(2a)	ranu	mauri-na	'living (not stagnant) water'
	water	alive-sg	
(b)	mauri	ranu-na	'the water of life'
	life	water-sg	

Most other AN languages of Central Province, PNG, probably resemble Motu in this feature.

Little more can be added here to what has already been presented in Chapter 3 about nouns modifying nouns.

4.3 CLAUSES MODIFYING NOUNS

Relative clauses in the great majority of NGO languages are postnominal. This is true in all of the VO languages and in most of the OV languages. Relative clauses in all extra-New Guinea AN languages are also postnominal. In most NGO languages, therefore,

clausal modifiers--like adjectival modifiers--appear not to have changed position. However, morphological markers that accompany relative clauses--like those that accompany adjectives--do appear to be innovative.

As mentioned, the general, and probably ancestral, pattern in AN languages is for relative clauses to follow head nouns. Relative-clause markers, if any are to be found, come between the head noun and the following clause. (See Kähler 1974, Keenan 1972, and Sohn 1973 for relative-clause data in a range of extra-New Guinea AN languages.) Relative markers between the head noun and following clause are not uncommon in NGO languages, particularly in the VO languages. However, many languages, both VO and OV, have clause-final markers--with or without clause-initial markers. Clause-final markers are very rare in extra-New Guinea AN languages.[1] The development of markers at the end of NPs containing relative clauses thus appears to be another innovation characteristic of NGO languages.

4.3.1 Languages with postposed clauses and markers in clause-initial and NP-final position

NGO languages with postposed relative clauses and both clause-initial and NP-final markers appear largely confined to Morobe Province, PNG. This relativization strategy is so widespread in Morobe AN languages that it can be considered an areal feature of those languages. It is found in members of all three major subgroups there and in at least one Morobe member of the Rai subgroup, which spreads into Madang and West New Britain provinces.

On the whole, word order in Morobe AN languages more closely resembles that found in extra-New Guinea Oceanic languages (and presumably POC) than does word order in NGO languages of other areas. All Morobe AN languages are VO. Except for the presence of the NP-final marker, the position and marking of relative clauses also resembles that found in non-NGO languages. The primary innovation of Morobe AN languages with regard to relative clauses thus appears to be the development of morphology to mark the end of the relative clause, which coincides with the end of the NP containing the clause. (Sections 4.3.3 and 4.3.4 will suggest that the marking of NP-final position is ultimately more important than that of clause-final position.)

Relative clauses marked in both initial and final position are found in Mapos, a dialect of Buang proper, and in Patep, a member of the Mumeng dialect chain within the Buang group. There is little doubt that bracketed relatives are found throughout the other members of the group as well.

In Mapos Buang, the clause-initial marker is <u>sẽn</u> 'this', a member of the set of demonstratives. The clause-final marker is one of a set of abbreviated demonstratives or else the "emphatic" particle <u>lo</u>, which seems to serve as a general clause-boundary marker (Hooley 1970:181).

MAPOS BUANG demonstratives (Hooley 1970)

(3)	sẽn(ẽ)	'this'
	saga(sẽn)	'that, there'
	sagi(sẽn)	'this'
	sagu	'that, over there'

MAPOS BUANG relative-clause markers (Hooley 1970 and p.c.)

(4)	sẽn . . . ẽ	'here'
	lo	emphatic particle
	agi	'here'
	aga	'there'

As a straight demonstrative, sẽn may stand alone in postnominal position, but as a relative-marker, sẽn remains in clause-initial--not post-head noun--position when the clause is separated from its head noun.

MAPOS BUANG relative clauses (Hooley 1970 and p.c.)

(5a)	hong	re	sẽn	ghesis	sa	bõõkh	ẽ
	2s	who	REL	2s-hit	1s	pig	REL
	'who are you who've killed my pig?'						
(b)	beggang	sẽn	depekwẽ	monẽ	lok	lo	
	house	REL	3p-change	money	in.it	REL	
	'a place for changing money'						

In Patep, the clause-initial marker is invariant wê, a form of uncertain origin. The clause-final marker is usually ge, a proximal deictic ('here') which also marks the ends of topic phrases and

conditional clauses. Occasionally, other deictics appear in place of ge in clause-final position.

PATEP relative clauses (Lauck 1976, 1980)

(6a) ông ob tyoo yii yuu nuhu wê ob lam ge

2s POT dodge spear two arrow REL POT come REL

'you will dodge the spears and arrows that will come'

(b) môp wê he vông ge, he o xovô da ti lêm

way REL 3p do REL 3p NEG know Sunday one NEG

'about the customs they followed, they didn't know about Sunday'

(c) nu byac ngô wê ma nêl ge mêgêm i mi dô

child daughter hear REL father say REL so 3s HAB stay

'the daughter heard what her father said so she stayed'

(d) yuu o tɨyi wê yuu ob nêl kiyang dia ge lêm

3du NEG able REL 3du POT say speech long REL NEG

'they (two) weren't able to give a long speech'

PATEP topic-marking (Lauck 1976, 1980)

(7a) kɨluvac ge he lungên ên luda dô lec

potato TOP 3p not.know because sand be on

'the sweet potatoes they couldn't find because there was sand on them'

(b) vɨdii-ên, tride ge, dɨ xe lec kal

be.day-NOM Wednesday TOP and 1xp board car

'on Wednesday at midday we got on cars'

PATEP conditionals (Lauck 1976, 1980)

(8a) xomxo obêc tulec ge dɨ ob hi

person POT find COND POT hit

'when a man would find them, he would kill them'

(b) ông loc vac nita ge, od ông viac ông nivɨha

2s go into grass COND 2s care.for 2s good

'when you go into the bush, you watch out'

Bracketed relative clauses occur in every known member of the Huon Coastal group. The clause-final bracket is usually demonstrative in origin and the clause-initial bracket is either another demonstrative or some general subordinator.

Yabem is the best-recorded Huon Coastal language. It has four full sets of demonstratives, each containing forms correlated to 1st, 2d, and 3d person (Dempwolff 1939:30-31). The meaning distinctions associated with the three persons are as follows:

1st person: 'that which is near me, which concerns me, or which I know; what follows, what I am going to say'

2d person: 'that which is near you, which concerns you, or which you know; what precedes, what you have just said'

3d person: 'that which is neither by you nor by me, which neither you nor I know, which concerns neither you nor me'

The semantic distinctions among the four morphological sets are somewhat harder to pin down. Dempwolff says the forms beginning with t mark more definite or certain ("bestimmtere") referents, while the others have a somewhat indefinite or vague coloration. In several

examples, the latter class receive glosses like 'far from us, not visible'. If similar formal distinctions in Numbami, another Huon Coastal language, are truly analogous, then it is likely that the Yabem t- forms, like the Numbami ta- forms, indicate stronger deixis and contrast, while the Yabem n-based forms, like Numbami na, are more strictly anaphoric.

YABEM demonstratives (Dempwolff 1939)

(10)

Deictic (t-based)		Definite (n-based)		
Long	Short	Long	Short	
tonec	tec	onec	nec	1st person
tonaŋ	taŋ	onaŋ/ônaŋ	naŋ	2d person
tonê	tê	ônê	nê	3d person

In order to mark relative clauses, Yabem utilizes the short, t-based set in clause-initial position and the short, n-based set in clause-final position. In some cases, naŋ may be used as a clause-initial marker. However, the short t-forms never occur as clause-final brackets (Dempwolff 1939:87).

YABEM relative-clause brackets (Dempwolff 1939)

(11)

tec	. . .	nec	1st person
taŋ/naŋ	. . .	naŋ	2d person
tê	. . .	nê	3d person

These brackets are used independently of the case relationship of the head noun within the matrix sentence or the coreferential NP in the relative clause. Within the embedded clause, the coreferential NP may

be represented as a pronoun or deleted. The clause-final bracket is often left off, especially if the matrix sentence terminates at the end of the clause (Dempwolff 1939:87).

YABEM relative clauses (Dempwolff 1939)

(12a) na-ôpi nip tê kêkô nê ôna
go-2s-climb coconut REL 3s-stand REL 2s-go
'go climb that coconut tree standing over there'

(b) lip tec aê gawa nec gêjac mocseŋ teŋ
trap REL 1s 1s-set REL 3s-catch bushfowl one
'the trap I set caught a bushfowl'

(c) lau taŋ sêwiŋ aê atom naŋ seseŋ aê su
people REL 3p-join 1s not REL 3p-oppose 1s FIN
'people who are not with me are against me'

(d) lau naŋ sêlac sêja Kêla naŋ sêmu
people REL 3p-sail 3p-go K. REL 3p-return
sêmêŋ me masi
3p-come or none
'have the people who sailed to Kela come back?'

(e) bôc tonaŋ bulumakao taŋ bômbôm sêpip
pig that cow REL whites 3p-squeeze
nê su ma sênôm naŋ
GEN3s milk/udder and.then 3p-drink REL
'that animal is a cow, whose udder/milk the whites squeeze (out) and drink'

(f) aê Jesu tec kôjanda aê

1s J. REL 2s-persecute 1s

'I am Jesus, whom you persecute'

In Numbami, the clause-final marker is invariable na, apparently related to the anaphoric demonstrative formant na. The shape of the clause-initial marker varies depending on the nature of the information in the clause. Relative-clause-marking does not vary according to the case role of the relativized NP. The WH-form manu 'which, where' is by far the most common clause-initial form. It simply indicates that the referent being identified is specific. The TH-forms ta(te) 'this, these, here' and ta(to) 'that, those, there' (both usually reduced to ta, which I gloss TH) indicate that the referent is definite--that is, known to the addressee. The complementizer ingo (lit. '3s-say', which I gloss SAY in this function) when used as a relativizer signals that the referent is identified by the purpose to which it will be put. (Purposive relatives are irrealis in mode.) Clause-initial manu and ingo contrast in time clauses. Clauses identifying specific, realis times are introduced by manu, while those identifying nonspecific or irrealis times (or conditions under which something else may come about) are introduced by ingo.

The various clause-initial relativizers may co-occur. When they do so, they occur in the following order: ta(te/to) + manu + ingo. One or the other of the clause-initial markers is always present, but

clause-final na is sometimes elided if the end of the clause is made clear by other means, such as by an intonation boundary.

NUMBAMI specific relative clauses (Bradshaw, field notes)

(13a) lawa lauwa na manu tima na, payama tima.
people fight GEN WH 3p-come REL for.good 3p-come
'the soldiers who had come, they came for good'

(b) tembi i lawa manu mama mando
3p-take 1xp people WH 1xp-come 1xp-stay
imuŋga na.
3s-precede REL
'they took those of us who had come first'

(c) maki bani manu mayaki na su ulaŋa.
1xp-put food WH 1xp-pare REL into pot
'we put the food we've pared into the pot'

(d) sai niwese nomba manu tiyota waŋga na.
who ir-3s-show thing WH 3p-tie canoe REL
'who will show (us) what to tie the canoe with?'

(e) nomba lua manu museya woya na, eana e-tate.
thing two WH 2p-ask 1s REL DEM 3s-here
'those two things you asked me about, here they are'

(f) tiki biŋa de lawa manu aindi
3p-send word to people WH 3p-GENpl
waŋga itatala na.
canoe 3s-sink REL
'they sent word to the people whose boat sank'

(13g) wa ostrelya manu tindo Salamaua, eana,

and Australia WH 3p-stay S. DEM

ai tinzolo.

3p 3p-scatter

'and the Australians (not previously mentioned) who were at Salamaua, those guys, they took off'

NUMBAMI definite relative clauses (Bradshaw, field notes)

(14a) kana lawa ta tindo titabiŋa Salamaua

so people TH 3p-stay 3p-be.near S.

ai tipai kulakula na imuŋga.

3p 3p-do work this 3p-precede

'so those people (previously mentioned) who were staying near Salamaua, they did this (cargo) work first'

(b) ewesika tiyama-ma ta mami puta na,

women all-ADV TH 1xp-live earth REL

inami kulakula bamo ano-ma.

1xp-GEN work much true-ADV

'all of us women who live on this earth, we have a lot of work'

NUMBAMI purposive relatives (Bradshaw, field notes)

(15a) inakalati sa iŋgo inalalaŋi kundu na.

3p-ir-fix place SAY 3p-ir-scorch sago REL

'they'll fix a place to scorch the sago at'

(15b) maki iŋgo niye gaya wambana-ma na

1xp-put SAY ir-3s-lie next.day morning-ADV REL

iye susuna wa manu iŋgo mananisi na

3s-lie corner and WH SAY 1xp-ir-boil REL

maki iye maina-ma.

1xp-put 3s-lie separate-ADV

'we put that (portion of the food) for the next morning into the corner, and that which we intend to cook we place separately'

NUMBAMI time and conditional clauses (Bradshaw, field notes)

(16a) manu bembena-ma ima teteu na,

WH at.first-ADV 3s-come village REL

iloŋoni biŋa Numbami kote.

3s-hear talk N. not

'when he first came to the village, he didn't understand Numbami'

(b) temi iŋgo naleleu nama na, iŋgo tazuzu

time SAY ir-1s-return ir-1s-come REL SAY 1ip-shove

na, aiya nukole nuŋgo biŋa deŋa woya

REL 2s ir-2s-turn ir-2s-say word to 1s

kote.

not

'when I come back, when we shove off, don't turn around and don't say a word to me'

(c) iŋgo tatala kundu tomu na, a kole lua mo
SAY 1ip-chop sago broken REL perhaps man two or
toli inawasa inatala tomu.
three 3p-ir-go 3p-ir-chop broken
'when we chop down a sago palm, perhaps two or three men will go chop it down'

Iwal (aka Kaiwa) relative clauses are marked in final position with one of a set of demonstrative formants: nik 'near me', nok 'near you', and ok 'over there'. The last appears to be much more common than the other members of the set. A different set of forms occurs in clause-initial position. Clause-initial ete, a demonstrative stem, is apparently related to the demonstrative stems ta in Numbami and t- in Yabem. It combines with the demonstrative formants given above to produce a set of demonstrative modifiers: etenik 'near me' etenok 'near you', etok 'over there', and ete ok 'long way off'. Clause-initial ebe was probably at one time a complementizer derived from the verb *-be 'to say', which is reconstructible for a number of Morobe AN languages. It combines with the distal demonstrative formant ok to produce ebok 'over there' and ebe ok 'long way off'. The data available to me (Davidson & Davidson 1976 and p.c.) do not make clear what differences, if any, exist between the functions of ete and ebe as clause-initial relativizers.

Iwal time clauses are marked in a slightly different manner. The clause-initial marker is galk (compare galkik 'earlier today'), and the clause-final marker is ik if the clause identifies a time close to

the present and ok if the clause identifies a time further removed from the present.

IWAL relative clauses (Davidson & Davidson 1976 and p.c.)

(17a) apmol ete ayeu gali ok ei giro mank
man REL 1s 1s-see REL 3s 3s-spear bird
'this man I saw speared a bird'

(17b) apmolmol ebe ipasang ul ve nalk be emb
people REL 3p-make pot with earth and 3p-hold
ve apmolmol inavgo ok eisir imbweg
for people 3p-buy REL 3p 3p-stay
nam ti are Kui
village one name K.
'the people who make clay pots and bring them for people to buy are from a village called Kui'

(c) ei ges uvun ebe gisweng tambok ok
3s 3s-hit dog REL 3s-bark night REL
'he hit the dog that barked in the night'

(d) bwelk etok ebe eisir es vunu nolik ok
pig that REL 3p 3p-hit dead yesterday REL
'that pig that they killed yesterday'

In Amari, a dialect of Adzera proper, the demonstrative ugu 'there, far away, near him or it, already seen or referred to' (Holzknecht 1980:68) both precedes and follows relative clauses. The first ugu is optional and, according to Holzknecht (1980:70-71), occurs in post-head noun, not clause-initial, position. (It is not

clear what tests Holzknecht performed to determine the syntactic affiliation of the first ugu.) In these respects, relative-clause marking in Amari differs from that found in Buang and Huon Coastal languages. In the latter language groups, the clause-initial relativizer is obligatory and stays with the clause rather than the head noun when the clause is separated from its head. Another way in which Amari differs from the other two groups is that verbs in Amari relative clauses are marked as subordinate with the participial suffix -(d)a.

Other Adzera languages are not described in sufficient detail to include discussion of relative-clause marking. (I have not seen Dempwolff's (c. 1928) manuscript grammar of Adzera.) However, the Amari data, combined with that from other Morobe AN languages, suggests that ambipositional marking of relative clauses is an areal feature of Morobe AN languages as a whole.

AMARI relative clauses (Holzknecht 1980)

(18a) ifab (ugu) mus-a yup-a intap ugu i-mamp sib
pig REL always-PTPL dig-PTPL earth REL rl-die FIN
'that pig that was always digging up the ground is dead'

(b) dzi na-yu uŋar ugu garam fawa?-a sib aga ugu
1s HORT-take house REL man break-PTPL FIN DEM REL
'I will take the house which the man has broken'

(18c) dzantsun (ugu) dzi rab-a gai gin ugu

axe REL 1s cut-PTPL tree OBLPRO REL

i-tati? sib

rl-break FIN

'the axe I cut the tree with is broken'

(d) uŋar (ugu) dzi mus-a giŋ?-a gin ugu

house REL 1s always-PTPL sleep-PTPL OBLPRO REL

dzaf i-ga sib

fire rl-eat FIN

'fire has burnt down the house I usually sleep in'

(e) garam (ugu) dzi i-rim pas rut in ugu

man REL 1s rl-give letter go.with OBLPRO REL

i-yu i-fa taun

rl-take rl-go town

'the man I gave the letter to has taken it to town'

(f) sagat (ugu) dzi ni-da nan rut in ugu

woman REL 1s say-PTPL talk go.with OBLPRO REL

i-fa sib gamp

rl-go FIN village

'the woman I spoke to went back to the village'

(g) mama? marub ugu dzi dzigin-da i gan nam-gan

child male REL 1s steal-PTPL OBL GEN3 food-GEN3

ugu i-fa uta da ru-fa giŋ?

REL rl-go nothing and CONT-go sleep

'the boy whose food I stole went without anything and went to sleep'

Bracketed relative clauses occur in Sio (aka Siâ), a Morobe member of the Rai subgroup. I have no data on relative-clause marking in other Morobe members of the Rai group.

Sio has no special relativizer, but relative clauses are marked by demonstratives in clause-initial or clause-final position, generally in both positions (Dempwolff 1936:8). Dempwolff cites one example of a relative clause without a head noun which seems to suggest that the initial demonstrative occurs in clause-initial rather than post-head-noun position.

SIO relative clauses (Dempwolff 1936)

(19a) nia ŋine kinda tamo axa
place DEM 1ip 1ip-stay good
'the place we're staying is good'

(b) tamâta imo socorae ŋinde imâte
man 3s-stay poor DEM 3s-die
'the man who was poor died'

(c) tamâta ŋinde parisai sisuqanzi ŋinde sikasoŋa
people DEM Pharisee 3p-send-3p DEM 3p-ask
'the people sent by the Pharisees asked'

(d) ŋinde joka samba indue ŋinde simbo nâ
DEM 3s-go heaven 3s-descend DEM alone only
ikâki pa samba
3s-ascend to heaven
'only he who has left heaven and descend to earth will ascend into heaven'

4.3.2 Languages with postposed clauses and markers in NP-final position

NGO languages with postposed relative clauses and markers only in NP-final position are widely distributed within PNG. The position of the relative clause in such languages is not innovative. Even the absence of a clause-initial marker may not be innovative. It is not uncommon for OC languages to lack clause-initial relativizers. However, the kinds of markers that turn up in final position in these NGO languages are almost certainly innovative.

In Tumleo, a language of West Sepik Province, the demonstratives pane('e) 'this' and ane('e) 'that, there' are used to signal the ends of NPs containing postposed relative clauses (Schultze 1911:33).

TUMLEO (Schultze 1911)

(20a) tjuol jeijei aikāmieij pane
place 3s PAST-3s-come this
'the place he came from'

(b) talin rāpu lapin ane'e
egg 3p-stay hole that
'the eggs still in the hole'

In Kairiru, an East Sepik Province language, relative clauses follow all other nominal modifiers in the NP (Wivell 1981:185). Although word order is somewhat variable, especially for oblique NPs, Kairiru is basically an OV language. It has no special markers for relative clauses. However, Kairiru does have what Wivell (1981:37) calls a "Phrase Summary (PSU)." The phrase summary consists of one of

the 3d person focal pronouns in absolute NP-final position. It presumably has no other function than to announce the end of the noun phrase (or referential unit) and the resumption of the sentence of which the NP is a constituent. Focal pronouns functioning as phrase summaries can only occur after NPs which refer to humans (or possibly higher animals) (Wivell 1981:38).[2] Wivell also says (1981:38) that phrase summaries cannot occur after NPs in oblique case roles. However, this second restriction--including Wivell's supporting example--could just as well be translated into a restriction against phrase summaries appearing in sentence-final position, since NPs in other than oblique case roles do not generally occur in that position.

KAIRIRU NP-final phrase summary (Wivell 1981)

(21a) ramat pur tuol rra-nguk ei a-ruong
man pig three 3p-snort 3s(PSU) 3s-hear
'the man heard the three pigs snort'

(b) moin Rrinrrin ei o-ur wun nau
woman Rr. 3s(PSU) 3s-descend beach saltwater
a-q-i
3s-fetch-3s
'the woman Rrinrrin, she went down to the beach to fetch some saltwater'

(c) kyau rri ramat tuol rri w-un-rri
1s 3p man three 3p(PSU) 1s-hit-3p
'I hit the three man'

(21d) foyeq Masos rru miem Samen rru

great.grandparent M. 3du mother(1s) S. 3du(PSU)

rri-lieq rryan Smolau

3du-go river S.

'great-grandfather Masos and my mother Samen went to the river at Smolau'

In Manam, a language of western Madang province, relative clauses are postposed and there are no special forms used to mark relative clauses alone. However, certain NPs and subordinate clauses tend to be marked in final position with a "resumptive pro-form" (Lichtenberk 1980:452-461 and elsewhere). The shape of the resumptive pro-form matches that of the proximal demonstrative ŋ(a)e 'this' or ŋ(a)e-di 'these', except that the pro-form is frequently cliticized to the end of the constituent it marks off. The distal demonstrative ŋara 'that' or ŋara-di 'those' is never used as a resumptive pro-form. The resumptive pro-form may co-occur with either the proximal or distal demonstrative.

Among the kinds of constituents marked with the resumptive pro-form are thematized NPs; time phrases and clauses; relative clauses; and conditionals.

MANAM resumptive pro-form (Lichtenberk 1980)

After thematized NPs:

(22a) zirápu ne-m ŋe-Ø fred óno i-enéno

mattress GEN-2s RESPRO-3s F. OBLPRO 3s-sleep.rdp

'as for your mattress, Fred sleeps on it'

(22b) péra ŋará-na-lo ŋe-Ø tamóata tágo té?e-Ø

house that-3s-in RESPRO-3s man NEG one-3s

i-so?óa?i

3s-live

'as for that house, nobody lives in it'

After time expressions:

(23a) nóra-ŋe tágo sésu u-malípi

yesterday-RESPRO NEG little 1s-work

'yesterday I didn't work at all'

(23b) u-múle-ŋe píta ábe i-alále

1s-return-RESPRO P. already 3s-leave

'when I came back, Pita had already left'

After relative clauses:

(24a) tamóata wabúbu-lo i-púra-ŋe ísi i-éno

man night-in 3s-come-RESPRO still 3s-sleep

'the man who came during the night is still asleep'

(b) ?ai sápara-Ø sasalága péra ?ána-Ø atábala-Ø

tree branch-3s long(pl) house GEN-3s space.above-3s

di-éno ŋáe-di di-pólo-Ø

3p-lie RESPRO-3p 3p-cut-3p

'they cut off the long (tree) branches that were above his house'

After conditionals:

(25a) ?áti té?e-Ø i-púra-ŋe bogía n-lá?o

boat one-3s 3s-come-RESPRO B. 1s-go

'if the boat comes, I will (definitely) go to Bogia'

(25b) anuanûa ʔu-laʔolâʔo-ŋe ruaŋá-gu go-téte-di

villages 2s-go.rdp-RESPRO friend-1s 2s-see.rdp-3p

'whatever village you go to, visit my friends'

In Are (aka Mukawa), a language of Milne Bay Province, relative clauses are postposed to head nouns. Resumptive pronouns signal the end of the clause (and NP) and the resumption of the matrix sentence. The resumptive pronoun in the first three Are examples also serves as a regular 3d singular pronoun and as a demonstrative formant (nikona 'this', nokona 'that').

ARE (Paisawa, Pagotto & Kale 1976)

(26a) sebare rabirabi i-botu kona au-poro i-boai-Ø

man yesterday 3s-come PRO 1s-pig 3s-kill-3s

'the man who came yesterday killed my pig'

(b) sebare au-poro i-boai kona a-kinani-Ø

man 1s-pig 3s-kill PRO 1s-see-3s

'I saw the man who killed my pig'

(c) sebare au yove-ai i-daua kona poro kaire

man 1s house-LOC 3s-come PRO pig sweet.potato

i-kani kona i-boai-Ø

3s-eat PRO 3s-kill-3s

'the man who came to my house killed the pig that ate the sweet potato'

(d) memei niura e-bi-msiri namai a-kinani-m

where-LOC coconut 3s-PROG-stand yonder-LOC 1s-see-2s

'I saw you over there where the coconut tree is (standing)'

In Iduna, another Milne Bay Province language, relative clauses are postposed and marked in final position with invariant -ma. The clause-final marker seems to be a demonstrative formant of some kind. It appears on the ends of several demonstratives--such as hidema 'this', wadema 'that', medema 'those', and mema 'that one'--and also marks off topic NPs.

IDUNA relative clauses (Huckett 1974, 1976)

(27a) u-da-'ita-na kaliva tomo'awaka gi-vaga-ma
2s-POT-see-3s man handsome 3s-dance-REL
'you could go and see the handsome man who danced'

(b) kawa-ku hi-'alika-ma keke gi-da-ve'o'owane-di
sister-1s 3p-die-REL not 3s-POT-mourn.for-3p
'he did not mourn for my sister who died'
(The sister was also a mother. Mothers are indexed with 3p markers.)

(c) kevakeva gi-bayauma be ga-'a-na-ma fata-na
fish 3s-catch and 1s-eat-3s-REL payback-3s
'it is the payback of the fish which he caught and I ate'

(d) bana niwala ana to'itave'avina gi-miyami-ma
3s net GEN-3s keeper 3s-stay-REL
yuwa gi-na-'ita-na
yonder 3s-FUT-see-3s
'the keeper of the net who is staying around will see it over yonder'

IDUNA topic-marking (Huckett 1976)

(28a) yana miyami ma vaita ai itugutuguli

GEN-3s staying TOP like tree stump

'as for his stance, it looks like the stump of a tree'

(28b) kaliva ma nuwanuwa-na tobohiya-ne-yao kadu

man TOP desire-3s brother-3s-coll and.also

yana yo'o nuwanuwa-na

GEN-3s clan desire-3s

'as for the man, he wants his brothers and also wants his clan'

4.3.3 Languages with preposed clauses and markers in NP-final position

NGO languages with preposed relative clauses appear largely confined to Central Province, PNG. Central Province languages show two word order innovations with respect to relative clauses: postpositional marking of the modified NP and prenominal position of the modifying clause. The first innovation, they share with many other NGO languages, though the morphemes involved are not always cognate. The latter innovation appears unique to Central Province languages. In general, the Central Province languages show all of the more radically innovative word-order features to be found in NGO languages. The prenominal positioning of relative clauses puts them in the forefront even of the most innovative languages.

In Motu, a NP containing a relative clause can be formed in one of three different ways. Each strategy requires that the clause be preposed and that the end of the modifed NP be marked with either -na,

if the referent is singular, or -dia, if the referent is plural. The suffixes -na and -dia, formally identical to the 3d person possessive suffixes, are also used to mark NP-final position in NPs modified by postposed adjectives or preposed nouns. (See the Motu data in 3.4.) Nevertheless, Taylor (1970:51 ff.), whose analysis of Motu relativization I rely on here, considers -na and -dia to be relativizers in this context. I will adopt Taylor's analysis in glossing the two suffixes in the examples below, although I do so primarily in order to make the ends of the relativized NPs easier to perceive.

To embed a modifying clause within a NP in Motu, it suffices simply to prepose the full clause to the head noun and to attach either -na or -dia to the end of the head noun. The relative clause may contain an NP identical to the head noun in both phonological shape and semantic reference. However, it is much more common either to delete the embedded NP coreferential with the head or to retain the embedded NP and replace the head noun with gau 'thing'.

MOTU relative clauses (Taylor 1970)

With two coreferential NPs:

(29a) sisia ese mero e-kori-a sisia-na e-heau
dog tSM boy 3-bite-3s dog-RELsg 3-run
'the dog that bit the boy ran away'

(29b) sisia ese mero e-kori-a sisia-na lau ese
dog tSM boy 3-bite-3s dog-RELsg 1s tSM
na-lulu-a
1s-chase-3s
'I chased the dog that bit the boy'

(c) oi ese gaigai o-ita-ia gaigai-na lau ese
2s tSM snake 2-see-3s snake-RELsg 1s tSM
na-pidi-a
1s-shoot-3s
'I shot the snake that you saw'

With no coreferential embedded NP:

(30a) boroma e-ala-ia tau-na na vada e-ma
pig 3-kill-3s man-RELsg SM PERF 3-come
'the man who killed the pig has come'

(b) Raka ese huala e-ala-ia sinavai-na
R. tSM crocodile 3-kill-3s river-RELsg
na daudau herea
SM far very
'The river where Raka killed the crocodile is very far away'

(c) magani e-pidi-a tau-na natu-na lau ese
wallaby 3-shoot-3s man-RELsg child-3s 1s tSM
na-ita-ia
1s-see-3s
'I saw the son of the man who shot the wallaby'

With semantically empty head noun:

(31a) umui vanagi o-kara-ia gau-na tama-gu ese
2p canoe 2-make-3s thing-RELsg father-1s tSM
e-hoi-a
3-buy-3s
'my father bought the canoe you made'

(31b) Raka ese boroma kaema e-ani gau-na
R. tSM pig sweet.potato 3-eat thing-RELsg
e-lulu-a
3-chase-3s
'Raka chased the pig that ate the sweet potato'

(c) oi ese sisia ae-na o-ha-kwaidu-a gau-na
2s tSM dog leg-3s 2-cause-break-3s thing-RELsg
e-tai-mu
3-cry-CONT
'the dog whose leg you broke is crying'

My only data on Sinaugoro relativization come from two pages of anonymous notes. However, even those two pages of examples provide enough data to ascertain that Sinaugoro relatives are preposed and that the clause-modified NPs are marked in final position. As in Motu, various options are available. Both the head noun and the coreferential embedded NP may be retained; the embedded NP may be deleted; or the embedded NP may be retained in place and the position of the head noun occupied by an anaphoric element of some sort. There is even one example of an embedded clause with neither head noun nor

NP-final marker, a completely headless relative. NP-final position is generally marked by a number-marking suffix on the head noun (if one exists), followed by the morpheme tu. In the notes I have, everything between the head noun (or the end of the clause when there is no head noun) and the resumption of the matrix sentence is glossed with the single label "Conjun[ction]." I have inserted more detailed glosses, influenced in part by other sources, such as Ross (1979a), or analogy with closely related languages. However, my glosses must be considered very tentative.

SINAUGORO relative clauses

With two coreferential NPs:

(32) tau fore e-ganigani tau-na-tu e-inagoma-ni
man stone 3s-eat man-sg-CONJ 3s-come-PROG
'the man who eats stones is coming'

With no coreferential embedded NP:

(33a) au na natu-na b-a-gita tau-na-tu e-iagoma-ni
1s SM child-3s T-1s-see man-sg-CONJ 3s-come-PROG
'the man whose child I saw is coming'

(b) gia na turiga b-e-vini-a kwaiva-na-tu e-toru-ni
3s SM bone T-3s-give-3s dog-sg-CONJ 3s-bark-PROG
'the dog he gave a bone to was barking'

With head noun-substitute:

(34a) mo pi-em-vi mai e-vanagi-ni moga-tu mosbi-gana
DET P.M.V. now 3s-pass-PROG DET?-CONJ Moresby-to
e-ago-ni
3s-go-PROG
'that P.M.V. now passing is going to Port Moresby'

(34b) gia tu tama-na na numa e-ragai-a-to
3s ? father-3s SM house 3s-build-3s-PERF
rua-na-ai e-tanu-ni
where-sg-LOC 3s-stay-PROG
'she stayed in the house that her father built'

With no head and no marking:

(35) au mo tau na bai b-e-vagi-a b-a-gani-a
1s DET man SM pig T-3s-kill-3s T-1s-eat-3s
'I ate the pig that the man killed'

Aroma relative clauses are preposed and marked in much the same way that Motu and Sinaugoro relatives are. Craig (1976), my source of Aroma data, mentions only one type of relativization--that in which both head noun and embedded coreferential NP appear in the sentence. However, she does mention that the same strategy is employed regardless of the semantic features (presumably animate, inanimate, etc.) or the syntactic constituency (presumably subject, object, genitive, etc.) of the relativized NP. It is likely that this last statement applies equally well to Motu and Sinaugoro. It is also

likely that much the same options for relativizing exist in Aroma as exist in Motu and Sinaugoro.

AROMA relative clauses (Craig 1976)

(36a) wa au na thau-na pae e-lem-a au-na
DEM man SM 1s-GEN pig 3s-steal-3s man-RELsg
wa vanua-ai e-alu-nia
DEM village-LOC 3s-live-HAB
'the man who stole my pig lives in that village'

(b) vuatha na pae e-oli-a pae-na e-warega
crocodile SM pig 3s-attack-3s pig-RELsg 3s-die
'the pig that was attacked by the crocodile died'

(c) wa numa kini-na alava na e-galarau-a numa-na
DEM house roof-3s fire SM 3s-destroy-3s house-RELsg
thau a-ku
1s brother-1s
'the house whose roof the fire destroyed belongs to my brother'

(d) wa vavine iula-ai ge-ulavunu-nia vavine-ra na
DEM woman garden-LOC 3p-work-HAB woman-RELpl SM
manu ge-piti-ra-o
bird 3p-shoot-3p-PERF
'the women working in the garden shot the birds'

4.3.4 Summary of the position and marking of relative clauses

In comparison with OC languages elsewhere, NGO languages show two kinds of innovations with regard to the position and marking of relative clauses.

(1) The most common innovation is the marking of final position in NPs containing relative clauses. This final marker, a pronominal or demonstrative element, signals the end of the modified NP and the resumption of the matrix sentence. This innovation is consonant with the tendency to mark final position in NPs containing other kinds of modifiers (see 4.1 and 4.2).

(2) A much rarer innovation is the placement of relative clauses before, rather than after, head nouns. This innovation appears confined to the thoroughly OV languages of Central Province. Several languages offer three different strategies for cross-indexing between the postposed head and the embedded coreferential NP:

(a) both the embedded NP and head NP may be retained in place;

(b) the embedded NP may be deleted; or

(c) the embedded NP may be retained and the position of the head noun occupied by an anaphoric element.

The nature of these options suggests that the first step in switching the position of the ancestrally preposed head and postposed clause was to place an anaphor of the head noun in clause-final position. That anaphor could be either a full copy or a placeholding pronoun or empty noun. One way to change the position of the head noun from preclausal to postclausal, then, is to put it in both places at once.

4.4. TOK PISIN RELATIVIZATION

Sankoff and Brown's (1976) analysis of relative-clause bracketing in Tok Pisin suggests that the relative-clause bracketing found in the NGO languages of Morobe Province (see 4.3.1) may have a more general explanation that has nothing to do with the innovations outlined in 4.3.4. The remainder of this chapter will evaluate Sankoff and Brown's analysis and conclude that their hypotheses do not shed much light on developments in NGO languages.

Tok Pisin (aka New Guinea Pidgin, Neo-Melanesian) is a lingua franca spoken throughout New Guinea and in some areas of the former Territory of Papua. Most people speak it as a pidgin (second language) but an increasing number now speak it as a creole (first language). Although the forms of most Tok Pisin words have their origins in English, the semantics of the language owe much more to AN languages, particularly those of Island Melanesia. The word order typology of Tok Pisin also resembles that of Island Melanesian languages (see 1.1). Tok Pisin is SVO and prepositional. Genitive and modifying nouns are postposed. Genitive nouns and pronouns are marked by the preposition bilong. Adjectives, however, are preposed and most are marked by the suffix -pela.

TOK PISIN word order

(37a)	SVO	man	i	pasim	kanu	long	diwai
		man	PM	fasten	canoe	PREP	tree
		'the man fastened the canoe to a tree'					

(37b) N+Gen lek bilong dok

leg GEN dog

'dog's leg'

(c) Adj+N long-pela meri

long-ADJ woman

'tall woman'

(d) Pr ol i go wok long gaden

3p PM go work PREP garden

'they went to work in the garden'

4.4.1 Sankoff and Brown's analysis

Relative clauses in Tok Pisin are postposed. Sankoff and Brown give the following summary of Tok Pisin relativization.

> [T]he basic process used in relativization is the placement of ia at the beginning and end of the embedded clause, and . . . this device is used independently of whether head nouns and coreferential NP's are in subject, complement, or oblique positions. Within the embedded clause, the relativized NP may either be represented as a pronoun or deleted, and there are some syntactic constraints involved in this variation. Where the matrix sentence continues after the embedding, the head noun tends once more to be represented as a pronoun; but again it is often deleted, and there is a great deal of variation here too. (1976:635-636)

TOK PISIN relative clauses (Sankoff & Brown 1976)

(38a) MERI ia, [EM i yangpela meri, draipela meri ia],

EM harim istap

'This GIRL, [WHO was a young girl, big girl], was listening'

(b) Dispela MAN ia, [lek bilong EN idai ia], EM istap insait nau

'this MAN, [WHOSE leg was injured], stayed inside'

(38c) Mama iputim DISFELA ia, [igat kon na muruk samting istap ia], em iputim igo

'Mother put THIS ONE, [WHICH has corn and cassowaries on IT], she put IT down'

(d) Olosem mipela tu ia save kros nabaut long GIRAUN ia [gavman isave kisim ia]

'Us too, we're pretty angry about the LAND [the government has taken]'

Sankoff and Brown propose the following etymological development to account for the use of the particle ia in Tok Pisin relativization. First, the "original 'place adverb' ia," which they assume derives from English here, was extended "for use as a postposed deictic or demonstrative." Later it was extended further "for general 'bracketing' use, including topic-comment structures, relativization, and cleft sentences" (1976:663).

The placement of ia at either end of relative clauses is explained in terms of the discourse roles of relatives and other elements so bracketed. Sankoff and Brown use the cover term "parenthetical expression" for these elements since more than just relative clauses are involved. Various kinds of appositional elements are also included. These parenthetical expressions perform the functions of "identification" and "characterization."

> IDENTIFICATIONS instruct hearers, 'Search in your file to see which one this is'; CHARACTERIZATIONS instruct them, 'Open a file on this N, and put this information in it' (1976:644)

> [T]he identification accomplished by ia-bracketed material is not necessarily assumed, or automatic; it involves interactional work, a checking-out of acknowledgment, negotiation of what is mutually understood (1976:648)

Sankoff and Brown's "analysis treats as crucial . . . the different roles of ia as an initial and final bracket" (1976:651). The lefthand bracket focuses a referent and opens up a slot where either the same speaker or a new speaker can insert a parenthetical expression identifying or characterizing it.

> Closing or terminal ia, on the other hand, can function to confirm an identification emphatically, simply to separate the embedded material from the continuing sentence, or (usually with rising intonation) to do double duty as a potential initial ia for a new parenthetical expression (1976:657).

Sankoff and Brown note that "many Austronesian languages of New Guinea and island Melanesia show striking parallels" (1976:663) with Tok Pisin in their use of the same set of morphemes for place-adverbial, deictic, and relative-clause-marking functions. One language they cite is Buang, a Morobe language studied by Sankoff (1968). In the dialect of Buang Sankoff studied,

> the deictic particle ken is used as a place adverbial, e.g. ke mdo ken 'I'm staying here'; as a postposed demonstrative, e.g. ke mdo byaŋ ken 'I'm staying in this house'; and as a relativizer, e.g. ke mdo byaŋ ken gu le ykev 'I'm staying in the house that you saw yesterday' (1976:663).

Sankoff and Brown also cite several Island Melanesian languages in which demonstratives are used in the formation of relative clauses. In no language they cite but Buang, however, are demonstrative formants used to bracket relative clauses (see 4.3.1).

If relative-clause marking in Tok Pisin is so similar to relativization in local AN languages, what is responsible for this similarity? Sankoff and Brown suggest that the kinds of "fluent second-language speakers of Tok Pisin" in their sample were responsible for extending the use of ia from deictic to general "bracketing" device, "not only because of the semantic and functional parallels among the three usages" (place adverbial, deictic, and bracketing device), but also because of the parallels in local AN languages (1976:663). If the parallels Sankoff and Brown allude to are valid, we seem to be left with two options. On the one hand, the kind of development that Sankoff and Brown describe for Tok Pisin may be a common one--common enough that similar developments occurred independently in the local AN languages. On the other hand, relativization in the Tok Pisin described by Sankoff and Brown may be of a very unusual kind cross-linguistically--unusual enough to lead one to suspect that its origins lie not in widely shared syntactic processes, but in the highly particular syntactic history of the local AN languages.

Of course, it is also possible that the parallels Sankoff and Brown describe are not valid. The particle ia may not be deictic in origin, or at least not directly descended from English here. It may not even be synchronically equivalent to the relative-clause brackets in local AN languages.

The remainder of this chapter will examine these possibilities.

4.4.2 On the universality of bracketed relative clauses

Let us assume first that there are valid parallels between relativization in Tok Pisin and that in local AN languages. What are those parallels and how widespread are they among languages elsewhere?

Sankoff and Brown mention parallel usage of the same set of morphemes for place-adverbial, deictic, and relative-clause-marking functions. The use of deictic elements to mark boundaries and organize discourse seems common enough in the languages of the world that one need not appeal to the influence of substrate languages to explain such usage in a pidgin or creole. Sankoff and Brown observe that WH-forms are "obvious candidates for relativizers in any language" (1976:636). They could have made the same observation about demonstratives (or TH-forms). It is much less common, however, for languages to mark their relative clauses with demonstratives at both ends. Yet just such an unusual marking strategy is employed by numerous languages in the very location in which Sankoff and Brown's Tok Pisin data were collected.

Sankoff and Brown's analysis was based mostly on recordings made in 1971 in Lae and surrounding areas of Morobe Province (1976:631). Although they cite reports of *ia*-marked relatives, including *ia*-bracketed ones, from other areas of New Guinea, and they observe that speakers from other regions were included in their sample, the fact remains that *ia*-bracketing of relative clauses is far from universal in Tok Pisin. None of the recent grammars, which include Laycock (1970), Wurm (1971), Mihalic (1971), and Dutton (1973), even mention such bracketing in their treatment of relative clauses. Even in their

own sample, Sankoff and Brown concede that "the ia-bracketing rule has not been completely generalized as yet . . . and remains to some extent variable or optional in the population under study" (1976:660). The likelihood thus arises that Morobe Province is one of the centers of the ia-bracketing innovation in Tok Pisin, especially since the substrate AN languages of Morobe Province also exhibit bracketed relative clauses (see 4.3.1). The suspicion that calquing on substrate languages is responsible for this innovation is strengthened by Sankoff and Brown's evidence that fluent second-language speakers (not just creole speakers) of Tok Pisin are in the forefront among the innovators (1976:664). Of particular importance perhaps is the presence of relative-clause-bracketing in Yabim, an AN language which antedated Tok Pisin as a lingua franca and now coexists with it in a large area of Morobe Province. Yabim may have furnished an important base on which to calque even for those Yabim speakers whose first language may not have had such bracketing. However, Yabim was primarily in use as a lingua franca among Austronesian speakers, and relative-clause bracketing is found in members of all three of the major AN subgroups near the town of Lae, in which the recordings containing Tok Pisin ia-bracketing were made. There were plenty of models besides Yabim on which to calque.

How did all these AN languages come to mark their relative clauses at both ends? Did the kinds of discourse factors described by Sankoff and Brown prompt the same development in those languages that they propose for Tok Pisin? There are two major weaknesses in such an

assumption: (1) bracketed relatives are not very common among the world's languages, and (2) they occur only in languages with a particular typological history.

It seems strange that Sankoff and Brown bring in evidence from local AN languages to help explain what would seem to be a rather common development--the use of deictic elements as relativizers. Yet they bring in no evidence from other languages to support their contention that relative-clause-bracketing is "only a special instance of the application of general 'bracketing' devices used in the organization of information" (1976:631). The only mention of languages other than Tok Pisin in which relative clauses are bracketed occurs indirectly in footnotes. Such languages are not at all common. In fact, when Kuno (1974) attempted to explain why languages place relative clauses and conjunctions (including adpositions) on one side or the other, he explicitly assumed that there were "no languages that regularly mark embedded clauses in both clause-initial and clause-final position" (1974:118). He explained that "combinations of postpositions and postnominal positioning of attributives" (as well as "prepositions and prenominal positioning of attributives") must be avoided because they would produce "a hopeless situation of center-embedding and juxtaposition of postpositions" (or an "equally hopeless situation of center-embedding and juxtaposition of prepositions") (1974:128). Hagège (1976:198-201) subsequently pointed out that there are several African languages which manage to endure just that hopeless state of affairs: Mbum and Ngbaka in the Adamawa-Eastern branch of the Niger-Congo family and Moru and Mangbetu in the Chari-

Nile branch of the Nilo-Saharan family. To these we can add other Niger-Congo and Nilo-Saharan languages, a number of New Guinea AN languages, and one heavily Austronesianized pidgin/creole, Tok Pisin.

What do all of these languages have in common? With the exception of Tok Pisin, they all appear to share a similar typological history in certain respects. The African languages appear to have undergone a word-order change from OV to VO, while the AN languages have gone from VO to OV. We have already examined relevant data from the AN languages. I would like now to present briefly some data which suggest that similar factors account for bracketed relatives in both the AN and the African languages in which they are found.

Niger-Congo languages exhibit considerable variation in word order. Givón (1975) and Hyman (1975) consider the ancestral word order to be SOV. However, even languages with fairly consistent OV typology place modifiers, including relative clauses, <u>after</u> their head nouns. (Ijo may be the only exception.) There is no good evidence that the placement of modifiers, even in SOV days, was anything but postnominal. Langdon (1977) has produced convincing evidence that postnominal modifiers are neither uncommon in SOV languages, nor inconsistent with that word order. But the combination of OV word order and postnominal clausal modifiers calls for the presence of NP-final markers to separate embedded predicates from matrix ones. There is ample evidence of NP-final determiners or class/concord affixes in Niger-Congo languages. Many languages have markers in relative-clause-initial position as well, usually a

IPA Kiel !

@ ā ; 0219 Ā
~ à ; 0217 À
! á ; 0218 Á
) ã ; 0224 Ã

demonstrative or some all-purpose subordinating conjunction. Examples follow.

GOLA (Westermann 1921)

(39a) o-ŋun-ɔ nà na dźe ɔ
sg-person-sg today T/A eat sg
'the person who will eat today'

(b) ma-sā-ma ńī-ma se nan yɛlɛ ma
pl-house-pl DEM-pl we T/A build pl
'the houses we built'

KPELLE (Welmers 1973)

(40a) ǹúu-i è wɛ́ɛ pà-ī è pà ŋɔ́nɔ́ sâa
person-the he yesterday came-the he came again today
'the person who came yesterday came again today'

(b) ɓɛ-i è lî nãa-i, ɓía máŋ ɓa pɔ̀ri lîi
place-the he went there-the you also you can go
'where he went, you can go too'

IDOMA (Abraham 1951)

(41a) ɔ̄-cɛ̨ noò wâ â o ge jìlà-ɔ̀
sg-person DEM come DEM he FUT visit-you
'the person who has come will visit you'

(b) ā-cɛ̀ na-àlɔ̀-ɔ hígwu m-mâ ùwa bo-Òtùkpo
pl-person DEM-we-NEG call NEG-DEM they at-O.
'the people who didn't call are at Oturkpo'

GÃ (Kotey 1969)

(42a) hìì òhá lɔ̀ ní là lɛ̀ ébà

men 100 DET CONJ sing DET have-come

'the hundred men who sang have come'

(b) àmóò ní Nìí dũ lɛ̀ ékwɛ̀

tomato CONJ N. plant DET has-sprouted

'the tomato which Nii planted has sprouted'

NGBAKA (Thomas 1963)

(43a) nɛ̀ ʔá wala mungó nɛ̀ ʔe ʔa-ko

DEM this-is wife-of M. DEM he T/A-said

mòmò nɛ̀ɛ

mouth DEM-QUES

'is that the wife of Mungo, who he has told us so much about?'

(b) gba^{n} lɔ́ ʔé nó^{n} 'bó lɔ́ nò^{n} mɔ pa

village DEM he go there DEM MOD faraway much

'the village he's going to is very far away'

Even in Bantu languages, which display consistent VO typology on the whole, there is tonological evidence that verbs in relative clauses were at one time suffixed with class/concord affixes (Meeussen 1971). This evidence consists in the suffixation onto the relativized verb of a floating tone which corresponds to the tone of the agreement prefix on that verb. Givón (1972) cites this as evidence that the head noun at one time followed the clause, and that the class/concord affix/pronoun was attracted to the position between the clause-final verb and the following head noun. However, there is no need to appeal

to Givón's "universal principle of pronoun attraction" (1972:190) if we assume that the suffixed pronoun originally served to mark the end of the NP containing the embedded verb at a time when Bantu had both OV word order and postposed modifiers. As we have already seen (in 4.3.3), in NGO languages which now have head nouns in postclausal position, the NP-final marker (of pronominal origin) remains in NP-final, not clause-final, position.

Both NGO and Niger-Congo languages thus seem to indicate that bracketed relative clauses originate when head noun plus relative clause order within the NP coincides with OV basic sentence order. The clause-initial bracket is consistent with head noun plus relative clause order; the final bracket arises from the conflict between verb-final order within the NP containing the relative clause and verb-final order in the matrix sentence.

Data from Nilo-Saharan languages also support this position. Ancestral word order for this family remains unreconstructed at present. However, Givón (1976) has argued for ancestral SOV order for Southern Nilotic languages, which form a subgroup of Nilo-Saharan; and typological variation within the family as a whole parallels that found in Niger-Congo languages. Many languages exhibit alternations between VO-type constructions and OV-type constructions, different word order correlating with distinctions such as intimate versus nonintimate possession or definite versus indefinite aspect (Tucker & Bryan 1966). And, not surprisingly under this analysis, bracketed relatives are quite common. They show up in Acholi (Grannis 1970),

Moru (Tucker & Bryan 1966, Hagège 1976), Mangbetu and Medje (Larochette 1958), and Sara and Bagirmi (Tucker & Bryan 1966). In addition, some languages, such as Lugbara (Crazzolara 1960), consistently mark the ends of their postnominal relative clauses with demonstrative-like elements.

It appears then that bracketed relatives, far from being universal, are instead unique to languages which tend to mark the ends rather than the beginnings of noun phrases, and yet place their relative clauses after, rather than before, their head nouns. Bracketed relatives are a product of the conflict between noun-modifier and noun-postposition typology. If the bracketed relatives in Tok Pisin are indeed parallel to those in AN and African languages, the parallelism is more than likely due to calquing on substrate AN languages, not to universal requirements of discourse.

4.4.3 On the origin(s) and function(s) of ia

There are reasons to doubt that the bracketing found in the AN languages of Morobe Province and that found in Tok Pisin as described by Sankoff and Brown are really parallel. The relative-clause-bracketing morphemes in the Morobe AN languages are, in most cases, clearly descended from demonstratives. It is not so clear that Tok Pisin ia is deictic in origin or function.

Sankoff and Brown assume that the ia they discuss is from only one source. "Etymologically, it is derived from English here (Mihalic 1971:98), and the sources spell it hia" (Sankoff & Brown 1976:638). They mention but exclude from discussion a homophonous particle which

is not provided with an etymology in Mihalic's (1971) standard reference work. Mihalic spells this particle ya and defines it as "an exclamatory particle at the end of a sentence or expression" (1971:206). His example is:

(44) Man Goroka i ples kol ya!
'Golly, Goroka is a cold place!'

Sankoff and Brown's examples of this other ia are (1976:639, fn. 13):

(45a) Ya, Susanna, yu no kaikai ia!
'Hey, Susanna, you didn't eat anything at all!'
(b) Nogat ia!
'No sir!'

The spelling of the morpheme(s) under consideration is a problem. In almost all cases, actual pronunciation would dictate the choice of ya for both deictic and exclamatory particle. In some of the early recorded examples of Tok Pisin, however, the spelling hir appears for what seems to be the same morpheme(s) (see Hall 1943). This spelling rests on an assumption about etymology that has been often repeated but never adequately justified. Sankoff and Brown (1976:662) are able to cite only one example from the early literature in which the putative antecedent of Tok Pisin ia indisputably resembles English here. Their example comes from Churchill (1911:43), whose source, in turn, was Stephan and Graebner (1907:10).[3] Though Stephan and Graebner appear to be careful observers, it is uncertain from their account whether they heard this example from an authentic pidgin

speaker or from another European who was repeating the story in which the utterance occurred. The example follows.

(46) Here no kaikai

'There is no food here'

Later, when Tok Pisin was more extensively recorded and codified, the spelling was naturalized somewhat to hia (see Dutton 1973, Laycock 1970, Mihalic 1971, Wurm 1971). The following examples are from Dutton (1973:89-90).

(47a) Oloboi, yu man bilong giaman hia

'Boy what a liar you are'

(b) Nogat hia

'Come off it'

He comments that "in these circumstances hia loses much of its demonstrative force and is rather meaningless" (1973:90). He thus considers (Mihalic's) deictic hia and (Mihalic's) exclamatory ya to be different manifestations of the same morpheme.

The next stage in this orthographic evolution is attested in Sankoff and Brown's (1976) work. They consistently write ia for both the deictic and the exclamatory particle(s), which they consider to be two separate morphemes. They acknowledge that their own data "show very little use of ia as an adverb of place" (1976:639). In the only unambiguous exception they cite, long ia 'at here', ia is almost certainly pronounced closer to ['ia] than to [ja], and the phrase

sounds quite Anglicized to me and to other speakers of Tok Pisin I have queried.

The most recent spelling of the morpheme(s) under discussion appears in Siegel's (1981) discussion of developments in written Tok Pisin. Siegel writes ya for both the deictic and the exclamatory particle and considers both uses to be different functions of the same morpheme.

Most of the examples cited so far in this section are not the kinds usually cited in support of the standard etymology. Instead, the examples used are ones in which ia is appended to a locative expression or to an expression already containing a deictic element such as dispela or (especially stressed) em. The following examples are cited by Sankoff and Brown. The first is intended to illustrate the use of ia as an adverb of place, the next two its use as a demonstrative.

(48a) Yu stap hia
'Stay here' (Mihalic 1971:98)

(b) Em hia
'This one here' (Mihalic 1971:98)

(c) Tispela haus hia
'This house' (Wurm 1971:12)

In these examples, two pronunciations of the element in question are possible. The pronunciation ['ia] sounds quite Anglicized, while [ja] sounds more natural but has different semantics. ['ia] means 'here', but [ja] might do no more than imply that some place or thing

(or occurrence in other contexts) should be obvious--at least potentially--to the addressee. Perhaps the immediate neighborhood of the speech act is the unmarked, most obvious location. Thus, ia postposed to an expression implying a location could be assigned the meaning 'here', and ia after a noun may carry much the same force as a demonstrative or definite article. Sankoff & Brown (1976:641-642, fn. 16) cite Wurm (1971:12), who makes just this point.

> Hia and lohap [from long hap 'at place'] . . . are also used alone after nouns. . . . This is done when the object referred to has been mentioned before, or the person spoken to is familiar with it, or no doubt is expected to arise over what it is. The use of these postposed demonstratives carries the connotation of stressing the obvious, and the purely demonstrative function is sometimes quite weak, e.g. mi hanggiri long mit hia: I am hungry for tinned meat (i.e. it should be obvious that I do not hunger for sweet potatoes).

They also cite Rickford (1973:3), who makes the opposite claim:

> Ia seems to be used in just those cases where doubt or confusion might arise as to who or what is being talked about, rather than the other way around.

Sankoff and Brown conclude:

> Our view is that ia is used in both of these apparently disparate ways--and that they are not in fact so very disparate.

Surely, stressing the obvious and stressing that which one would like to think obvious, but which may not be obvious to all, are very similar usages (as the use of surely in this sentence is intended to illustrate). Certainly, the notion of obviousness is one of the major factors distinguishing a simple "no" (Tok Pisin nogat) from a reply like "Come off it," Dutton's (1973:89) nice translation of nogat hia in a sample dialog in his textbook of Tok Pisin. English glosses like

'indeed, surely, of course' or 'you know' ~ 'you know?' seem to capture some of the sense of the full range of ia's usage, except for that of Anglicized hia. A 'you know' ~ 'you know?'-type meaning for ia is quite consistent with Sankoff and Brown's characterization of its role in Tok Pisin relativization (see 4.4.1).

Ia can be tagged on the end of head nouns and of various sorts of parenthetical expressions (including full-fledged relative clauses) that follow head nouns. But it can also be tagged on the end of other constituents that are not parenthetical (or embedded). In all environments, it can take either rising (interrogative) or falling (declarative or imperative) intonation. These two features--distribution and intonation--make ia seem more like a tag particle than a deictic in origin. Its source could just as well be English yeah or German ja (or both) as English here. The full range of ia might even involve both kinds of sources. In any case, the etymology of ia is certainly more complicated than Sankoff and Brown suggest.

4.4.4 Conclusion

At first glance, Sankoff and Brown's study of relative clauses in Tok Pisin appears to hold some promise. If the bracketing of relative clauses with ia in Tok Pisin can be explained by means of universal requirements of discourse, perhaps the bracketing of relative clauses that exists in some NGO languages can be similarly explained. Closer examination, however, reveals serious flaws in Sankoff and Brown's analysis as well as poor parallelism between the bracketed relatives in Tok Pisin and bracketed relatives in the NGO languages.

The discourse requirements Sankoff and Brown appeal to are presumably universal. They claim (1976:631) that "syntactic structure, in this case, can be understood as a component of, and derivable from, discourse structure." Why, then, do no other pidgins or creoles resemble Tok Pisin in this respect (Derek Bickerton, p.c.)? The bracketing of relative clauses with deictics, far from being universal, appears limited to languages which tend to mark the ends, rather than the beginnings, of noun phrases, yet place relative clauses after, rather than before, head nouns.

Sankoff and Brown assume that _ia_ is fundamentally deictic in origin and function. The derivation of relative-clause-bracketing particles from deictics is well supported in several NGO languages of Morobe Province, including those Sankoff was familiar with (see Sankoff 1968). Sankoff may have been misled by her knowledge of Buang and other Morobe languages with bracketed relatives (see 4.3.1) into stretching the parallels too far. The derivation of _ia_, with its many uses, from English _here_ does not rest on solid evidence. Nor does the assumption that relative-clause-bracketing _ia_ can somehow be considered separately from sentence-final "exclamatory" or "emphatic" _ia_. The latter use of _ia_ does not very easily derive from English _here_. In fact, if the full range of _ia_ is considered, the particle seems just as likely to derive from English _yeah_ and/or German _ja_ used as tag questions or tag emphatics.

If _ia_ can be considered a tag particle or "acknowledgment marker" (Jeanette Gundel, p.c.), then the kind of bracketing Sankoff and Brown

describe may be universal after all. It does not seem unusual for speakers of many languages to insert acknowledgment markers, such as English you know (with or without rising intonation), after every piece of a referring expression (Jeanette Gundel, p.c.). In a language with N + RC order, one marker might come after the head noun and a second after the clause. Much of what Sankoff and Brown say about the role of ia in Tok Pisin relatives fits equally well with an analysis under which ia is considered an acknowledgment marker rather than a deictic.

However, if the bracketed relatives Sankoff and Brown describe are universal in this sense, they are not parallel to the bracketed relatives in the Morobe AN languages. Moreover, the etymological development Sankoff and Brown propose becomes irrelevant. As far as I know, none of the relative-clause-bracketing particles in Morobe AN languages can take rising intonation, as Tok Pisin ia can. The clause-initial markers in Morobe AN languages can usually be traced to WH-forms, demonstratives, or complementizers; while the clause-final markers can be traced to resumptive demonstratives or pronouns.

In short, if the use of ia in Sankoff and Brown's Tok Pisin data is based on universal discourse requirements, then relative-clause bracketing in Tok Pisin and relative-clause bracketing in Morobe AN languages are not parallel in function and did not originate in the same way. On the other hand, any argument that there are valid parallels between Tok Pisin ia and the markers which bracket relative clauses in Morobe AN languages would strengthen the case that those parallels are not due to universal requirements of discourse but to

calquing by Tok Pisin speakers on patterns resulting from nonuniversal typological developments in substrate AN languages.

NOTES TO CHAPTER IV

1. Relative-clause-final demonstratives occur in Kosraean (aka Kusaiean) and, to some extent, in Mokilese (Sohn 1973:380, 389). Both are Micronesian languages. I know of no other extra-New Guinea AN languages with clause-final relative markers.
2. Wivell does not say whether other elements, demonstratives for instance, can play a role similar to that of the phrase summary in NPs referring to nonhumans (or non-higher animals).
3. Sankoff and Brown (1976:662) mistakenly attribute Churchill's example to Seligmann (1910). They apparently failed to check the original source to ascertain the reliability of their sole example.

CHAPTER V

CONCLUSION

This dissertation has examined basic word order typology in NGO languages. It has focused on a limited number of word order traits which are (1) clearly innovative and attributable to the influence of Papuan languages; and (2) sufficiently well attested in the available data that we can be sure they are widely distributed.

Three broad areas have been covered: verbs (Chapter 2); genitives (Chapter 3); and adjectives and other nominal modifiers (Chapter 4). Adpositions (prepositions and postpositions) have not been dealt with separately. However, certain kinds of innovative postpositions were discussed in connection with genitives (see 3.3 and 3.4) and relative clauses (see 4.3).

This study has proposed that the move toward OV word order underlies and unites such well-known characteristics of NGO languages as the classificatory prefixes on verbs (2.2), the preposed genitives (3.1), and the use of "possessive" suffixes on adjectives to show agreement with head nouns (3.4). It has proposed that the same move toward OV typology underlies several lesser-known traits of NGO languages: the presence of serial and phrasal causatives in some languages (2.2.1), the decline of the inherited morphological causative (2.4.1), the tendency to mark final position in NPs

containing modifiers (3.3, 3.4, 4.1, 4.2, 4.3), the presence of relative clauses marked at both ends in Morobe Province languages (4.3.1), and the retention of both head nouns and embedded coreferent NPs in relative-clause constructions in Central Province languages (4.3.3).

The innovations discussed in this work may shed some light on the grammatical history of a typologically deviant group of languages within the AN language family. However, none of the innovations provides a firm basis for grouping all of these distinctive languages into a single genetic unit. Instead, the kinds of changes that have occurred suggest that AN languages in many parts of the New Guinea mainland adapted in similar ways to the OV typology of the non-AN languages they encountered there.

Most studies of word order change have concentrated on changes within one linguistic tradition. They have aimed to discover universal structural, semantic, or pragmatic factors which might induce a language or group of languages to undergo word order change or which might provide mechanisms by which change takes place. This study focuses on changes brought about by contact between two very different linguistic traditions. The inducement to change requires no language-internal explanation. It requires a sociolinguistic or psycholinguistic one. At this point, we can only speculate that the changes were induced by multilingual speakers attempting to mitigate the grammatical differences between their own language(s) and their neighbors' language(s), perhaps aiming to achieve a more economical

cognitive represenation of the languages in their repertoire. But, even if the targets of change were fairly clear, by what mechanisms were the changes accomplished? This investigation suggests a few tentative answers.

Preposed elements: The actual process by which genitive nouns and focal pronouns were initially preposed was not dealt with in the discussion of genitives in Chapter 3. However, we can speculate that preposed genitive nouns were probably acquired initially by means of topicalization or foregrounding, as in the following Numbami example:

(1) kundu, ena lau wa kapole, ena wambala
sago GENsg leaf and leafstalk GENsg cargo
tiyama-ma, nomba sesemi. sese ena bolo lua.
all-adv thing one&same but GENsg skin two
'Sago, its leaf and leafstalk, all its content is the same; but its bark is of two kinds.'

The preposed (initially foregrounded) variant of the genitive apparently became the standard pattern in the AN languages since it was the standard pattern in the neighboring non-AN languages.

Postposed elements: The data examined in this study suggest that speakers of AN languages adopted two mechanisms for acquiring postposed elements:

(1) The functions of grammatical elements already in final position were reinterpreted. Thus, possessive suffixes on NP-final possessed nouns were apparently reinterpreted as markers of NP-final position. They then began to appear in NPs containing other sorts of

modifiers besides preposed genitives. The same mechanism has produced locative or all-purpose postpositions such as Gedaged -lon and Manam -lo, both of which appear to have originated as possessed nouns meaning 'inside'.

(2) Extra elements were added in target locations. Constructions containing these extra elements eventually set the dominant pattern as more and more grammatical responsibility shifted onto the element in the innovative location. This mechanism produced the locative postposition reconstructible as *(g)i-ai 'at there (previously mentioned)' found in so many NGO languages. It also produced the serial causative reconstructible for most NGO languages; the resumptive pronouns and demonstratives which mark the ends of relative clauses in many languages; and the relative-clause-final head nouns in Central Province languages.

None of these mechanisms initially produced structures totally foreign to the source languages. Instead, they yielded structures compatible with the patterns of the source (AN) languages but which at the same time approximated the patterns of the target (non-AN) languages. Eventually, however, the accumulated effects of these relatively moderate innovations produced radical structural changes. The initial move in this radical direction relied crucially on the ability of speakers and listeners not only to tolerate, but to put to use, the potential for redundancy and structural ambiguity inherent in any human language.

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