

Chapter 9

Pronominal prefixes with verbs

9.1 General.

The term pronominal prefix designates a class of prefixes (many of which can be decomposed into two or more component morphemes in a phonologically abstract analysis) which are used with verbs, and with NAdj (adjectival nouns, §4.2) when they are in predicative form.

The pronominal prefix may be intransitive (marking pronominal subject only), or transitive (marking subject and object). For simple transitives like 'to see' and 'to hit', the object marked in the pronominal prefix is the direct object (patient). However, if a transitive pronominal prefix is followed by Benefactive derivational prefix /-aG-/, the object marked in the pronominal prefix is an indirect object. For a few verbs like 'to give', where an indirect object is part of the minimal case frame, the object marked in the prefix is always the indirect object and Benefactive /-aG-/ is not used.

Pronominal prefixes are formally distinct from all other prefix classes in the language. There are some formal resemblances between the intransitive pronominal prefixes and some NC (noun class) prefix series (see Table 4-1, Chapter 4), but the correspondences are far from exact. For example, it is easy to tell when a NAdj like /run^{egal}/ 'big' is in nominal surface status and when it is in predicative form with intransitive pronominal prefix: /ana-run^{egal}/ 'the big one[ANA]', /wu=run^{egal}/ 'it[ANA] is big'. Transitive pronominal prefixes have no parallels whatever elsewhere in the language.

Depending on whether we are concerned with the pronominal element as a whole or with its internal structure, we will speak of it as a prefix (singular!) or as a sequence of component morphemes.

The following pages contain elaborate tables showing all intransitive (Table 9-1) and transitive (Tables 9-2 to 9-15) prefixes. Readers interested only in identifying prefixes in textual passages may wish to use these tables but to skip the formal analysis implied by the "underlying" representations in double slashes //...// in the tables, and discussed in the rest of this chapter.

TABLE 9-1

Intransitive Prefixes

1Sg _a	n ^g a-	//n ^g a-// 3.7.3; ANA∅ 162.3.1
1Sg _b	n ^g an-	//n ^g a-w ₂ an-// 7.18.2; ANA∅ 143.10.5
1ExMDu _a	ni:ni-	//nV:-ni-// 163.11.5; ANA∅ 121.3.4
1ExMDu _b	na:ni-	//nV:-w ₂ an-ni-// 164.2.5; ANA∅ 121.3.5
1ExFDu _a	ni:n ^g i-	//nV:-n ^g i-//
1ExFDu _b	na:n ^g i-	//nV:-w ₂ an-n ^g i-// 17.14.6
1ExPl _a	nuru-	//nV:-ru-// 162.2.1; ANA∅ 163.19.5
1ExPl _b	na:mbu-	//nV:-w ₂ an-w ₂ u-// 163.6.2; ANA∅ 163.2.3
1InDu _a	na-	//na-//
1InDu _b	nan-	//na-w ₂ an-// 10.3.3
1InMTr _a	n ^g i:ni-	//n ^g V:-ni-//
1InMTr _b	n ^g a:ni-	//n ^g V:-w ₂ an-ni-//
1InFTr _a	n ^g i:n ^g i-	//n ^g V:-n ^g i-//
1InFTr _b	n ^g a:n ^g i-	//n ^g V:-w ₂ an-n ^g i-//
1InPl _a	n ^g uru-	//n ^g V:-ru-// 7.9.2
1InPl _b	n ^g a:mbu-	//n ^g V:-w ₂ an-w ₂ u-// 7.9.1; ANA∅ 119.8.3
2Sg _a	nun-	//nun-// 13.38.3; ANA∅ 16.16.2
2Sg _b	ba-	//ba-// 3.8.1
2MDu _a	ni:ni-	//na-w ₂ V-ni-// 20.11.5; ANA∅ 65.5.2
2MDu _b	nimbini-	//na-w ₂ an-w ₂ V-ni-// 20.9.4
2FDu _a	ni:n ^g i-	//na-w ₂ V-n ^g i-// 12.6.1
2FDu _b	nimbin ^g i-	//na-w ₂ an-w ₂ V-n ^g i-// 12.1.4
2Pl _a	nuru-	//na-w ₂ V-ru-// 18.12.3
2Pl _b	numburu-	//na-w ₂ an-w ₂ V-ru-// 162.4.1
3MSG/NA _a	ni-	//ni-// 1.3.3; ANA∅ 162.5.3
3MSG/NA _b	(w)ani-	//w ₂ an-ni-// 7.21.5
3FSG/N ^g ARA _a	n ^g i-	//n ^g i-// 1.2.2; ANA∅ 14.2.1
3FSG/N ^g ARA _b	(w)an ^g i-	//w ₂ an-n ^g i-// 7.6.3
3MDu _a	wini-	//w ₂ V-ni-// 1.1.1; ANA∅ 162.5.4
3MDu _b	(w)ambini-	//w ₂ an-w ₂ V-ni-//
3FDu _a	win ^g i-	//w ₂ V-n ^g i-// 3.7.2; ANA∅ MT 26
3FDu _b	(w)ambin ^g i-	//w ₂ an-w ₂ V-n ^g i-//
3Pl/WARA _a	wuru-	//w ₂ V-ru-// 4.5.4; ANA∅ 9.8.4
3Pl/WARA _b	(w)amburu-	//w ₂ an-w ₂ V-ru-// 164.3.1; ANA∅ 166.10.4
ANA _a	wu-	//w ₁ u-// 1.1.5
ANA _b	(w)an ^g gu-	//w ₂ an-w ₁ u-// 4.7.3
MANA _a	ma-	//ma-// 1.1.2
MANA _b	(w)ama-	//w ₂ an-ma-// 162.6.1

Note: Except for ANA and MANA forms, these prefixes are also used for transitive —→ANA∅; cf. Table 9-13.

TABLE 9-2

1→2 and 2→1 Prefixes

[all equipollent]

1→2Sg _a	n ^g unu-	//n ^g a-nu-//	38.1.1
1→2Sg _b	(w)a-	//w ₂ a-//	MT 9, 10, 22; TNT 33
1→2Pl _a	n ^g ana-	//n ^g a-na-//	17.12.5, 47.16.2, 65.13.5
1→2Pl _b	(n ^g)anamba-	[unclear]	13.31.2, 16.1.1, 17.12.4/5
2Sg→1 _{ab}	{numba-	[unclear]	5.15.6[_b], 7.12.1[_a]
	{nimba-	[unclear]	11.4.3[_b]
2Pl→1 _{ab}	n ^g iri-	[unclear]	5.17.1[_b], MT 5[_a]

Note: "1" subsumes 1Sg, 1ExDu, and 1ExPl (1st inclusive cannot co-occur with 2nd person). Several of the forms shown are opaque or ambiguous in structure; see discussion.

TABLE 9-3

1Sg Object Prefixes

[inverse]

3MSg/NA→1Sg _a	n ^g ani-	//n ^g a-N-ni-//	163.1.2[MSg], 102.1.5[NA]
3MSg/NA→1Sg _b	n ^g ambani-	//n ^g a-N-w ₂ an-ni-//	
3FSg/N ^g ARA→1Sg _a	n ^g an ^g i-	//n ^g a-N-n ^g i-//	
3FSg/N ^g ARA→1Sg _b	n ^g amban ^g i-	//n ^g a-N-w ₂ an-n ^g i-//	
3Pl/WARA→1Sg _a	n ^g ambi-	//n ^g a-N-w ₂ i-//	7.11.2
3Pl/WARA→1Sg _b	n ^g ambambi-	//n ^g a-N-w ₂ an-w ₂ i-//	7.18.5
ANA→1Sg _a	n ^g an ^g gu-	//n ^g a-N-w ₁ u-//	10.11.3
ANA→1Sg _b	n ^g amban ^g gu-	//n ^g a-N-w ₂ an-w ₁ u-//	7.16.6
MANA→1Sg _a	n ^g ama-	//n ^g a-N-ma-//	
MANA→1Sg _b	n ^g ambama-	//n ^g a-N-w ₂ an-ma-//	

The tables also show, to the right, textual citations for the prefix forms, preferably from NMET but sometimes from Hughes' volumes (TNT, MT). Usually just one citation is given, but for a few irregular prefixes we give more than one, and in some cases where the prefix has a range of pronominal possibilities (due to idiosyncratic categorial mergers) we may give one attestation of each major function. In Table 9-1, for example, we try to show exx. both of the intransitive function and of the transitive function with ANA_o object.

Although we point out textual citations where available, the paradigms have been put together primarily by direct elicitation and observation of (unrecorded) speech. The forms have in almost all cases been rechecked and confirmed many times.

Glosses like '1Sg→MANA_a' show subject to the left and object to the right of the arrow. Final subscripts _a and _b refer to the two series of pronominal prefixes (cf. §8.2 and Table 8-3).

TABLE 9-4

lExPl Object Prefixes

[inverse]

3MSg/NA → lExPl _a	nani-	//nV-N-ni-//	163.1.3
3MSg/NA → lExPl _b	nambani-	//nV-N-w ₂ an-ni-//	164.2.2
3FSg/N ^g ARA → lExPl _a	nan ^g i-	//nV-N-n ^g i-//	62.1.7
3FSg/N ^g ARA → lExPl _b	namban ^g i-	//nV-N-w ₂ an-n ^g i-//	62.1.8
3Pl/WARA → lExPl _a	nambi-	//nV-N-w ₂ i-//	166.6.1
3Pl/WARA → lExPl _b	nambambi-	//nV-N-w ₂ an-w ₂ i-//	165.1.2
ANA → lExPl _a	nan ^g gu-	//nV-N-w ₁ u-//	163.23.5
ANA → lExPl _b	namban ^g gu-	//nV-N-w ₂ an-w ₁ u-//	
MANA → lExPl _a	nama-	//nV-N-ma-//	167.21.1
MANA → lExPl _b	nambama-	//nV-N-w ₂ an-ma-//	164.2.3

Note: lExPl here includes lExDu.

TABLE 9-5

lInDu Object Prefixes

[inverse]

3MSg/NA → lInDu _a	nani-	//na-N-ni-//	
3MSg/NA → lInDu _b	nambani-	//na-N-w ₂ an-ni-//	22.1.6
3FSg/N ^g ARA → lInDu _a	nan ^g i-	//na-N-n ^g i-//	
3FSg/N ^g ARA → lInDu _b	namban ^g i-	//na-N-w ₂ an-n ^g i-//	
3Pl/WARA → lInDu _a	nambi-	//na-N-w ₂ i-//	
3Pl/WARA → lInDu _b	nambambi-	//na-N-w ₂ an-w ₂ i-//	
ANA → lInDu _a	nan ^g gu-	//na-N-w ₁ u-//	13.25.2
ANA → lInDu _b	namban ^g gu-	//na-N-w ₂ an-w ₁ u-//	
MANA → lInDu _a	nama-	//na-N-ma-//	13.12.3
MANA → lInDu _b	nambama-	//na-N-w ₂ an-ma-//	13.11.4

9.2 Additional phonological modifications.

The forms of pronominal prefixes shown in the tables (9-1 to 9-15) are what we might call the basic forms. The forms shown are always possible, and in most cases obligatory, when the following morpheme begins with a consonant. However, if that morpheme begins with a vowel, there is always a further phonological change, usually VV-Contraction P-49, but Pronominal d-Insertion P-20 in case the prefix' underlying form ends in /n/. There are also some other relevant rules, and it is useful to mention all of them to enable readers to analyse actual textual forms using our tables.

By far the most common such rule is VV-Contraction P-49, since almost all of the pronominal prefixes end in a (short) vowel and

TABLE 9-6

1InPl Object Prefixes

[inverse]

3MSg/NA → 1InPl _a	{ n ^g arani-	//n ^g V: -rV-N-ni-//	TNT 21
	{ n ^g a:ni-	"	34.8.2
3MSg/NA → 1InPl _b	n ^g a:mbani-	//n ^g V: -N-w ₂ an-ni-//	
3FSg/N ^g ARA → 1InPl _a	{ n ^g aran ^g i-	//n ^g V: -rV-N-n ^g i-//	42.6.4
	{ n ^g a:n ^g i-	"	
3FSg/N ^g ARA → 1InPl _b	n ^g a:mban ^g i-	//n ^g V: -N-w ₂ an-n ^g i-//	
3Pl/WARA → 1InPl _a	{ n ^g arambi-	//n ^g V: -rV-N-w ₂ i-//	15.13.2
	{ n ^g a:mbi- (?)	"	
3Pl/WARA → 1InPl _b	n ^g a:mbambi-	//n ^g V: -N-w ₂ an-w ₂ i-//	
ANA → 1InPl _a	{ n ^g aran ^g gu-	//n ^g V: -rV-N-w ₁ u-//	TNT 15
	{ n ^g a:n ^g gu- (?)	"	
ANA → 1InPl _b	n ^g a:mban ^g gu-	//n ^g V: -N-w ₂ an-w ₁ u-//	
MANA → 1InPl _a	{ n ^g arama-	//n ^g V: -rV-N-ma-//	
	{ n ^g a:ma- (?)	"	
MANA → 1InPl _b	n ^g a:mbama-	//n ^g V: -N-w ₂ an-ma-//	

Notes: 1InPl here includes 1InTr; variants followed by a query were not recorded but may have been overlooked.

TABLE 9-7

2Sg Object Prefixes

[inverse]

3MSg/NA → 2Sg _a	nini-	//nu-N-ni-//	69.3.2
3MSg/NA → 2Sg _b	ani-	//a-N-ni-//	
3FSg/N ^g ARA → 2Sg _a	nin ^g i-	//nu-N-n ^g i-//	
3FSg/N ^g ARA → 2Sg _b	an ^g i-	//a-N-n ^g i-//	
3Pl/WARA → 2Sg _a	nimbi-	//nu-N-w ₂ i-//	69.16.4
3Pl/WARA → 2Pl _b	ambi-	//a-N-w ₂ i-//	
ANA → 2Sg _a	nun ^g gu-	//nu-N-w ₁ u-//	16.20.4
ANA → 2Sg _b	an ^g gu-	//a-N-w ₁ u-//	
MANA → 2Sg _a	numa-	//nu-N-ma-//	
MANA → 2Sg _b	ama-	//a-N-ma-//	

since many verbs begin in a vowel. There are also some important derivational prefixes, such as Comitative /-an^vji-/ and Benefactive /-aG-/, which begin in a vowel (and may directly follow the prefix). In NMET and this grammar, the symbol ' indicates the absorption of a morpheme-initial vowel by VV-Contraction P-49, as in /wa:='bi-n^v/ 'it jumped' from //w₁u=abi-n^v//.

P-49 has a number of specialised subrules, some applicable only in morphological contexts not relevant to the analysis of

TABLE 9-8
2Pl Object Prefixes

[inverse]

3MS _g /NA → 2Pl _a	nani-	//na-N-ni-//	
3MS _g /NA → 2Pl _b	nambani-	//na-N-w ₂ an-ni-//	
3FS _g /N ^g ARA → 2Pl _a	nan ^g i-	//na-N-n ^g i-//	
3FS _g /N ^g ARA → 2Pl _b	namban ^g i-	//na-N-w ₂ an-n ^g i-//	
3Pl/WARA → 2Pl _a	nambi-	//na-N-w ₂ i-//	
3Pl/WARA → 2Pl _b	nambambi-	//na-N-w ₂ an-w ₂ i-//	17.12.3
ANA → 2Pl _a	nan ^g gu-	//na-N-w ₁ u-//	
ANA → 2Pl _b	namban ^g gu-	//na-N-w ₂ an-w ₁ u-//	
MANA → 2Pl _a	nama-	//na-N-ma-//	
MANA → 2Pl _b	nambama-	//na-N-w ₂ an-ma-//	

Note: 2Pl includes 2Du.

pronominal prefixes. The regular parts of P-49 which do apply to the boundary between pronominal prefix and following morpheme are:

$\left. \begin{array}{l} //i-a// \\ //i-i// \\ //a-i// \\ //i-u// \end{array} \right\} \rightarrow /i:-'/$

//u-i// → /i:-'/ or /u:-'/ (see §3.50 for details)

$\left. \begin{array}{l} //a-u// \\ //u-u// \end{array} \right\} \rightarrow /u:-'/$

$\left. \begin{array}{l} //u-a// \\ //a-a// \end{array} \right\} \rightarrow /a:-'/$

These formulae can be used, working backwards, to narrow down the set of possible prefix-final underlying vowels (and also the set of possible morpheme-initial underlying vowels). Remember that ' after the boundary is the signal that P-49 has applied. If the second morpheme is represented solely as /-'/ or /-'=/, it is usually Benefactive //aG-// (or the less common compound initial //aG-// or //-a-// 'ground'). If the second morpheme is written as /='-, it is either from //u-// (a form of /w₂u-/ 'to hit, kill') or from //i-// or //u-// (forms of /yi-/ 'to give'). Note that = is used for the boundary just before the verb root.

In a surface form like /wa:=na-yi:/ 'They see them', the long /a:/ is not due to P-49 since there is no ' after the boundary. Since there are no pronominal prefixes whose basic form ends in a long vowel, the only remaining possibility is that rV-Truncation P-36 has applied, converting //...V₁rV₁-// to /...V₁:-/ at the end of the pronominal prefix. Ordinarily this can only apply before a consonant (across the boundary), so confusion with P-49 is not possible. In the case of /wa:=na-yi:/, then, we take the prefix as /wara-/ (see Table 9-9), optionally truncated to /wa:-/.

TABLE 9-9

3Pl/WARA Object Prefixes

[inverse]

3MSg/NA → 3Pl/WARA _a	wani-	//w ₂ V-N-ni-//	1.10.4
3MSg/NA → 3Pl/WARA _b	(w)ambani-	//w ₂ an-w ₂ V-N-ni-//	12.7.2
3FSg/N ^g ARA → 3Pl/WARA _a	wan ^g i-	//w ₂ V-N-n ^g i-//	1.2.6
3FSg/N ^g ARA → 3Pl/WARA _b	(w)amban ^g i-	//w ₂ an-w ₂ V-N-n ^g i-//	
3MDu → 3Pl/WARA _a	wa:ni-	//w ₂ V-w ₂ V-N-ni-//	17.8.8
3MDu → 3Pl/WARA _b	(w)amba:ni-	//w ₂ an-w ₂ V-w ₂ V-N-ni-//	
3FDu → 3Pl/WARA _a	wa:n ^g i-	//w ₂ V-w ₂ V-N-n ^g i-//	MT 26
3FDu → 3Pl/WARA _b	(w)amba:n ^g i-	//w ₂ an-w ₂ V-w ₂ V-N-n ^g i-//	
1ExMDu → 3Pl/WARA _a	na:ni-	//nV:-w ₂ V-N-ni-//	
1ExMDu → 3Pl/WARA _b	na:mbani-	//nV:-w ₂ an-w ₂ V-N-ni-//	
1ExFDu → 3Pl/WARA _a	na:n ^g i-	//nV:-w ₂ V-N-n ^g i-//	
1ExFDu → 3Pl/WARA _b	na:mban ^g i-	//nV:-w ₂ an-w ₂ V-N-n ^g i-//	
1InMTr → 3Pl/WARA _a	n ^g a:ni-	//n ^g V:-w ₂ V-N-ni-//	
1InMTr → 3Pl/WARA _b	n ^g a:mbani-	//n ^g V:-w ₂ an-w ₂ V-N-ni-//	
1InFTr → 3Pl/WARA _a	n ^g a:n ^g i-	//n ^g V:-w ₂ V-N-n ^g i-//	
1InFTr → 3Pl/WARA _b	n ^g a:mban ^g i-	//n ^g V:-w ₂ an-w ₂ V-N-n ^g i-//	
2MDu → 3Pl/WARA _a	na:ni-	//na-w ₂ V-w ₂ V-N-ni-//	
2MDu → 3Pl/WARA _b	namba:ni-	//na-w ₂ an-w ₂ V-w ₂ V-N-ni-//	65.13.3
2FDu → 3Pl/WARA _a	na:n ^g i-	//na-w ₂ V-w ₂ V-N-n ^g i-//	
2FDu → 3Pl/WARA _b	namba:n ^g i-	//na-w ₂ an-w ₂ V-w ₂ V-N-n ^g i-//	
3MDu → 3Pl/WARA _a	wa:ni-	//w ₂ V-w ₂ V-N-ni-//	20.4.4
3MDu → 3Pl/WARA _b	(w)amba:ni-	//w ₂ an-w ₂ V-w ₂ V-N-ni-//	
3FDu → 3Pl/WARA _a	wa:n ^g i-	//w ₂ V-w ₂ V-N-n ^g i-//	11.1.2
3FDu → 3Pl/WARA _b	(w)amba:n ^g i-	//w ₂ an-w ₂ V-w ₂ V-N-n ^g i-//	
ANA → 3Pl/WARA _a	wan ^g gu-	//w ₂ V-N-w ₁ u-//	16.22.2
ANA → 3Pl/WARA _b	(w)amban ^g gu-	//w ₂ an-w ₂ V-N-w ₁ u-//	120.3.4
MANA → 3Pl/WARA _a	wama-	//w ₂ V-N-ma-//	11.9.2
MANA → 3Pl/WARA _b	(w)ambama-	//w ₂ an-w ₂ V-N-ma-//	120.6.1

[equipollent]

3Pl/WARA → 3Pl/WARA _a	wara-	//w ₂ V-w ₂ V-ra-//	2.1.2
3Pl/WARA → 3Pl/WARA _b	(w)ambara-	//w ₂ an-w ₂ V-w ₂ V-ra-//	47.12.2

[direct]

1Sg → 3Pl/WARA _a	n ^g ara-	//n ^g a-w ₂ V-ra-//	15.13.1
1Sg → 3Pl/WARA _b	n ^g amba-	//n ^g a-w ₂ an-w ₂ a-//	27.1.2
1ExPl → 3Pl/WARA _a	nara-	//nV:-w ₂ V-ra-//	7.14.6
1ExPl → 3Pl/WARA _b	na:mba-	//nV:-w ₂ an-w ₂ a-//	67.3.3
1InDu → 3Pl/WARA _a	nara-	//na-w ₂ V-ra-//	
1InDu → 3Pl/WARA _b	namba-	//na-w ₂ an-w ₂ a-//	

[continued next p.]

(Table 9-9, cont.)

1InPl → 3Pl/WARA _a	n ^g ara-	//n ^g V:-w ₂ V-ra-//	18.5.2
1InPl → 3Pl/WARA _b	n ^g a:mba-	//n ^g V:-w ₂ an-w ₂ a-//	3.8.2
2Sg → 3Pl/WARA _a	bara-	//ba-w ₂ V-ra-//	3.7.4
2Sg → 3Pl/WARA _b	bamba-	//ba-w ₂ an-w ₂ a-//	4.2.4
2Pl → 3Pl/WARA _a	nara-	//na-w ₂ V-w ₂ V-ra-//	
2Pl → 3Pl/WARA _b	nambara-	//na-w ₂ an-w ₂ V-w ₂ V-ra-//	40.9.2

Note: 3Pl (as object category) here subsumes 3Du. For WARA → WARA_{ab} it is possible to substitute /ø-/ prefix as with other transitive nonhuman prefixes.

In rapid speech, phonologically irregular contractions involving a pronominal prefix whose basic form ends in /...rV-/ and a following morpheme beginning in a vowel may occur. Thus /wura:= 'dadi-n^y/ 'They [or it, WARA class] went up on shore' is sometimes heard as /wa:= 'dadi-n^y/, and can thus be confused with 'It[ANA] went up on shore', as in 26.2.2 (cf. also 'it twitched legs' 25.1.2). Although such forms are avoided in careful speech, they suggest that the rV-Contraction surface variants like 3Pl/WARA_a /wu:-/ from /wuru-/ and 3Pl/WARA → 3Pl/WARA_a /wa:-/ from /wara-/ may be in the process of extending their distribution and becoming context-independent (not just preconsonantal) variants of the prefixes.

While virtually all pronominal prefixes end in a vowel (in their basic forms), there are three prefixes of the form /CVn-/, all in Table 9-1; they may be used as intransitives, or as transitives with ANA_ø object. Note that 1Sg_b /n^gan-/ is distinguished from 1Sg_a /n^ga-/ solely by the second nasal, as is also the case with 1InDu_b /nan-/ vs. 1InDu_a /na-/; the third form is 2Sg_a /nun-/ (vs. 2Sg_b /ba-/).

There are several phonological rules which are affected by the presence or absence of the prefix-final nasal which we have (somewhat indirectly) identified as underlying //n//. Presence of this nasal triggers the following: a) if the following morpheme begins with underlying vowel, Pronominal d-Insertion P-20 inserts /d/ to the left of the boundary and also lengthens the vowel; b) if the following morpheme begins in a stop, n^gu-Epenthesis P-1 inserts /-n^gu-/ at the boundary (with the //n// then being deleted before /-n^gu-/ by Nasal-Deletion P-30); c) if the following morpheme begins in a continuant /w₁ y r lh w₂/, this continuant hardens to /g j d dh b/ by Hardening P-18 and the //n// assimilates in position by Nasal-Assimilation P-27; d) if the following morpheme begins in a nasal or unhardened lateral /l l r/, the //n// is deleted by Nasal-Deletion P-30 with no other change. Hence these pairs with 1Sg_a /n^ga-/ vs. 1Sg_b /n^gan-/:

/n ^g a:= 'bi:-na/	'I jump'	/n ^g and=a:bi:-na/	'I will jump'
/n ^g a=bura:-/	'I sit'	/n ^g a-n ^g u=bura:-/	'I will sit'
/n ^g a=ya:-ri:/	'I go'	/n ^g an ^y =ja:-ri:/	'I will go'
/n ^g a=na-yi:/	'I see it[ANA _ø]	/n ^g a=na-yi:/	'I will see it'

Note that there is no surface difference in the final pair.

TABLE 9-10
3MSg Object Prefixes

[inverse]		
ANA → 3MSg/NA _a	nin ^g gu-	//ni-N-w ₁ u-// 43.8.3, 49.2.5
ANA → 3MSg/NA _b	(w)anin ^g gu-	//w ₂ an-ni-N-w ₁ u-// 89.1.7
MANA → 3MSg/NA _a	nima-	//ni-N-ma-//
MANA → 3MSg/NA _b	(w)anima-	//w ₂ an-ni-N-ma-//
[equipollent]		
3MSg/NA → 3MSg _a	nu-	//nu-// 4.6.4
3MSg/NA → 3MSg _b	(w)anu-	//w ₂ an-nu-// 7.21.6
3FSg/N ^g ARA → 3MSg _a	n ^g unu-	//n ^g i-nu-// 3.5.5
3FSg/N ^g ARA → 3MSg _b	(w)an ^g unu-	//w ₂ an-n ^g i-nu-//
[direct]		
1Sg → 3MSg _a	n ^g anu-	//n ^g a-nu-// 5.14.5
1Sg → 3MSg _b	n ^g anu-	//n ^g a-w ₂ an-nu-// 1.15.5
1ExFDu → 3MSg _a	nu:n ^g unu-	//nV:-n ^g i-nu-// TNT 30, 32
1ExFDu → 3MSg _b	na:n ^g unu-	//nV:-w ₂ an-n ^g i-nu-// TNT 32
1ExPl → 3MSg _a	nu:nu-	//nV:-nu-// 50.1.4
1ExPl → 3MSg _b	na:nu-	//nV:-w ₂ an-nu-//
1InDu → 3MSg _a	nanu-	//na-nu-//
1InDu → 3MSg _b	nanu-	//na-w ₂ an-nu-// 13.15.2
1InFTr → 3MSg _a	n ^g u:n ^g unu-	//n ^g V:-n ^g i-nu-//
1InFTr → 3MSg _b	n ^g a:n ^g unu-	//n ^g V:-w ₂ an-n ^g i-nu-//
1InPl → 3MSg _a	n ^g u:nu-	//n ^g V:-nu-// MT 11
1InPl → 3MSg _b	n ^g a:nu-	//n ^g V:-w ₂ an-nu-// 17.9.4
2Sg → 3MSg _a	nunu-	//nun-nu-// 5.15.5, 90.2.3
2Sg → 3MSg _b	banu-	//ba-nu-// 171.1.2
2FDu → 3MSg _a	nu:n ^g unu-	//na-w ₂ V-n ^g i-nu-// 17.9.6
2FDu → 3MSg _b	numbun ^g unu-	//na-w ₂ an-w ₂ V-n ^g i-nu-//
2Pl → 3MSg _a	nu:nu-	//na-w ₂ V-nu-//
2Pl → 3MSg _b	numbunu-	//na-w ₂ an-w ₂ V-nu-//
3FDu → 3MSg _a	wun ^g unu-	//w ₂ V-n ^g i-nu-// 3.7.2
3FDu → 3MSg _b	(w)ambun ^g unu-	//w ₂ an-w ₂ V-n ^g i-nu-// TNT 32
3Pl → 3MSg _a	wunu-	//w ₂ V-nu-// 5.17.6
3Pl → 3MSg _b	(w)ambunu-	//w ₂ an-w ₂ V-nu-// 3.2.5

Note: 1ExPl subsumes 1ExMDu, 1InPl subsumes 1InMTr, 2Pl subsumes 2MDu, and 3Pl subsumes 3MDu in this paradigm.

TABLE 9-11
NA Object Prefixes

[inverse]

ANA → NA_a
ANA → NA_b
MANA → NA_a
MANA → NA_b

(same as for 3MSG object, Table 9-10, but with option of using nonhuman → nonhuman prefix /ø-/; exx. are ANA → NA_a /nin^ggu-/ in 101.3.5, and MANA → NA_a /ø-/ in 37.2.1.)

[equipollent]

3MSG/NA → NA_a
3MSG/NA → NA_b
3FSG/N^gARA → NA_a
3FSG/N^gARA → NA_b

ni- //ni-// 18.19.2
(w)ani- //w₂an-ni-//
n^gini- //n^gi-ni-// 13.1.3
(w)an^gini- //w₂an-n^gi-ni-//

[direct]

1Sg → NA_a
1Sg → NA_b
1ExFDu → NA_a
1ExFDu → NA_b
1ExPl → NA_a
1ExPl → NA_b
1InDu → NA_a
1InDu → NA_b
1InFTr → NA_a
1InFTr → NA_b
1InPl → NA_a
1InPl → NA_b
2Sg → NA_a
2Sg → NA_b
2FDu → NA_a
2FDu → NA_b
2Pl → NA_a
2Pl → NA_b
3FDu → NA_a
3FDu → NA_b
3Pl/WARA → NA_a
3Pl/WARA → NA_b

n^gani- //n^ga-ni-// 18.19.5
n^gani- //n^ga-w₂an-ni-// 62.2.1
ni:n^gini- //nV:-n^gi-ni-//
na:n^gini- //nV:-w₂an-n^gi-ni-//
ni:ni- //nV:-ni-// 42.5.2
na:ni- //nV:-w₂an-ni-// 100.7.4
nani- //na-ni-//
nani- //na-w₂an-ni-// 11.10.3
n^gi:n^gini- //n^gV:-n^gi-ni-//
n^ga:n^gini- //n^gV:-w₂an-n^gi-ni-//
n^gi:ni- //n^gV:-ni-// TNT 16
n^ga:ni- //n^gV:-w₂an-ni-// 167.2.4
nini- //nun-ni-//
bani- //ba-ni-//
ni:n^gini- //na-w₂V-n^gi-ni-//
nimbin^gini- //na-w₂an-w₂V-n^gi-ni-//
ni:ni- //na-w₂V-ni-//
nimbini- //na-w₂an-w₂V-ni-//
win^gini- //w₂V-n^gi-ni-// 11.11.1
(w)ambin^gini- //w₂an-w₂V-n^gi-ni-//
wini- //w₂V-ni-// 166.1.3
(w)ambini- //w₂an-w₂V-ni-// 100.4.1

Notes: For WARA → NA_{ab} the nonhuman → nonhuman prefix /ø-/ is also possible. 1ExPl subsumes 1ExMDu, 1InPl subsumes 1InMTr, 2Pl subsumes 2MDu, and 3Pl subsumes 3MDu in this paradigm.

TABLE 9-12
3FSg/N^εARA Object Prefixes

[inverse]

ANA → 3FSg/N ^ε ARA _a	n ^ε in ^ε gu-	//n ^ε i-N-w ₁ u-// 25.6.1
ANA → 3FSg/N ^ε ARA _b	(w)an ^ε in ^ε gu-	//w ₂ an-n ^ε i-N-w ₁ u-// TNT 23
MANA → 3FSg/N ^ε ARA _a	n ^ε ima-	//n ^ε i-N-ma-//
MANA → 3FSg/N ^ε ARA _b	(w)an ^ε ima-	//w ₂ an-n ^ε i-N-ma-//

[equipollent]

3MSg/NA → "a	n ^ε u-	//n ^ε u-// 1.6.2, TNT 10
3MSg/NA → "b	(w)an ^ε u-	//w ₂ an-n ^ε u-//
3FSg/N ^ε ARA → "a	n ^ε u-	//n ^ε u-// 6.3.3
3FSg/N ^ε ARA → "b	(w)an ^ε u-	//w ₂ an-n ^ε u-// 80.2.6

[direct]

1Sg → 3FSg/N ^ε ARA _a	n ^ε an ^ε u-	//n ^ε a-n ^ε u-// 111.1.1
1Sg → 3FSg/N ^ε ARA _b	n ^ε an ^ε u-	//n ^ε a-w ₂ an-n ^ε u-// 7.8.2
1ExPl → "a	nirin ^ε a-	//nV:-ri-n ^ε a-// 117.6.1
1ExPl → "b	na:n ^ε u-	//nV:-w ₂ an-n ^ε u-// 17.13.6
1InDu → "a	nan ^ε u-	//na-n ^ε u-//
1InDu → "b	nan ^ε u-	//na-w ₂ an-n ^ε u-//
1InPl → "a	n ^ε irin ^ε a-	//n ^ε V:-ri-n ^ε a-// MT 26
1InPl → "b	n ^ε a:n ^ε u-	//n ^ε V:-w ₂ an-n ^ε u-//
2Sg → 3FSg/N ^ε ARA _a	nun ^ε u-	//nun-n ^ε u-// 4.1.3
2Sg → 3FSg/N ^ε ARA _b	ban ^ε u-	//ba-n ^ε u-//
2Pl → 3FSg/N ^ε ARA _a	nirin ^ε a-	//na-w ₂ V-ri-n ^ε a-//
2Pl → 3FSg/N ^ε ARA _b	nimbirin ^ε a-	//na-w ₂ an-w ₂ V-ri-n ^ε a-//
3Pl/WARA → "a	wirin ^ε a-	//w ₂ V-ri-n ^ε a-// 5.16.5
3Pl/WARA → "b	(w)ambirin ^ε a-	//w ₂ an-w ₂ V-ri-n ^ε a-// 86.1.1

Notes: For nonhuman subject on N^εARA object, the nonhuman → nonhuman prefix /ø-/ is also possible. 1InTr, and the Du of other persons, is included in the corresponding Pl for subject categories in this paradigm.

TABLE 9-13
ANAø Object Prefixes

[equipollent]

ANA/MANA → ANAø-ab	ø-	//ø-//
--------------------	----	--------

[direct]

(identical to corresponding intransitive prefixes, Table 9-1, except for option of using /ø-/ for nonhuman → nonhuman; see textual citations in Table 9-1 marked "ANAø" at far right.)

TABLE 9-14

ANA_{wu} Object Prefixes

[equipollent]

ANA/MANA → ANA_{wu-ab} ∅- //∅-// 5.11.4, 35.12.3, 43.3.5
(also MT 16, 21)

[direct]

1Sg → ANA _{wu-a}	n ^g awu-	//n ^g a-w ₁ u-// 5.17.2
1Sg → ANA _{wu-b}	n ^g an ^g gu-	//n ^g a-w ₂ an-w ₁ u-// 7.8.3
1ExMDu → ANA _{wu-a}	ni:niwu-	//nV:-ni-w ₁ u-// 20.9.3
1ExMDu → ANA _{wu-b}	na:niwu-	//nV:-w ₂ an-ni-w ₁ u-// 165.1.1
1ExFDu → ANA _{wu-a}	ni:n ^g iwu-	//nV:-n ^g i-w ₁ u-//
1ExFDu → ANA _{wu-b}	na:n ^g iwu-	//nV:-w ₂ an-n ^g i-w ₁ u-//
1ExPl → ANA _{wu-a}	niri-	//nV:-ri-∅-// 166.2.1
1ExPl → ANA _{wu-b}	na:n ^g gu-	//nV:-w ₂ an-w ₁ u-// 163.2.4
1InDu → ANA _{wu-a}	nawu-	//na-w ₁ u-//
1InDu → ANA _{wu-b}	nan ^g gu-	//na-w ₂ an-w ₁ u-// 65.1.5
1InMTr → ANA _{wu-a}	n ^g i:niwu-	//n ^g V:-ni-w ₁ u-//
1InMTr → ANA _{wu-b}	n ^g a:niwu-	//n ^g V:-w ₂ an-ni-w ₁ u-//
1InFTr → ANA _{wu-a}	n ^g i:n ^g iwu-	//n ^g V:-n ^g i-w ₁ u-//
1InFTr → ANA _{wu-b}	n ^g a:n ^g iwu-	//n ^g V:-w ₂ an-n ^g i-w ₁ u-//
1InPl → ANA _{wu-a}	n ^g iri-	//n ^g V:-ri-∅-// 18.9.5
1InPl → ANA _{wu-b}	n ^g a:n ^g gu-	//n ^g V:-w ₂ an-w ₁ u-//
2Sg → ANA _{wu-a}	nun ^g gu-	//nun-w ₁ u-// 7.12.2
2Sg → ANA _{wu-b}	bawu-	//ba-w ₁ u-// 5.12.7
2MDu → ANA _{wu-a}	ni:niwu-	//na-w ₂ V-ni-w ₁ u-//
2MDu → ANA _{wu-b}	nimbiniwu-	//na-w ₂ an-w ₂ V-ni-w ₁ u-// 61.1.6
2FDu → ANA _{wu-a}	ni:n ^g iwu-	//na-w ₂ V-n ^g i-w ₁ u-//
2FDu → ANA _{wu-b}	nimbini ^g iwu-	//na-w ₂ an-w ₂ V-n ^g i-w ₁ u-//
2Pl → ANA _{wu-a}	niri-	//na-w ₂ V-ri-∅-// 162.20.3
2Pl → ANA _{wu-b}	nimbiri-	//na-w ₂ an-w ₂ V-ri-∅-// 65.14.4/5
3MSg/NA → ANA _{wu-a}	niwu-	//ni-w ₁ u-// 1.3.4
3MSg/NA → ANA _{wu-b}	(w)aniwu-	//w ₂ an-ni-w ₁ u-// 7.21.5
3MDu → ANA _{wu-a}	winiwu-	//w ₂ V-ni-w ₁ u-// 163.19.2
3MDu → ANA _{wu-b}	(w)ambiniwu-	//w ₂ an-w ₂ V-ni-w ₁ u-//
3FSg/N ^g ARA → ANA _{wu-a}	n ^g iwu-	//n ^g i-w ₁ u-// 5.16.3
3FSg/N ^g ARA → ANA _{wu-b}	(w)an ^g iwu-	//w ₂ an-n ^g i-w ₁ u-// 7.6.3
3FDu → ANA _{wu-a}	win ^g iwu-	//w ₂ V-n ^g i-w ₁ u-// 12.4.2
3FDu → ANA _{wu-b}	(w)ambin ^g iwu-	//w ₂ an-w ₂ V-n ^g i-w ₁ u-//
3Pl/WARA → ANA _{wu-a}	wiri-	//w ₂ V-ri-∅-// 9.5.2
3Pl/WARA → ANA _{wu-b}	(w)ambiri-	//w ₂ an-w ₂ V-ri-∅-// 165.1.8

Note: As with other nonhuman → nonhuman combinations, there is the option of using /∅-/ with NA, N^gARA, or WARA subject.

TABLE 9-15
 MANA Object Prefixes

[equipollent]

ANA/MANA → MANA_{ab} ∅- //∅-// 162.22.3

[direct]

1Sg → MANA _a	n ^g ama-	//n ^g a-ma-// 111.1.3
1Sg → MANA _b	n ^g ama-	//n ^g a-w ₂ an-ma-// 7.19.4
1ExMDu → MANA _a	ni:nima-	//nV:-ni-ma-//
1ExMDu → MANA _b	na:nima-	//nV:-w ₂ an-ni-ma-// 69.2.4
1ExFDu → MANA _a	ni:n ^g ima-	//nV:-n ^g i-ma-//
1ExFDu → MANA _b	na:n ^g ima-	//nV:-w ₂ an-n ^g i-ma-// 13.24.2
1ExPl → MANA _a	nirima-	//nV:-ri-ma-// 162.20.5
1ExPl → MANA _b	na:ma-	//nV:-w ₂ an-ma-//
1InDu → MANA _a	nama-	//na-ma-//
1InDu → MANA _b	nama-	//na-w ₂ an-ma-// 13.11.3
1InMTr → MANA _a	n ^g i:nima-	//n ^g V:-ni-ma-//
1InMTr → MANA _b	n ^g a:nima-	//n ^g V:-w ₂ an-ni-ma-//
1InFTr → MANA _a	n ^g i:n ^g ima-	//n ^g V:-n ^g i-ma-//
1InFTr → MANA _b	n ^g a:n ^g ima-	//n ^g V:-w ₂ an-n ^g i-ma-//
1InPl → MANA _a	n ^g irima-	//n ^g V:-ri-ma-// TNT 5
1InPl → MANA _b	n ^g a:ma-	//n ^g V:-w ₂ an-ma-// 69.15.3
2Sg → MANA _a	numa-	//nun-ma-// 11.7.2
2Sg → MANA _b	bama-	//ba-ma-// 4.7.2
2MDu → MANA _a	ni:nima-	//na-w ₂ V-ni-ma-//
2MDu → MANA _b	nimbinima-	//na-w ₂ an-w ₂ V-ni-ma-//
2FDu → MANA _a	ni:n ^g ima-	//na-w ₂ V-n ^g i-ma-//
2FDu → MANA _b	nimbin ^g ima-	//na-w ₂ an-w ₂ V-n ^g i-ma-//
2Pl → MANA _a	nirima-	//na-w ₂ V-ri-ma-//
2Pl → MANA _b	nimbirima-	//na-w ₂ an-w ₂ V-ri-ma-// 163.3.4
3MSg/NA → MANA _a	nima-	//ni-ma-// 1.5.4
3MSg/NA → MANA _b	(w)anima-	//w ₂ an-ni-ma-// 11.7.1
3FSg/N ^g ARA → MANA _a	n ^g ima-	//n ^g i-ma-// 7.2.4
3FSg/N ^g ARA → MANA _b	(w)an ^g ima-	//w ₂ an-n ^g i-ma-// 162.27.5
3MDu → MANA _a	winima-	//w ₂ V-ni-ma-// 20.16.1
3MDu → MANA _b	(w)ambinima-	//w ₂ an-w ₂ V-ni-ma-// 164.1.5
3FDu → MANA _a	win ^g ima-	//w ₂ V-n ^g i-ma-// 6.1.2
3FDu → MANA _b	(w)ambin ^g ima-	//w ₂ an-w ₂ V-n ^g i-ma-// MT 26
3Pl/WARA → MANA _a	wirima-	//w ₂ V-ri-ma-// 1.10.6
3Pl/WARA → MANA _b	(w)ambirima-	//w ₂ an-w ₂ V-ri-ma-// 120.2.3

Note: For nonhuman → nonhuman, prefix /∅-/ is also possible.

9.3 Formal internal analysis of pronominal prefixes.

It is possible to analyse the pronominal prefixes using the "underlying" representations suggested within double slashes //...// in the tables. Such an analysis requires considerable abstractness, and presupposes a large number of rules, both phonological and morphological, linking the various prefixes together into a total system. Such an analysis will be attempted here, and a reasonably elegant result can be obtained. However, I make no strong claims about the psychological reality of this analysis.

First, we will examine the intransitive prefixes (Table 9-1) to identify the full form of each PM (pronominal marker), some of which may contain more than one Component morpheme. Analysis of the transitive (two-place) pronominal prefixes will begin with the working assumption that each of them can be analysed as a combination of a subject PM and an object PM related to the simple intransitive forms. However, we will be on the lookout for allomorphic variations, categorial neutralisations, morpheme deletions, reorderings, and insertion of relational morphemes. If we cannot derive a particular transitive pronominal prefix from two PMs plus these operations, we recognise an unanalysable portmanteau morpheme.

In other words, we basically take the intransitive forms as starting points and try to generate the transitive forms from them. The situation is complicated by the fact that both intransitive and transitive pronominal prefixes occur in A and B series, and it is also necessary to analyse the morphemes used to make this series distinction.

In the intransitive forms, the A and B forms show at first sight a range of phonological relationships:

1Sg _a	/n ^g a-/	vs.	1Sg _b	/n ^g an-/
1ExMDu _a	/ni:ni-/	vs.	1ExMDu _b	/na:ni-/
2MDu _a	/ni:ni-/	vs.	2MDu _b	/nimbini-/
MANA _a	/ma-/	vs.	MANA _b	/(w)ama-/

However, all four of these pairs can be accounted for by positing a B series morpheme // -w₂an -// added to the A form, as long as we are careful to put the B morpheme in the correct position: at the end in 1Sg_b, at the beginning in MANA_b, and in the middle in the two dual forms shown. Fortunately, further analysis of the overall system supports recognition of a number of component morphemes each with a particular left-to-right "slot," and // -w₂an -// fits nicely into this analysis. 1st/2nd person markers are leftmost, followed by // -w₂an -//, while number and gender markers as well as 3rd person NC markers are rightmost. 1ExMDu_b /na:ni-/ is analysable as // nV: -w₂an -ni -// with 1st exclusive, then B, then a masculine marker (also implying dual number), while 2MDu_b /nimbini-/ is // na -w₂an -w₂V -ni -// with 2nd nonsingular, B, a nonsingular morpheme, and masculine.

In this fashion we can account for all A vs. B alternations in Table 9-1, except for the obviously suppletive 2Sg_a /nun-/ vs. 2Sg_b /ba-/. It would seem that /nun-/ might be analysed as // nu -n -//, cf. 1 → 2Sg_a /n^gunu-/ (Table 9-2), presumably // n^ga -nu -//, but this segmentation is synchronically shaky and we will just write /nun-/ without morpheme boundaries.

TABLE 9-16
Structure of Basic PMs

PM	A form (Table 9-1)	morphemic labels
1Sg	//n ^g a-//	1Sg-
1ExMDu	//nV:-ni-//	1ExNonsg-M-
1ExFDu	//nV:-n ^g i-//	1ExNonsg-F-
1ExPl	//nV:-ru-//	1ExNonsg-Pl-
1InDu	//na-//	1InDu-
1InMTr	//n ^g V:-ni-//	1InNonsg-M-
1InFTr	//n ^g V:-n ^g i-//	1InNonsg-F-
1InPl	//n ^g V:-ru-//	1InNonsg-Pl-
2Sg	//nun-//	2SgA-
[B form]	//ba-//	2SgB-]
2MDu	//na-w ₂ V-ni-//	2Nonsg-Nonsg-M-
2FDu	//na-w ₂ V-n ^g i-//	2Nonsg-Nonsg-F-
2Pl	//na-w ₂ V-ru-//	2Nonsg-Nonsg-Pl-
3MSg	//ni-//	M-
NA	//ni-//	M-
3FSg	//n ^g i-//	F-
N ^g ARA	//n ^g i-//	F-
3MDu	//w ₂ V-ni-//	Nonsg-M-
3FDu	//w ₂ V-n ^g i-//	Nonsg-F-
3Pl	//w ₂ V-ru-//	Nonsg-Pl-
WARA	//w ₂ V-ru-//	Nonsg-Pl-
ANA	//w ₂ u-//	ANA-
MANA	//mā-//	MANA-

In Table 9-16, above, we present a tentative analysis of the various PMs, based on their intransitive forms. Each component morpheme showing up in the underlying analysis is assigned a label; thus /n^ga-/ is 1Sg-, /-w₂V-/ is -Nonsg-, /-ru-/ is -Pl-, etc. The 1st/2nd person forms all begin with a person marker also distinguishing singular (or dual in the case of 1st inclusive) from another form for larger number. Note that 1ExNonsg-, for example, is a label for a single morpheme, as is 1InNonsg- and 2Nonsg-. 2nd nonsingular forms also involve a /-w₂V-/ morpheme labeled -Nonsg- which is not used with 1st person forms. 1ExDu and 2Du additionally have a final gender marker (-M- or -F-), which is also used in the (optional) Tr (trial) forms for 1st inclusive. The plural forms of all 1st/2nd categories have a morpheme /-ru-/ labeled -Pl-.

In the 3rd person forms, we have some nonhuman/human syncretisms: NA is merged with 3MSg, N^gARA with 3FSg, and WARA with 3Pl. 3MDu and 3FDu have the Nonsg- morpheme (already seen with 2nd person) followed by gender-marking -M- or -F-, and 3Pl (also WARA) have the structure Nonsg-Pl-. Note that there is no 3rd person initial prefix parallel to those of 1st/2nd persons. Aside from these nonsingular 3rd person forms, the others (i.e., 3rd singular or with number unmarked) consist just of a NC morpheme (including M-, F-).

The rule for positioning the B morpheme in these simple PMs is, again, just after the 1st/2nd person initial prefix if present, otherwise initially. Hence:

1Sg _b	is	1Sg	- B		
1ExMDu _b	"	1ExNonsg-	B	- M	-
2MDu _b	"	2Nonsg	- B - Nonsg	- M	-
3MDu _b	"		B - Nonsg	- M	-
MANA _b	"		B	- MANA-	

9.4 Direct, inverse, and equipollent transitive prefixes.

Before continuing our formal analysis, it is necessary to describe some respects in which the transitive (two-place) prefixes differ from intransitive ones.

The most important is the distinction between direct, inverse, and equipollent. It is possible to establish a partial hierarchy of pronominal markers (PMs), corresponding in part to left-to-right "slot" positions (suggested in the schema at the top of this page), with 1st/2nd person first, 3Pl (and WARA) next, then 3MSg/NA and 3FSg/N^gARA, and finally the lowest-ranking categories ANA and MANA. In a transitive combination, we say that the complete pronominal prefix is direct if the subject is higher-ranking than the object, inverse if the object outranks the subject, and equipollent if the two are in the same hierarchical class.

The component morphemes constituting the subject and object PMs are generally rearranged in such a way that each morpheme goes into its own natural "slot" (if not deleted). Thus, both in 1Sg→ANA (direct) and ANA→1Sg (inverse), the 1Sg- morpheme comes first and the -ANA- morpheme last. This means that the two transitive combinations are threatened with homophony. One solution is to use special subject vs. object allomorphs for the various morphemes, but while there is a little of this (notably with 3MSg and with 3FSg/N^gARA) it is not extensive. Instead, the basic mechanism for distinguishing direct forms from inverse counterparts is the addition of Inverse morpheme // -N-// to the latter. Hence 1Sg→ANA_{wu-a} /n^ga-w₁u-/ vs. ANA→1Sg_a //n^ga-N-w₁u-//→/n^gan^ggu-/ (with Hardening P-18 of //w₁// to /g/, then Nasal-Assimilation P-27). The morpheme consists of a nasal archiphoneme which is always followed by a consonant and thus must assimilate in position or (before another nasal) be deleted by Nasal-Deletion P-30. It also has an ablaut effect on some preceding vowels (changing them to /a/ or /a:/), cf. V-Ablaut P-38, part (a).

As we will see later, in some transitive combinations a subject PM including gender-marker -M- or -F- may be split up so that it sandwiches the object PM between its two separated parts (see the Gender-Hopping rule, below). In this event, even though the subject PM outranks the object PM, Inverse // -N-// occurs at the boundary between the object PM and the following -M- or -F- associated with the subject PM. It is as though, in becoming separated from the rest of the subject PM, the -M- or -F- acquires the hierarchical status of a 3MSg or 3FSg PM (which are expressed solely by -M- and -F-, respectively, cf. Table 9-16), so that this detached subject PM segment is locally lower than the object PM.

The Inverse morpheme may follow the B morpheme in the same prefix if there is an intervening morpheme separating them. An example from Table 9-9 is lExMDu \rightarrow 3Pl/WARA_b //nV:-w₂an-w₂V-N-ni-//, analysable as lExNong-B-Nong-Inverse-M-. This form also exemplifies the point of the preceding paragraph about local Inverse marking in a semantically direct combination; the lExMDu PM is represented by the initial lExNong- morpheme and by the final -M- morpheme flanking the object PM expressed by -Nong-, with Inverse morpheme inserted between higher-ranking -Nong- (i.e., 3Pl) and lower-ranking -M-.

More often, when B morpheme and Inverse morpheme co-occur there is no intervening morpheme to separate them. In this event, the Inverse morpheme precedes the B morpheme, hence //N-w₂an-// in the B forms of Tables 9-3 through 9-6, and 9-8).

Equipollent combinations tend to be unanalysable portmanteaus or else mildly irregular combinations with a hazily discernible structure. The distinction between direct and equipollent forms is in some cases fuzzy.

9.5 Categorical neutralisations in transitive prefixes.

The neutralisations which can be gleaned from the tables are the result of a) deep, systematic neutralisations, and b) surface neutralisations due to minor morphological rules deleting or changing a given component morpheme in some contexts. In this section we deal with the systematic neutralisations.

First, in each pronominal person, the maximal three-way number opposition is reduced to two in object PMs. For 1st inclusive the residual opposition is lInDu vs. lInPl (3+), while for 1st exclusive, 2nd, and 3rd persons the residual opposition is Sg vs. Pl (including Du).

There is no similar across-the-boards absorption of Du/Tr categories by corresponding Pl categories in subject PMs. However, such an absorption does occur in the special case where the object PM is 3FSg/N^gARA (see Table 9-12).

These two neutralisations can be described formally by saying that the relevant Du/Tr categories are absorbed by corresponding Pl categories. The operation seems to involve PMs as a whole rather than being lower-level morphemic readjustments.

Du/Tr Absorption

- Du/Tr PMs (except lInDu) are replaced by corresponding Pl PMs a) as object markers (with any subject), and
- b) as subject markers if the object is 3FSg/N^gARA.

More severe neutralisations occur in 1st \rightarrow 2nd and 2nd \rightarrow 1st transitive prefixes (Table 9-2). Even after part (a) of Du/Tr Absorption, we should expect eight different 1st \rightarrow 2nd combinations (subject PMs lSg, lExMDu, lExFDu, lExPl all combining with object PMs 2Sg and 2Pl), and similarly eight 2nd \rightarrow 1st combinations for a total of sixteen, each additionally having A and B variants for a total of thirty-two. In fact, Table 9-2 shows only two 1st \rightarrow 2nd categories (each with A and B forms) and only two 2nd \rightarrow 1st (with no A vs. B distinction), if we disregard phonological variants.

As can be seen by inspecting Table 9-2, all 1st person number (and gender) categories are merged in the presence of a 2nd person PM, regardless of which is subject and which is object. Since Du/Tr Absorption accounts for only a limited part of this neutralisation (and that only for object PM), a special rule is needed. In addition, the 2nd person PMs in the table have only a Sg vs. (2+) Pl opposition as subject PMs (as well as object PMs).

Although the 1st→2nd and 2nd→1st prefixes are, at best, structurally opaque, by examining 1→2Sg_a /n^gunu-/ and 1→2Pl_a /n^gana-/ we can tentatively say that the 1st person neutralisation is of the form 1ExPl→1Sg, since the initial morpheme seems to be 1Sg morpheme //n^ga-// in both forms. The other morphemes are 2Sg_a /-nu-/ (cf. 2Sg_a /nun-/ as intransitive prefix) and 2Nonsg /-na-/.

1st→2nd and 2nd→1st Neutralisation

- a) In these combinations 1Sg, 1ExMDu, 1ExFDu, and 1ExPl are merged into a single 1st person category, which in some 1st→2nd forms is identified formally with 1Sg;
- b) 2MDu and 2FDu are absorbed into 2Pl in these combinations not only as object PM (cf. Du/Tr Absorption rule) but also as subject PM.

9.6 Portmanteaus.

Portmanteaus, i.e., unanalysable transitive pronominal prefixes, are limited to equipollent combinations--those where subject PM and object PM are in the same pronominal category or at least in the same hierarchical set (see below). Not all equipollent prefixes are portmanteaus, however.

The four types of equipollent combination are these:

- a) 1st→2nd and 2nd→1st
- b) 3Pl/WARA→3Pl/WARA
- c) 3Sg→3Sg (with 3MSg/NA and/or 3FSg/N^gARA)
- d) ANA or MANA → ANA or MANA

In the case of 3Pl/WARA→3Pl/WARA_a /wara-/, it is possible to account for the surface form by positing underlying subject and object PMs both of the form -Nonsg-Pl-, with various morpheme-deletion rules (see below) then applying. We do not consider these to be portmanteaus.

In type (c), representative A forms are 3FSg/N^gARA→3MSg_a /n^gunu-/, 3MSg/NA→3MSg_a /nu-/, and 3FSg/N^gARA or 3MSg/NA→3FSg/N^gARA_a /n^gu-/. The first of these has the structure F-M- (F subject, M object), while the other two consist of just the object PM, either M- or F-. Since it is easy to identify the morphemes, and to account for outputs by a few deletion rules, we do not consider these portmanteaus. (Vowel quality in these morphemes is dealt with below under Allomorph Assignment.)

Type (d) prefixes are of the form /ø-/ in both A and B series. Since ANA and MANA have basic nonzero PMs (Table 9-16), except that ANA_ø has /-ø-/ as object (but not subject) PM form, we must analyse the /ø-/ transitive prefix either as a portmanteau, or as the product of a mutual-destruction deletion rule applying when subject and object PMs of these low-ranking categories come together. I prefer to analyse it as a portmanteau, since I interpret the

use of / \emptyset -/ as reflecting competition of the subject and object PMs for the same morpheme slot. (I would prefer a mutual-destruction rule if there were any evidence at all that the two PMs occupied distinct slots.) Moreover, the / \emptyset -/ is optionally extended to other nonhuman \rightarrow nonhuman combinations, e.g., as an alternative to 3Pl/WARA \rightarrow 3Pl/WARA_a prefix /wara-/ just in case both subject and object are (nonhuman) WARAs instead of (human) 3Pl.

In the 1st \rightarrow 2nd and 2nd \rightarrow 1st combinations (Table 9-2), the small number of forms contributes to the lack of structural transparency (cf. the neutralisation rule discussed on the preceding page). Let us see what we can squeeze out of them.

1 \rightarrow 2Sg_a /n^gunu-/ and 1 \rightarrow 2Pl_a /n^gana-/ seem to contain 1Sg /n^ga-/ plus 2Sg_a /-nu-/ or 2Nonsg /-na-/. The corresponding B series forms are, respectively, /(w)a-/ and /(n^g)anamba-/. Here /(w)a-/ seems to be a special 2Sg_b allomorph, cf. intransitive 2Sg_b /ba-/ (Table 9-1) and 2Sg_b object allomorph in inverse forms /a-/ (Table 9-7). The alternation between /b/, /w/, and / \emptyset / is phonologically irregular in the absence of any conditioning segments, but elsewhere in the language /w/ (i.e., /w₂/) becomes /b/ after stop or nasal by Hardening P-18, and some alternations of /w/ (including /w₂/ in a few cases) with zero are also found (see phonological rules P-4 and especially P-11 and P-12). The analysis of /(n^g)anamba-/ is complicated by the variation in forms; if the initial velar nasal is present for a given speaker, we can analyse this as an extension of the corresponding A form /n^gana-/ (i.e., formally 1Sg-2Nonsg-), the extension itself perhaps consisting of some nasal element /-N-/ and /-w₂a-/ (the latter related to 2Sg_b /ba-/, /(w)a-/, /a-/ just mentioned). However, even if we can tentatively identify component morphemes in the B forms /(w)a-/ and /(n^g)anamba-/, this identification is at best fuzzy because of phonological irregularities, and /(n^g)anamba-/ in particular has a morphemic composition which has no parallels elsewhere in the pronominal prefix system.

2Sg \rightarrow 1_{ab} /numba-/ or /nimba-/ is likewise hard to analyse; note that the A and B forms are identical. We might hazard the suggestion that the analysis is /nV-N-w₂a-/ with 1ExNonsg-, some nasal morpheme, then -2Sg_b-. However, this /-N-/ segment is as mysterious as the one in /(n^g)anamba-/ (///(n^g)a-na-N-w₂a-//). It cannot easily be identified as Inverse // -N- // since 1ExNonsg-morpheme //nV-// elsewhere ablauts to /na-/ before Inverse // -N- // (rule P-38), and since overall the 1st \rightarrow 2nd and 2nd \rightarrow 1st forms do not have clear indications of belonging to the direct/inverse subsystems. Indeed, it might be more reasonable to take /numba-/ as 2Sg_a /nun-/ (as in Table 9-1) followed by 2Sg_b /-w₂a-/, which would at least account for the form /numba-/ better; but the variant /nimba-/ shows that this analysis is not very real to native speakers.

2Pl \rightarrow 1_{ab} /n^giri-/ is also anomalous. If forced to interpret it, I would suggest that it involves a formal fusion of the 1st and 2nd person PMs into a form associated with 1InPl, cf. 1InPl_a intransitive /n^guru-/, and 1InPl_a transitive subject PM /n^giri-/ in such combinations as 1InPl \rightarrow MANA_a /n^girima-/. Alternatively, we could take 2Pl \rightarrow 1_{ab} /n^giri-/ as 1Sg //n^ga-// plus a residual -Pl-

allomorph /-ri-/ being what is left of a 2Pl PM (2Nonsg-Nonsg-Pl-) following some morpheme deletions.

Because of the small number of 1st→2nd and 2nd→1st forms and the difficulties we have had in analysing them, it is quite reasonable to assume that speakers just learn them as units, with perhaps a hazy idea about the internal structure of some of them. We may therefore think of them as portmanteaus or as semi-portmanteaus; i.e., as having no synchronic internal structure or as having just hints thereof.

Moving to a higher level of interpretation, we may observe that a great many languages with bound subject and object pronominals show extensive irregularities in 1st→2nd and 2nd→1st combinations, with frequent use of portmanteaus, deletion of one of the pronominals, replacement of a pronominal by an indefinite morpheme, neutralisation of one pronominal with 3rd person, unusual reshapings such as subject-object "number harmony" (Ngandi), etc. These devices may be interpreted cross-linguistically as ways of mitigating or skewing direct representations of interactions between speaker and addressee, which are highly sensitive pragmatically in all cultures. Thus, while I interpret nonhuman→nonhuman / \emptyset -/ as a portmanteau motivated by competition of two morphemes for a single slot, I interpret 1st→2nd and 2nd→1st portmanteaus and semi-portmanteaus as motivated primarily by pragmatic considerations, even though grammaticalized and thus not manipulated because of situational pragmatic nuances.

9.7 The pronominal hierarchy and morpheme ordering rules.

The hierarchical relationship between the subject and object PMs in a transitive prefix affects both morpheme ordering and the use of Inverse //N-//; it is also indirectly related to the usage of portmanteaus since these are limited to a subset of equipollent combinations.

Leaving out nonpronominal morphemes (Inverse, B), the component morphemes in a complex pronominal end up on the surface in the following order:

person marker - Nonsg/Pl - gender marker - NC marker

In this formula, "person marker" refers only to nonzero 1st and 2nd person morphemes; a pronominal prefix consisting only of 3rd person PMs has this slot vacant. -Nonsg- and -Pl- refer to the morphemes /-w₂V-/ and /-rV-/, respectively; cf. Table 9-16 for their distribution in basic PMs. Gender markers are -M- (also used for NA class, with some allomorphic distinctions) and -F-, and NC markers (in the present discussion) are ANA and MANA only (elsewhere we use "NC" in a broader sense).

Some of the four slots shown can actually contain two morphemes. Some 1st→2nd and 2nd→1st forms can be analysed as having both a 1st person and 2nd person morpheme (§9.6, above); there may be two -Pl- and/or -Nonsg- morphemes; and as for gender markers, -F- may precede -M-.

If we associate this left-to-right slot arrangement with the hierarchy used in the direct/inverse/equipollent system, we simply

say that the morphemes in the five slots constitute a descending hierarchy (left associated with high on the hierarchy, right with low), and that a PM as a whole has a hierarchical status based on its highest-ranking component morpheme. In view of the structure of basic PMs shown in Table 9-16, this effectively generates the following hierarchical classes in descending order:

- X_1 : $\begin{cases} 1Sg, 1ExMDu, 1ExFDu, 1ExPl \\ 1InDu, 1InMTr, 1InFTr, 1InPl \\ 2Sg, 2MDu, 2FDu, 2Pl \end{cases}$
 X_2 : 3Pl [including WARA]
 X_3 : $\begin{cases} 3MSg \text{ [including NA]} \\ 3FSg \text{ [including N}^E\text{ARA]} \end{cases}$
 X_4 : $\begin{cases} ANA \\ MANA \end{cases}$

Although there are perhaps a number of ways to generate the surface transitive prefixes from the basic PMs of Table 9-16, we will begin with a simple rule ordering the (entire) PMs relative to each other, and will then account for output forms by means of other rules moving, deleting, or changing individual component morphemes.

Main Ordering Rule

In a transitive combination involving PMs of different hierarchical classes (cf. formula above), the high-ranking PM precedes the low-ranking PM. If the two PMs are in the same hierarchical class, if the result is not a portmanteau (see §9.6), the subject PM precedes the object PM.

Thus, MANA morpheme /-ma-/ follows PMs of X_1 , X_2 , or X_3 class regardless of whether /-ma-/ specifies the subject or object. On the other hand, 1Sg /n^Ea-/ precedes all third person (X_2 , X_3 , X_4) PMs regardless of case relationship.

The second part of the rule, affecting PM order in equipollent combinations, has few surface effects. This is because many equipollent prefixes are unanalysable portmanteaus, and others like 3Pl/WARA → 3Pl/WARA and 3FSg/N^EARA → 3FSg/N^EARA have subject and object PMs of the same pronominal category (which makes it impossible to determine which is subject and which object unless case-specified morpheme allomorphs are visible).

Those equipollent prefixes which do seem to show subject PM preceding object PM are 1st → 2nd A series forms like 1 → 2Sg_a /n^Eunu-/ (Table 9-2), and 3FSg/N^EARA → 3MSg/NA forms like 3FSg/N^EARA → 3MSg_a /n^Eunu-/ (Table 9-10); the homophony of these two illustrative prefixes is accidental.

The outputs of the Main Ordering Rule need further adjustments before becoming surface forms. For example, after this rule the 2MDu → 3Pl combination would have the form

[2Nonsg-Nonsg-M-]_{subj} + [-Nonsg-Pl-]_{obj}

(cf. Table 9-16). However, gender marker -M- may not precede -Nonsg- or -Pl-. Some anomalies of this type are resolved indirectly,

insofar as miscellaneous morpheme-deletion rules (see below) eliminate some of the morphemes; in this particular combination, the -Pl- morpheme in the 3Pl object PM is dropped. However, there are still some residual incorrect morpheme orderings, viz., those where a gender marker -M- or -F- (no exx. involving NA or N^gARA marker) in the subject PM is still to the left of an object PM containing the -Nonsg- morpheme. In this situation, a rule is needed to locate the -M- or -F- morpheme to the right of the -Nonsg- morpheme. Thus the 2MDu→3Pl combination, whose form immediately after the Main Ordering Rule was represented schematically above, ends up in this form after the later reordering rule (and another minor rule deleting -Pl- in the object PM):

$$[2\text{Nonsg-Nonsg-}]_{\text{subj}} + [-\text{Nonsg-}]_{\text{obj}} + [-\text{M-}]_{\text{subj}}$$

Note that the subject PM is now split into two parts, flanking the object PM. The final sequence -Nonsg-M- (or -Nonsg-F-) can never be wholly contained in the object PM, since -M- and -F- combine with -Nonsg- inside a single PM only in Dual (and 1InTr) PMs, but Du (and 1InTr) categories are absorbed into (3+) Pl categories as object PMs (see Du/Tr Absorption, above). Therefore, this hopping of gender marker -M- or -F- to the right of an object PM containing -Nonsg- never creates ambiguity as to which PM the gender marker belongs to.

Gender-Hopping

Gender marker -M- or -F- (there are no exx. involving NA or N^gARA class) as a component in a subject PM which (after the Main Ordering Rule) precedes an object PM containing -Nonsg-Pl-, is shifted to the right of this object PM.

The forms affected by this rule are those with 1ExDu, 1InTr, 2Du, or 3Du subject with 3Pl object. The corresponding inverse forms like 3Pl→2MDu are not involved, since these Du and Tr categories are absorbed into corresponding plurals as object markers, hence they never have a gender marker -M- or -F-.

Forms like 3MSg/NA→3Pl_a /wani-/ (i.e., Nonsg-M- along with inserted Inverse morpheme) also have the -M- or -F- marker (here M /-ni-/) after the Nonsg- morpheme representing the object PM, but in these cases the ordering is already accounted for by the Main Ordering Rule (rather than by Gender-Hopping).

Forms directly affected by Gender-Hopping will in all cases also have the -Inverse- morpheme inserted between the object PM (which will be reduced to -Nonsg- after the -Pl- morpheme is dropped by a deletion rule) and the shifted -M- or -F-; cf. the formal statement of Inverse-Insertion, below, and our earlier remarks (§9.4, above) on local hierarchical asymmetries.

9.8 B-Insertion and Inverse-Insertion.

The effects of these rules, which insert nonpronominal morphemes into pronominal prefixes, have been informally sketched above (§9.3, §9.4). We now state them more formally, pointing out that they should apply after the Main Ordering Rule and Gender-Hopping.

B-Insertion

To convert the simple (A series) form of any pronominal prefix into the corresponding B series form, add the -B- morpheme /-w₂an-/ to the right of any 1st/2nd person marker (see §9.7, beginning) but to the left of any other pronominal morpheme. Exceptions: -B- is not used with portmanteaus or semiportmanteaus (/ø-/ for nonhuman → nonhuman, also the 1st → 2nd and 2nd → 1st prefixes), and is not used in direct or inverse combinations including a 2Sg PM other than 2Sg → 3Pl/WARA₁, since 2Sg in most combinations has its own suppletive B form.

For schematic exx. showing the relative location of the -B- morpheme, see end of §9.3.

Inverse-Insertion

If an object PM is followed by a lower-ranking subject PM, insert Inverse /-N-/ between them (see hierarchy X₁ through X₄ in §9.7). Also, if Gender-Hopping has applied so that a gender marker -M- or -F- has become detached from the rest of a high-ranking subject PM and has been shifted to the right of an object PM (which in all relevant cases is 3Pl/WARA), insert Inverse /-N-/ between the object PM and the following gender marker. Presence of -B- morpheme in the prefix has no effect on Inverse-Insertion; if the -B- morpheme happens to occur at the same boundary where the Inverse morpheme is inserted, Inverse precedes -B- (i.e., Inverse is always at the end of the relevant object PM).

The tables for transitive prefixes clearly identify the inverse combinations as opposed to direct or equipollent. For example, Tables 9-3 through 9-8 consist entirely of inverse prefixes. The exx. involving Gender-Hopping are in Table 9-9 (forms with Du or Tr subject, except for 1InDu). The combination // -N-w₂an- // (-Inverse-B-) is seen in the B series forms of Tables 9-3 through 9-6 and 9-8.

9.9 Deletions of component morphemes within pronominal prefixes.

The -Pl- morpheme /-rV-/ , which is part of the basic form of several PMs (Table 9-16) is subject to a number of rules deleting it in particular local morphemic environments. These deletions cause only minor functional problems, since 1st/2nd person markers already have some number marking, and since 2Pl and 3Pl (=WARA) contain the -Nonsg- morpheme, which usually remains behind after deletion of -Pl-.

Pl-Deletion

The -Pl- morpheme in a PM is deleted

- a) directly preceding -Nonsg-;
- b) directly preceding -M- (including NA class sense);
- c) directly preceding -Inverse- (except in 1InPl form);
- d) after -Inverse-Nonsg-___ (i.e., as inverse 3Pl subject);
- e) in object PM after -B-Nonsg-___ with 1st/2nd subject;
- f) directly after -B- (if directly before nonzero object morpheme still within the pronominal prefix).

It would be tedious to give a lengthy exposition of reasons for these formulations so we will just refer to the relevant prefixes affected by each part of Pl-Deletion.

Part (a) applies when -Pl- at the end of one PM is followed by another PM beginning with -Nong- (i.e., 3Pl/WARA). The exx. are in Table 9-9 (3Pl/WARA object), e.g., forms with lExPl, 2Pl, and 3Pl/WARA subject. The sequence -Nong-Pl-][-Nong-Pl- in some of these forms (][marking PM boundary) becomes -Nong-][-Nong-Pl-.

Part (b) operates in 3Pl/WARA \rightarrow 3MSg_a /wunu-/ and a few closely parallel forms. We might expect * /wurunu-/ (i.e., Nong-Pl-][-M-), cf. 3Pl/WARA \rightarrow 3FSg/N^gARA_a /wirin^ga-/. Part (b) is needed only for a handful of direct forms like this; inverse counterparts like 3MSg/NA \rightarrow 3Pl/WARA_a /wani-/ (Nong-][Inverse[-M-) show deletion of -Pl- by part (c).

Part (c) accounts for the absence of -Pl- in object PMs in inverse forms; see tables 9-4, 9-8, and the inverse section of 9-9. The exception is that the lInPl PM, which ends in -Pl-, retains it (at this stage) before Inverse /-N-/ (Table 9-6), though these forms are subject to an optional late phonological adjustment deleting -Pl- with compensatory lengthening of preceding vowel. (Compensatory lengthening is associated with none of the parts of the present Pl-Deletion rule).

Part (d) accounts for the reduction of the 3Pl (=WARA) PM from -Nong-Pl- to just -Nong- as subject of an inverse combination, hence after -Inverse-. The exx. are the forms ending in /...mbi-/ (i.e., -Inverse-Nong-) for 3Pl/WARA subject with various 1st/2nd objects in Tables 9-3 to 9-8.

Part (e) likewise trims 3Pl/WARA from -Nong-Pl- to just -Nong- as object PM after the B morpheme. The exx. are in the direct section of Table 9-9. Thus lSg \rightarrow 3Pl/WARA_b /n^gamba-/ consists of lSg-][B[-Nong-, whereas the corresponding A series form is /n^gara-/, i.e., lSg-][-Nong-Pl-. It is apparently necessary to specify that the subject is 1st/2nd person, since 3Pl/WARA \rightarrow 3Pl/WARA_b is /{(w)ambara-/, obviously just B morpheme added to the A series form /wara-/ with no loss of -Pl- morpheme. (This restriction might be unnecessary if we analyse /wara-/ and /{(w)ambara-/ as having -Nong-Pl- as subject, rather than object, PM, but this would cause other difficulties.)

Part (f) applies to B forms with lExPl or lInPl subject and either 3FSg/N^gARA, MANA, or ANA_{wu} object (perhaps vacuously 3MSg and NA object, but not ANA_o object with zero object PM). For example, in Table 9-12 we find lExPl \rightarrow 3FSg/N^gARA_a /nirin^ga-/ analysable as lExNong-Pl-][-F-, but the B form is /na:n^gu-/, analysable as lExNong-][B[-F-. (We disregard differences in the -F- allomorphs here.) This part of the rule specifies that deletion occurs only when there is another (nonzero) pronominal morpheme within the pronominal prefix, here -F-. If -Pl- follows -B- but there is no following pronominal morpheme, deletion does not occur (instead, a later rule converts -Pl- into -Nong-).

Nong-Deletion

Delete -Nong- as part of 2Pl object PM before Inverse morpheme (cf. Table 9-8).

We now turn to the rule deleting gender markers.

Gender-Marker Deletion

- a) -M- (including NA class marker) is deleted before another -M- (including NA) or -F- (including N^gARA);
- b) -F- (including N^gARA class marker) is deleted before another -F- (including N^gARA).

We can see part (a) operating in 3MSg/NA → 3MSg_a /nu-/ (Table 9-10) and 3MSg/NA → NA_a /ni-/ (Table 9-11), where the surviving morpheme is that designating the object PM; it is also seen in 3MSg/NA → 3FSg/N^gARA_a /n^gu-/ (Table 9-12), which consists in form simply of an object allomorph of -F-. Part (b) operates in 3FSg/N^gARA → 3FSg/N^gARA_a /n^gu-/ (Table 9-12), which is thus homophonous and structurally identical to the preceding form. However, note 3FSg/N^gARA → 3MSg_a /n^gunu-/ (Table 9-10) and the similar 3FSg/N^gARA → NA_a /n^gini-/ (Table 9-11), where we have -F- followed by -M- (or NA variant).

The asymmetry between the two parts of the rule is also responsible for the occurrence of distinct forms for lExFDu, lInFTr, 2FDu, and 3FDu subject acting on 3MSg object (Table 9-10) or NA object (Table 9-11), but the absence of corresponding MDu or MTr subject forms (these are subsumed under lExPl, lInPl, 2Pl, and 3Pl with these object categories). It is reasonable to suppose that such MDu and MTr subject forms "exist," but are indistinguishable on the surface from Pl subject forms after Gender-Marker Deletion (and part b of Plural-Deletion).

The remaining morpheme deletions involve the two subclasses of the ANA noun class, ANA_∅ and ANA_{wu}. The two subclasses are distinguished only within the pronominal prefix system, and only in object PMS. (As intransitive or transitive subject they share a form /-w₁u-/ , except in the /-∅-/ portmanteau when subject and object are both in ANA or MANA class.)

The object form of ANA_∅ is consistently zero, with the result that transitive X → ANA_∅ for some pronominal category X (other than ANA or MANA) is identical to the intransitive form for X. Thus the intransitive table 9-1 doubles as the table for ANA_∅ object. It seems best to take the object PM for ANA_∅ as zero from the beginning rather than proposing a deletion rule.

On the other hand, the object PM for ANA_{wu} is /-w₁u-/ in some forms and /-∅-/ in others, and in this instance it does seem best to account for the zero variant by an actual deletion rule (rather than an allomorphic specification). The /-∅-/ variant occurs after -Pl- morpheme /-rV-/ , i.e., in combination with Pl subject. However, the resulting ANA_∅ and ANA_{wu} object forms are not identical. Exx. are 3Pl/WARA → ANA_{∅-a} /wuru-/ (Table 9-1, also intransitive 3Pl/WARA_a) and 3Pl/WARA → ANA_{wu-a} /wiri-/ (Table 9-14). The latter shows the same allomorph /-ri-/ of -Pl- found in forms with nonzero NC marker or gender marker for object: 3Pl/WARA → 3FSg/N^gARA_a /wirin^ga-/ (Table 9-12), 3Pl/WARA → MANA_a /wirima-/ (Table 9-15). Therefore the /-∅-/ of ANA_{wu} acts like a nonzero NC marker, while the /-∅-/ of ANA_∅ leaves no imprint, even indirectly.

ANA_{wu} Object Deletion

After allomorphs are assigned, delete ANA_{wu} object marker following -Pl-.

9.10 A morpheme conversion rule (-Pl- becomes -Nongsg-).

In the formulation of Pl-Deletion in the preceding section, part (f) states that -Pl- morpheme /-rV-/ is deleted when directly after the B morpheme and directly before a nonzero object PM. If -Pl- follows -B- but there is no nonzero object PM after it, -Pl- is not deleted by Pl-Deletion. However, it is subject to a rule converting it from -Pl- into -Nongsg-.

Pl-to-Nongsg Conversion

When the sequence -B-Pl- occurs at the end of the whole pronominal prefix, convert -Pl- into -Nongsg-.

When the relevant PM is 2Pl or 3Pl, the sequence -B-Pl- cannot occur since there is already a -Nongsg- morpheme separating these two in the B forms (2Nongsg-B-Nongsg-Pl-, B-Nongsg-Pl-, respectively).

However, consider 1ExPl_a /nuru-/, i.e., 1ExNongsg-Pl-, and its B counterpart /na:mbu-/, which I analyse as 1ExNongsg-B-Nongsg- //nV:-w₂an-w₂u-//. Similarly with 1InPl_a /n^guru-/, 1InPl_b /n^ga:mbu-/. (These are also used as transitives with ANA₀ object, Table 9-1.) Such forms require the conversion rule indicated.

This rule is probably motivated by the phonological awkwardness of a putative sequence */-w₂an-rV-/. Hardening P-18 does have a rule //r//→/d/ after stop or nasal, but it is unproductive, applying only to a handful of morphemes. Also, if 1ExPl_a /nuru-/ had a B variant like */nV:-w₂an-ru-//→*/nundu-/, with the large set of verbs beginning in vowels (or in the Benefactive or Comitative derivational prefix) we would end up with homophony with 2Sg_a /nun-/ after the latter triggers Pronominal d-Insertion P-20, as in //nun=abi-n^v//→/nund=a:bi-n^v/ 'You[Sg] jumped'.

9.11 Allomorph-Assignment for component morphemes.

We have been using schematic labels like 1Sg-, -Nongsg-, and 1InNontr- for the various pronominal morphemes used in these prefixes. Some, however, have two or more allomorphs depending on grammatical function and morphemic environment. For example, -Pl- is /-rV-/, with contextual allomorphs /-ru-/, /-ra-/, and /-ri-/. It is now necessary to detail such allomorphic variation. We begin with person markers, then discuss -Nongsg- and -Pl-, then gender and NC markers (for this terminology see §9.7).

Person Marker Allomorphs

1Sg-	/n ^g a-/.
1ExNongsg-	subject /nV:-/; inverse object /nV-/.
1InDu-	/na-/.
1InNondu-	/n ^g V:-/.
2SgA-	subject /nun-/; inverse object /nu-/ or /nun-/ (no way to tell); object /-nu-/ in 1→2Sg _a /n ^g u-nu-/. [Replaced by 2SgB- as subject marker in 2Sg→3Pl/WARA _a /ba-ra-/.]
2SgB-	subject /ba-/; inverse object /a-/. [These forms obscurely related to portmanteau 1→2Sg _b /(w)a-/.]
2Nongsg-	/na-/, though underlying /a/ vowel seen only in 1→2Pl _a /n ^g a-na-/.

Note that the person markers here represent single morphemes, not complete PMs. The forms of 1Sg- and 1InDu- are quite transparent from the tables, though 1Sg- is assimilated to /n^gu-/ in 1→2Sg_a /n^gu-nu-/ by V-Assimilation P-37 (part i). For 1ExNonsg- we distinguish subject /nV:-/ from (inverse) object form /nV-/ because of such length oppositions as 1ExMDu_a /ni:-ni-/ (with -M- morpheme) vs. 3MSg/NA→1ExMDu_a /na-[N-]ni-/. On the surface, the long vowel of /nV:-/ is shortened to /nV-/ before Pl /-rV-/ by Nonsg-Shortening P-41; we cannot account for inverse object form /nV-/ by a similar shortening rule since it is inconsistent with 1InNond- forms.

1InNond- is taken here as /n^gV:-/ with long vowel, but is subject to the same shortening by P-41 before /-rV-/. Forms with this category as inverse object (Table 9-6) show long vowel, so we have no evidence for a distinction between subject and (inverse) object allomorphs like that for 1ExNonsg-.

Both 1ExNonsg- /nV:-/ or /nV-/ and 1InNond- /n^gV:-/ acquire their surface vowel quality secondarily, either by V-Assimilation P-37 or (before Inverse /-N-/) by V-Ablaut P-38.

2Nonsg- is represented as /na-/, though the only direct evidence for the /a/ vowel is 1→2Pl_a /n^ga-na-/. In all other combinations, the representation /nV-/ would be appropriate, with surface vowel quality determined by P-37 or P-38 as with 1ExNonsg- and 1InNond-. Note that as a complete PM, 2Pl (also 2MDu, 2FDu) begins with the morphemes 2Nonsg-Nonsg- (/na-w₂V-), with a second -Nonsg- morpheme not used with 1st exclusive or inclusive.

2SgA- has a predominant form /nun-/ seen in subject forms. Inverse object forms begin with //nu-N-// including Inverse //-N-//; because of Nasal-Deletion P-30 the first morpheme could just as easily be //nun-// as //nu-//, but we cannot tell (Table 9-7 arbitrarily shows //nu-//). The simple form /-nu-/ is seen in 1→2Sg_a /n^gu-nu-, the only combination in which -2SgA- is noninitial. In Tables 9-7 and 9-11 we see the underlying //u// becoming /i/ by V-Assimilation P-37, part g.

2SgB- has a common form /ba-/ used as subject marker, with inverse object variant /a-/ (Table 9-7).

In one situation, however, /ba-/ is extended to apply in A as well as B forms. This is 2Sg→3Pl/WARA (Table 9-9), where the A form is /ba-ra-/ and the B form /ba-m-ba-/. In its usual role as a specifically B form for 2Sg, /ba-/ does not co-occur with the regular B morpheme /-w₂an-/, but in the 2Sg→3Pl/WARA combination the B morpheme is added to /ba-/ in the B form to keep this distinct from the A counterpart. (The presence of the B morpheme then triggers Pl-to-Nonsg Conversion, §9.10.)

The analysis we have presented of the underlying forms of person markers is, in part, speculative because these morphemes in some cases do not occur finally within the pronominal prefix. Alternative analyses particularly of 1ExNonsg-, 1InNond-, and 2Nonsg- are possible. For 1InNond- in particular, it might be possible to interpret the length alternation /n^ga-ra-.../ vs. /n^ga:-.../ in Table 9-6, attested clearly with 3MSg/NA subject but perhaps present with other subjects, as a special case of rV-Truncation P-36, a rule presently formulated to apply only at the end of the entire pronominal prefix (hence not in Table 9-6).

-Nonsg- and -Pl- Allomorphs

- Nonsg- nonfinally in pronominal prefix /-w₂V-/; finally /-w₂a-/ in object function, /-w₂u-/ as intransitive subject (or subject with zero ANA_∅ object PM), or /-w₂i-/ as transitive subject with nonzero object PM.
- Pl- nonfinally in pronominal prefix /-ri-/ in transitive subject function or /-rV-/ before Inverse morpheme in object function; finally /-ra-/ in object function, /-ru-/ for intransitive subject (or transitive subject with zero ANA_∅ PM).

Forms marked as having /V/ acquire surface vowel quality by V-Assimilation P-37 or (before Inverse morpheme) V-Ablaut P-38. In those cases where vowel quality is determined directly by the allomorph rule itself, we notice an association in both morphemes of /a/ with transitive object, /i/ with transitive subject, and /u/ with intransitive subject, with the stipulation that transitives with ANA_∅ object are treated like intransitives. Exx. with /a/ for object are in Table 9-9 (direct and equipollent sections); exx. with /i/ for transitive subject are 3Pl/WARA subject forms (among others) in Tables 9-3 to 9-8 (/w₂i-/) and 9-12, 9-14, and 9-15 (/ri-/). Exx. with /u/ in intransitive function are in Table 9-1, viz., B forms of lExPl and lInPl (/w₂u-/) and both forms of 3Pl/WARA (/ru-/).

Gender Marker Allomorphs

- M- /-ni-/ in subject function and before Inverse morpheme in object function; /-nu-/ at end of pronominal prefix as object in direct forms.
- (-NA-) [NA class merged with -M- in pronominal prefix morphology except that morpheme is invariably /-ni-/, never */-nu-/.]
- F- nonfinally in pronominal prefix always /-n^gi-/ (transitive subject or inverse object); finally /-n^gi-/ for subject, /-n^ga-/ for object if preceded by Pl /-ri-/, otherwise /-n^gu-/ for object. [N^gARA class totally merged with -F-.]

Both -M- and -F- show a general preference for /i/ vowel, which is always found (in underlying forms) when the morpheme is nonfinal within the pronominal prefix. For the sequence /-n^gu-nu-/ (/F-M-/) I assume underlying //n^gi-nu// with V-Assimilation P-37, part h. When the -M- or -F- morpheme is final in object function, the vowel becomes /u/, except that -F- shows /a/ after Pl /-ri-/ (note that /a/ is associated with object function with -Nonsg- and -Pl- as well, cf. top of this page). The NA class marker, which I have treated in this chapter as a special case of -M-, is actually distinguished from -M- by avoiding the /-nu-/ object allomorph, hence the difference between Table 9-10 and 9-11. (There is no similar division between -F- and N^gARA.)

It remains only to specify forms of the nonhuman NC categories ANA and MANA.

Nonhuman NC Allomorphs

ANA _{wu}	/-w ₁ u-/ in all functions (but subject to deletion by the late rule ANA _{wu} Object Deletion).
ANA _∅	/-w ₁ u-/ for transitive or intransitive subject; zero /-∅-/ for object in direct forms.
MANA	/-ma-/ (invariable).

9.12 Nominative-accusative or ergative-absolutive patterning?

In general, the system of pronominal prefixes does not fit nicely into either nominative-accusative or ergative-absolutive patterns. This is because the major structural feature of the system is the direct/inverse/equipollent division and the associated ordering rules based on pronominal category rather than case function.

However, there are a number of details suggesting a tendency toward nominative-accusative patterning with respect to allomorphic rules; relevant morphemes here are 1ExNonsg-, 2SgB-, -M-, -F- (including N^eARA), and ANA_∅. In addition, the rule of ANA_{wu} Object Deletion may be mentioned, and deletion of -Pl- before Inverse morpheme // -N- // (Pl-Deletion, part c) tends to produce special shortened object PMs (for 1ExPl, 2Pl, and 3Pl). These features generally set off object as a special category distinct from subject (intransitive/transitive).

On the other hand, many other pronominal morphemes have the same form for subject and object (1Sg, 1InDu, NA, MANA), and some (Pl, Nonsg) have distinct forms for all three of intransitive subject, transitive subject, and object.