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Nasioi verbs

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1. INTRODUCTION. The Nasioi language is spoken by about 11,000 people, most of whom reside in the Kieta Sub-district of Bougainville, Territory of New Guinea.¹ This paper describes the Nasioi word class *verb* in terms of inner structure.² (Verb derivatives are still being investigated.)

Perhaps the most interesting part of Nasioi verb structure is its morphophonemics, especially with regard to its sensitivity to rhythm (see sections 4.2, 10.5, and 10.7) and the role of the high vowels (see sections 4.2 and 10.2-5).

2. PHONEMES. The following represent the phonemes of the Nasioi language:

p	t	k	?
b	d		
m	n	ŋ	
i		u	
e	a	o	

The obstruents /p/, /t/ and /k/ are un-aspirated. /t/ before /i/ is pronounced as [s], and elsewhere as [t]. /b/ and /d/ are full stops word initially or following /?. Elsewhere /b/ is a bilabial fricative and /d/ is an alveolar flap.

The alveolar and velar nasals are largely mutually exclusive, the velar [ŋ] occurring word finally and preceding /k/ word medially, and the alveolar [n] occurring elsewhere. However, the velar nasal does appear as a full phoneme /ŋ/ in certain cases: (1) word medially preceding vowel-initial clitics, (2) compound-stem medially preceding a vowel-initial root (including certain reduplicated roots), and (3) in only two or three instances, root medially preceding a vowel. In this paper the velar and alveolar nasals are both regarded as /n/ except where the velar appears as a full phoneme as described above.

The following represent the consonant-vowel patterns which occur in Nasioi syllables:

V	VC	CV	CVC	N
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A syllable is composed of a vowel with its onset and/or coda, if any, or a word-initial nasal occurring before another consonant. Except when collocationally restricted, all phonemes except glottal stop occur syllable (and word) initially, and only glottal stop, the nasals and the vowels occur syllable finally.

These are the collocational restrictions: (1) syllable-final nasals are restricted to velars word finally. Word medially before obstruents they occur only as homorganic with the obstruent, and before syllable-initial nasals they do not occur at all unless they are syllabic. (2) Obstruents word medially are restricted to the voiceless variety following nasals. Hence the word-medial consonant clusters are /?p/, /?t/, /?k/, /?b/, /?d/, /?m/, /?n/, /mp/, /nt/, and /nk/.

Vowel clusters are unrestricted and sequences of up to at least six vowels have been observed. Identical vowels occur in sequences of up to four and are pronounced as varying degrees of length. The length corresponds to the number of identical vowels; there are no individual syllabic peaks unless one of the vowels is stressed, in which case the stressed vowel does have a syllabic peak.

All the syllable types occur initially, medially, and finally in the word except for the syllabic nasal, which only occurs word initially and root initially within a compound stem.

Stress is nonphonemic. With words in isolation it occurs on the first syllable of two-syllable words and on the second syllable of words of three or more syllables. This consistent behavior of stress has been a primary factor in the analysis of the syllabic nasal and makes it considerably easier for the unpracticed ear to spot many double nasals or vowels word initially.

Examples of phoneme distribution:

nij-e	'I (did)'
I-actor (clitic)	
koon-anta	'straightener'
straight-cause	
iij-iim-p-ant-θ-in ³	'I grated a little on it.'
grate-grate-it-I-sg-did	
ua-o-θ-ai ⁴	'He will rest.'
rest-he-sg-will	
kara-nka ⁵	'messenger'
talk-carry	
kara-b-ant-θ-in	'I talked to him.'
talk-him-I-sg-did	
tiom-p-ant-θ-in	'I followed him.'
follow-him-I-sg-did	
tio-m-u-θ-in	'He followed me.'
follow-me-he-sg-did	
tion 'to follow'	madeoi? 'eagle'
daajan 'to praise'	tanka? 'hand, arm'
pete? 'soft'	tanan 'sugarcane'
pina? 'like'	naa? 'to singe'
pi ?na ? 'gun'	nna? 'to carry'
kaada 'moon'	na? 'to paste on'
kaada? 'betel nut'	bai 'to cry out'
kadaaa? 'to be glad', 'love'	bai? 'to throw'
kada 'to talk', 'word'	kaumpe? 'tree branch'

3. GENERAL COMPOSITION OF VERBS. In Nasioi the verb is distinguished from other word classes by (1) the presence of person markers which occur as suffixes or are incorporated in the stem as portmanteaux, and (2) the presence of the tense-aspect or relational suffixes. Its internal structure may be defined by the following formula:

$$\text{vb} = \text{vs} + (\text{ObjP} + (\text{ANu})) + \text{SbjP} + \text{Nu} + (\text{Neg}) + \{\text{Ts-Asp}; \text{Rel}\}$$

A reading of only the obligatory categories in the formula above constitutes a minimum verb construction. Such a reading would yield the following: A verb consists of a verb stem (vs) plus a subject person marker (SbjP) plus a number marker (Nu) plus either a tense-aspect marker (Ts-Asp) or a relational marker (Rel). This minimal construc-

tion may be expanded by the inclusion of the following optional categories: object person marker (ObjP), auxiliary number marker (ANu) which may only occur with an object person marker, and a negative marker (Neg).

4. VERB STEMS. Verb stems may be divided into four classes. Each class imposes restrictions on the reading of the verb-structure formula. Each class is limited to its own peculiar subset of subject person markers and number markers which may occur. The verb stems of the two largest classes (1 and 3), with the exception of the small subclass 1-C, have one form which may occur bound or free. Class 2 and 4 verb stems each have a bound form and a free form. Classes 1 and 2 employ portmanteau morphemes as third person-plural markers while classes 3 and 4 do not. These four classes may be charted as shown in Table 1.

TABLE 1: *Verb stem classes*

Third person plural	Bound and free stems same	Bound and free stems different
person and number portmanteau	class 1	class 2
person and number distinct	class 3	class 4

4.1 Class 1 verb stems constitute the largest and most versatile of the four classes of verb stems. Any stem of this class, except those of subclasses 1-A and 1-B, may be expressed as a ditransitive, a transitive, or an intransitivized verb, depending on the object person marker used. The auxiliary number marker and the subject person markers show agreement with these three types of object markers. The verb formula, then, when given for class 1 stems, may be written as follows:

$$vb_1 = vs_1 + \left\{ \begin{array}{l} ObjP_d + (ANu_d) + SbjP_d; \\ ObjP_t + (ANu_t) + SbjP_t; \\ ObjP_i + SbjP_i \end{array} \right\}$$

The differences between the class 1 verb (vb_1) formula and the basic verb formula given previously are: (1) The stem is a member of a particular class (vs_1)—class 1—and the number markers which accompany it (Nu_1) belong to a correspondingly distinct set. (2) The object person markers are obligatory. (3) Three alternate systems of

person markers and auxiliary number markers exist, the selection of which determines whether the verb is ditransitive, transitive, or intransitivized. In other words, the formula above may be read these three different ways.

One reading of the formula would yield the following: A *ditransitive* class 1 verb (distinguished by its marking an indirect object) consists of a class 1 verb stem, plus an obligatory ditransitive (indirect) object person marker (ObjP_d), plus an optional ditransitive auxiliary number marker (ANu_d), plus an obligatory ditransitive subject person marker (SbjP_d), plus previously mentioned suffixes.

Another reading of the formula would yield the following: A *transitive* class 1 verb (distinguished by its marking a direct object) consists of a class 1 verb stem, plus an obligatory transitive (direct) object person marker (ObjP_t), plus an optional transitive auxiliary number marker (ANu_t), plus an obligatory transitive subject person marker (SbjP_t), plus previously mentioned suffixes.

A third reading of the formula would yield the following: An *intransitivized* class 1 verb (distinguished by its marking an indefinite object) consists of a class 1 verb stem, plus an obligatory intransitive (indefinite) object person marker (ObjP_i), plus an obligatory intransitive subject person marker (SbjP_i), plus previously mentioned suffixes. An auxiliary number marker does not occur. Examples:

vs ₁ ObjP SbjP Nu Ts-Asp Goal	Gloss
Ditransitive	
paku-mem-u-de-ain	John
help-mine-you-dl-will	John
nka-eb-omp-e-ain	kabo
carry-his/their-we/I-dl-will	cargo
Transitive	
paku-m-e-de-ain	nin
help-me-you-dl-will	me
paku-Ø-e-de-ain	John
help-him-you-dl-will	John
Intransitivized	
paku-k-i-de-ain	John-koo
help-indf-you-dl-will	John-to
oo-k-i-de-ain	
look-indf-you-dl-will	'Have a look!'

These three alternate systems of person markers and auxiliary number markers show three degrees of objective scope. The intransitivized verb has a zero objective scope. The transitive verb has an objective scope that is open to one person or group which is the direct object of the verb. The ditransitive has an objective scope open to include two persons or groups. One of the persons or groups is the 'direct object' which is out of focus. The other person or group is the possessor of the 'direct object'. The possessors, as indirect recipients of the action, are in focus in the ditransitive verb. The object person markers and the number markers refer to them and not to the actual 'direct object'.

4.1.1 *Subclass 1-A* verb stems take class 1 affixes but may not become intransitivized. These verb stems all end with a nasal. Examples:

mantom-p-ant-θ-in	'I felt it.'
feel-it-I-sg-did	
kaam-peb-ont-θ-in	'I peeled his.'
peel-his-I-sg-did	

4.1.2 *Subclass 1-B* verb stems take class 1 affixes but are not transitive. These verb stems also all end with a nasal. Examples:

tenken-θ-ant-θ-in	'I left.'
leave-indf-I-sg-did	
dentin-θ-ant-θ-in	'I stood on tiptoe.'
tiptoe-indf-I-sg-did	

It should be noted that not all nasal final class 1 stems are confined to these subclasses.

4.1.3 *Subclass 1-C* verb stems have a bound and a free form. When the indefinite object marker is suffixed, a glottal stop is added stem finally. Examples:

Free form	Transitive	Intransitivized
tabu?	tee ta-b-ant-θ-in	tee-koo ta ² -k-ant-θ-in
to.hit	him hit-him-I-sg-did	him-at hit-indf-I-sg-did
	'I hit him.'	'I hit at him.'
babu?	ba-b-ant-θ-in	ba ² -k-ant-θ-in
to.weave	weave-it-I-sg-did	weave-indf-I-sg-did
	'I wove it.'	'I wove.'

4.2 Class 2 stems are intransitive. They each have a bound form

and a free form and are unique among verb stems as a class in that their bound forms are not phonological words; that is, they do not end in vowels, /n/, or /?. Class 2 stems require a reading of the basic verb formula which deletes the object person and auxiliary number categories thus:

$$vb_2 = vs_2 + SbjP_2 + Nu_2 + (\text{Neg}) + \{\text{Ts-Asp; Rel}\}$$

Example:

ud-omp-e-adu-u?nun lead-we-dl-not-did	'We did not take the lead.'
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A reading of the formula would yield the following: A class 2 verb (vb_2) consists of a class 2 verb stem (vs_2), plus a subject person marker of the set used with class 2 stems ($SbjP_2$), plus a number marker of the set used with class 2 stems (Nu_2), plus an optional negative marker common to all verbs, plus a tense-aspect marker or a relational marker which is also common to all verbs.

There are two subclasses of class 2 stems. Those that have geminate phoneme clusters (vs_{2e}) employ a set of person markers characterized by high vowels ($SbjP_{2e}$). The other subclass consists of those which do not have geminate phoneme clusters (vs_{2n}); they use a set of person markers characterized by mid vowels ($SbjP_{2n}$). The stem *boku* is one exception. See Section 11.4, Residue.

The two subclasses of class 2 stems may be written into the formula as follows:

$$vb_2 = \left\{ \begin{array}{l} vs_{2e} + SbjP_{2e}; \\ vs_{2n} + SbjP_{2n} \end{array} \right\} + Nu_2 + (\text{Neg}) + \{\text{Ts-Asp; Rel}\}$$

Examples:

vs _{2n} kad-omp-e-adu-u?nun speak-we-dl-not-did	'We two did not speak.'
vs _{2e} mmad-ump-e-adu-u?nun flee-we-dl-not-did	'We two did not flee.'
vs _{2n} kad-e-de-adu-u?nun speak-you-dl-not-did	'You two did not speak.'
vs _{2e} mmad-i-de-adu-u?nun flee-you-dl-not-did	'You two did not flee.'

4.3 Class 3 stems express state of personal being, and, except that

they require a different set of subject person markers and number markers, they require the same reading of the basic verb formula as do class 2 stems:

$$\text{vb}_3 = \text{vs}_3 + \text{SbjP}_3 + \text{Nu}_{3-4} + (\text{Neg}) + \{\text{Ts-Asp; Rel}\}$$

Examples:

peeda-mo-de-adu-u ² nun	'We two were not hungry.'
hunger-we-dl-not-did	
tiipa-bo-de-adu-u ² nun	'They two were not sick.'
sick they-dl-not-did	

4.4 Class 4 stems include four verb stems which in their free forms are as follows: *boo²* 'to die', *oto²* 'to be', *be²* 'to go', and *po²* 'to come'. (*boo²* has one irregularity in that when it is in the first person a subject person marker immediately follows the portmanteau stem. See Section 5.3.) Though the bound forms of these verbs would appear to be phonological words in that they end with vowels, they nevertheless may not stand in isolation. The bound forms of class 4 stems must be regarded as portmanteaux with the subject person category. This would alter the basic verb formula to read as follows:

$$\text{vb}_4 = \text{vs} - \text{SbjP}_4 + \text{Nu}_{3-4} + (\text{Neg}) + \{\text{Ts-Asp; Rel}\}$$

Example:

mo-de-adu-u ² nun	'We two did not come.'
I/we.come-dl-not-did	
po-de-adu-u ² nun	'You two did not come.' OR
you/he/they.come-dl-not-did	'They two didn't come.'

4.5 Verbs of all classes, in fact most words, may be extended by *reduplication*. Reduplication in Nasioi is partial and preposed. The partials are always two syllables in length.

4.5.1 For those verbs whose stems are *bisyllabic on the basis of a geminate vowel cluster* the stem is used as the partial except that in the partial, final glottal stops are: (1) omitted preceding stops, (2) optionally retained preceding nasals and (3) obligatorily retained preceding vowels. Final nasals preceding vowels are retained as velars, /ŋ/. Otherwise they conform to the normal rules of juncture (see Section 10.1, Morphophonemics). Examples:

CVV	tuubuin tuu-b-u-Ø-in flow-it-it-sg-did 'It flowed.'	tuutuubuin tuu-tuu-b-u-Ø-in flow-flow-it-it-sg-did 'It flowed here and there.'
CVVN	keempantin keem-p-ant-Ø-in plant-it-I-sg-did 'I planted it.'	keenkeempantin keen-keem-p-ant-Ø-in plant-plant-it-I-sg-did 'I planted it here and there.'
CVV?	koo [?] adin koo [?] -Ø-a-d-in flee-him-self-sg-did 'He fled.'	kookoo [?] adin koo-koo [?] -Ø-a-d-in flee-flee-him-self-sg-did 'He fled here and there.'
NVV	nuuantin nuu-Ø-ant-Ø-in smell-it-I-sg-did 'I smelled it.'	nuunuuuantin nuu-nuu-Ø-ant-Ø-in smell-smell-it-I-sg-did 'I got whiffs of it here and there.'
NVVN	muuntuin muun-t-u-Ø-in night-you-it-sg-did 'It got dark on you.'	muuumuuntuin muu-muun-t-u-Ø-in night-night-you-it-sg-did 'It just about got dark on you.'
NVV?	maa [?] antin maa [?] -ant-Ø-in eat-I-sg-did 'I ate it.'	maamama [?] antin OR maa [?] maa [?] antin maa-maa [?] -ant-Ø-in eat-eat-I-sg-did 'I ate all around on it.'
VV	iimuin ii-m-u-Ø-in smoke-me-it-sg-did 'The smoke got in my eyes.'	iiimuiin ii-ii-m-u-Ø-in smoke-smoke-me-it-sg-did 'The smoke got in my eyes no matter where I went.'
VVN	iiimpantin iiim-p-ant-Ø-in grate-it-I-sg-did 'I grated it.'	iiijiimpantin iij-iiim-p-ant-Ø-in grate-grate-it-I-sg-did 'I grated on it some.'
VV?	uu [?] antin uu [?] -Ø-ant-Ø-in carry-him-I-sg-did 'I carried him.'	uu [?] uu [?] antin uu [?] -uu [?] -Ø-ant-Ø-in carry-carry-him-I-sg-did 'I carried him around a bit.'

4.5.2 For those verbs whose stems are *not bisyllabic on the basis of a geminate vowel cluster*, the partial: (1) is based on the whole word, (2)

reduces any of its geminate vowel clusters to one syllable and (3) drops its final consonants. Examples:

naako ² pantin	nakonaako ² pantin
naako ² -p-ant-θ-in	nako-naako ² -p-ant-θ-in
twirl-it-I-sg-did	twirl-twirl-it-I-sg-did
'I twirled it.'	'I gave it a twirl.'
benkempantin	benkebenkempantin
benkem-p-ant-θ-in	benke-benkem-p-ant-θ-in
laugh-him-I-sg-did	laugh-laugh-him-I-sg-did
'I laughed at him.'	'I had a hard time keeping a straight face with him.'
bai ² antin	baibai ² antin
bai ² -θ-ant-θ-in	bai-bai ² -θ-ant-θ-in
throw-it-I-sg-did	throw-throw-it-I-sg-did
'I threw it.'	'I gave it a quick toss.' OR 'I threw it around.'
mmaduntin	mmammaduntin
mmad-unt-θ-in	mma-mmad-unt-θ-in
flee-I-sg-did	flee-flee-I-sg-did
'I fled.'	'I kept fleeing every which way.'
ba ² antin	ba ² aba ² antin
ba ² -θ-ant-θ-in	ba ² -θ-a-ba ² -θ-ant-θ-in
rib-it-I-sg-did	rib-it-I-rib-it-I-sg-did
'I ribbed it.'	'I hurriedly ribbed it.'
timadin	timatimadin
ti-m-a-d-in	ti-m-a-ti-m-a-d-in
leave-me-self-sg-did	leave-me-self-leave-me-self-sg-did
'I left the house.'	'I more or less left the house.'
ididimoin	idiididimoin
ididi-mo-θ-in	idi-ididi-mo-θ-in
itchy-I-sg-did	itchy-itchy-I-sg-did
'I am itchy.'	'I am a bit itchy.' OR 'I was itchy for a bit.'

4.5.3 Reduplication has many *shades of meaning* which depend on context for the most part and to a lesser extent on the stem itself. The core of the meaning is "haphazard." From this the meaning may shift in one direction to "all over the place," "repeatedly," and "vigorously." Or it may shift in the opposite direction to "here and there," "around the vicinity," "hastily," "just a little," "improperly," and "almost." Examples:

do ² de-do ² de-m-a-d-in	'I was <i>very</i> happy.'
happy-happy-me-self-sg-did	

too-too ² -p-ant-θ-in jab-jab-it-I-sg-did	'I jabbed it <i>repeatedly</i> .'
ti-p-u-ti-p-u-θ-in put-it-he-put-it-he-sg-did	'He left it (scattered) <i>all over the place</i> .'
tu-b-u-tu-b-u-θ-in flow-it-it-flow-it-it-sg-did	'It leaked a little <i>here and there</i> .'
* ama-amako-θ-a-d-in dumb-dumb-him-self-sg-did	'He was <i>a bit</i> tongue tied.'
* da ² -p-a-da ² -p-ant-θ-in shut-it-I-shut-it-I-sg-did	'I <i>hastily</i> shut it (without properly locking it).'
* o-p-a-o-p-ant-θ-in finish-it-I-finish-it-I-sg-did	'I <i>almost</i> finished it.'

5. PERSON MARKERS. To show the similarity between the different kinds of person markers in Nasioi, whether subject, object or composite, we have charted all of them in Table 2. As a general observation, one may note that the first person markers are characterized by nasals, the second person markers by alveolars and the third person markers by labials, both consonant and vowel. The table also includes intransitive (intr), reflexive (rflx) and reciprocal (repl) person markers.⁶

TABLE 2: Person markers

Occurrence as	1st	2d	3d	intr	rflx	repl
<i>Subject Person</i>						
Class 1 (SbjP ₁)	-am*	-e	-u~ -aa*		-a	-ee
(SbjP ₄)	-om*	-u	-u~ -aa*			
(SbjP ₁)	-am*	-i	-u~ -aa*			
Class 2 (SbjP _{2n})	-om*	-e	-u~ -caa*			
(SbjP _{2e})	-um*	-i	-u~ -iaa*			
Class 3 (SbjP ₃)	-mo	-do	-bo~ -o~ -po			
<i>Object Person</i>						
Direct (ObjP ₁)	-m	-d	-b~ Ø~ -p			
Indirect (ObjP ₂)	-mem	-ded	-cb~ -peb			
Indefinite (ObjP ₁)				-k~ Ø		
<i>Stem-person composite</i>						
(vs-SbjP ₄) to die	mo-om*	doo*	boo*			
to come	mo	po	po			
to go	me	be	be			
to be	o ² no	oto ²	oto ²			

* These morphemes are perturbed as described in sections 10.2 and 10.6, Morphophonemics.

5.1 Subject Person Markers

5.1.1 First Person Subject Markers. Examples:

ua [?] -θ-am-θ-peu [?]	'I can cook it.'
cook-it-I-sg-can	
ua [?] -eb-om-θ-peu [?]	'I can cook his.'
cook-his-I-sg-can	
ua [?] -k-am-θ-peu [?]	'I can cook.'
cook-indf-I-sg-can	
kad-om-θ-peu [?]	'I can talk.'
talk-I-sg-can	
aat-um-θ-peu [?]	'I can sleep.'
sleep-I-sg-can	
ua-ma-θ-peu [?]	'I can rest.'
rest-I-sg-can	

5.1.2 Second Person Subject Markers. Examples:

doom-p-e-θ-peu [?]	'You can block it.'
block-it-you-sg-can	
doom-peb-u-θ-peu [?]	'You can block his.'
block-his-you-sg-can	
doon-θ-i-θ-peu [?]	'You can block!'
block-indf-you-sg-can	
kad-e-θ-peu [?]	'You can talk.'
talk-you-sg-can	
duum-i-θ-peu [?]	'You can land.'
land-you-sg-can	
tipa-do-θ-peu [?]	'You can be sick.'
sick-you-sg-can	

5.1.3 Third Person Subject Markers. Examples:

duu [?] -p-u-θ-in	'He washed it.'
wash-it-he-sg-did	
duu [?] -peb-u-θ-in	'He washed his.'
wash-his-he-sg-did	
duu [?] -k-u-θ-in	'He washed.'
wash-indf-he-sg-did	
kad-o-θ-in	'He talked.'
talk-he-sg-did	
mmad-u-θ-in	'He fled.'
flee-he-sg-did	

peeda- <i>bo</i> -θ-in	'He is hungry.'
peeda- <i>o</i> -θ-in	
hunger-he-sg-did	
uipaadii?-o-θ-in	'He was feverish.'
hot-he-sg-did	
ibeka?-po-θ-in	'It hardened.'
harden-it-sg-did	
duu?-p-aa-in	'They washed it.'
wash-it-they-did	
duu?-peb-aa-in	'They washed his.'
wash-his-they-did	
duu?-k-aa-in	'They washed.'
wash-indf-they-did	
kad-eaa-in	'They talked.'
talk-they-did	
mmad-iaa-in	'They fled.'
flee-they-did	
peeda- <i>bo</i> -do-in	'They were hungry.'
peeda- <i>o</i> -do-in	
hunger-they-pl-did	

The variants *-aa*, *-eaa*, and *-iaa* are third person plural portmanteaux.

The third person number marker used with class 3 verb stems has three forms: *-bo*, *-o*, and *-po*. Following vowels *-bo* and *-o* vary freely. Following glottal stop *-po* and *-o* occur in mutually exclusive distribution which is morphologically determined and must be noted with each class 3 verb stem in the dictionary. Stems which take *-po*, however, are rare.

5.1.4 Reflexive Subject Marker. The reflexive subject marker *-a* could be translated "self," so that whereas we say in English "He hit himself," the Nasioi speaker says "Self hit him." The reflexive obviates any necessity to use a first person subject with a first person object or a second person subject with a second person object. These combinations are unacceptable to the native speaker. Example:

oo-m-a-d-in	'I saw myself.'
see-me-self-sg-did	

5.1.5 Reciprocal Subject Marker. The reciprocal subject marker *-ee* could be translated "each other." Example:

ta-b-ee-det-in	'They two hit each other.'
hit-them-rcpl-dl-did	

Note that neither the reflexive nor the reciprocal marker may be used with either an indirect object or indefinite object.

5.2 Object Person Markers

5.2.1 First and Second Person Object Markers. Examples:

duu ² -m-a-did-in	'We washed ourselves.'
wash-us-self-pl-did	
duu ² -mem-u-Ø-in	'He washed mine.'
wash-mine-he-sg-did	
oo-d-ant-Ø-in	'I saw you.'
see-you-I-sg-did	
oo-ded-aa-in	'They saw yours.'
see-yours-they-did	

5.2.2 Third Person Object Markers. The third person *direct object* markers are *-b*, *Ø*, and *-p*. Following vowels *-b* and *Ø* vary freely. Following glottal stop *-p* and *Ø* occur in mutually exclusive distribution which is morphologically determined and which must be noted with each verb stem in the dictionary. Following nasals the third person direct object marker is *-p*. Examples:

nka-b-ant-Ø-in	'I carried it.'
nka-Ø-ant-Ø-in	
carry-it-I-sg-did	
toto ² -p-ant-Ø-in	'I cut it.'
cut-it-I-sg-did	
pinka ² -Ø-ant-Ø-in	'I secured it.'
secure-it-I-sg-did	
benkem-p-ant-Ø-in	'I laughed at him.'
laugh-at-him-I-sg-did	

The distribution of the allomorphs of the third person indirect object marker morpheme is as follows:

-eb follows vowels.

-eb and *-peb* follow glottal stop in mutually exclusive distribution which is morphologically determined and which concurs exactly with that of the distribution of the third person direct object markers *Ø* and *-p* respectively (see above).

-peb alone follows nasals.

Examples:

oo-eb-ont-Ø-in	'I saw his.'
see-his-I-sg-did	

toto ² -peb-ont-θ-in cut-his-I-sg-did	'I cut his.'
pinka ² -eb-ont-θ-in secure-his-I-sg-did	'I secured his.'
keem-peb-ont-θ-in plant-his-I-sg-did	'I planted his.'

5.2.3 Indefinite Object Markers. The indefinite object markers *-k* and *Ø* throw the emphasis on the experience of the verb rather than on the object. They render the verb intransitive so that it may only be found in an intransitive clause. The zero allomorph follows nasal-final stems and the *-k* allomorph follows other class 1 stems. Examples:

oo-b-e-Ø-ai look-it-you-sg-will	'See it!'
oo-k-i-Ø-ai look-indf-you-sg-will	'Look!'
ba ² nam-p-e-Ø-ai sit-him-you-sg-will	'Sit him (down)!'
ba ² nan-Ø-i-Ø-ai sit-indf-you-sg-will	'Sit (down)!'

Note that the absence of an object marker, *Ø*, can mean two things. Following vowels or glottal stop it signifies a third person object, but following a nasal it signifies an indefinite object. Examples:

kune ² -Ø-ant-Ø-in meet-him-I-sg-did	'I met him.'
benken-Ø-ant-Ø-in laugh-indf-I-sg-did	'I laughed.'

5.3 *Stem-Person Composites*. Only class 4 verb stems are involved in stem-person composites. Of these the verb stem *boo²*, 'to die', is unique for four reasons: (1) it distinguishes between second and third person subject; (2) its second and third person forms are perturbed (see Section 10.3, Morphophonemics); (3) it has a redundant first person marker which is also perturbed (see Section 10.2, Morphophonemics); (4) it may also be expressed as a class 1 reflexive verb using the forms *moo²*, *doo²*, and *boo²* as stems according to whether the verb is in the first, second or third person respectively. Examples:

mo-omp-Ø-ain I.die-I-sg-will	'I'll die!'
---------------------------------	-------------

doo-Ø-ain	'You'll die!'
you.die-sg-will	
boo-Ø-ain	'He'll die!'
he.die-sg-will	
moo [?] -m-a-di-ain	'We'll die!'
we.die-we-self-pl-will	
doo [?] -d-a-di-ain	'You'll die!'
you.die-you-self-pl-will	
boo [?] -p-a-di-ain	'They'll die!'
they.die-they-self-pl-will	
mo-Ø-ain	'I'll come!'
I.come-sg-will	
po-Ø-ain	'You'll come!' OR 'He'll come!'
you/he.come-sg-will	
me-de-ain	'We'll (dl) go!'
we.go-dl-will	
be-de-ain	'You two go!' OR 'They two will go!'
you/they.go-dl-will	
o [?] no-di-ain	'We will be.'
we.be-pl-will	
oto-di-ain	'You will be.'
you.be-pl-will	
oto-do-ain	'They will be.'
they.be-3d.pl-will	

Note that although the stem-person composite itself does not distinguish between second and third person subject in some of the verbs above, the verbs partially make up for it by using two different allomorphs of the plural number marker: *-do* (which only occurs with a third person subject) and *-di* (which only occurs elsewhere). This will be treated in greater detail in the following section.

6. NUMBER MARKERS. Following the person markers in the Nasioi verb come the number markers. There are two types of number markers. The auxiliary number markers (ANu) are used only when both the subject and the object are dual or plural (with one exception), but the conventional number marker (Nu) is used all the time and may refer to either subject or object, depending on the context.

6.1 The *conventional* number markers are charted in Table 3.⁷

TABLE 3: Number markers

Occurrence with	Singular	Dual	Plural	Third Person Plural
Verb ₁ (regular) (reflexive) (reciprocal)	Ø	-e*	-i*	-aa* (portmanteau)
	-da*	-e*	-i*	
	—	-e*	-i*	Ø
Verb ₂	Ø	-e*	-i*	-eaa* ~ -iaa* (portmanteaux)
Verb _{3 or 4}	Ø	-e*	-i*	-do

* These morphemes are perturbed as described in Section 10.4, Morphophonemics.

In general the number markers of transitive or ditransitive class 1 verbs may apply to either the subject(s) or the object(s). Examples:

oo-d-ant-Ø-in	'I saw you.'
see-you-I-sg-did	
oo-ded-omp-et-in	'We two saw yours (sg).' OR
see-you-I-dl-did	'I saw yours (dl).'
paku-m-e-di-man	'You (sg) are helping us.' OR
help-me-you-pl-are	'You (pl) are helping me.'

In four cases, however, the numbers are more specific.

(1) The third person plural portmanteaux all refer to the subject in both person and number.

(2) It follows also that when a third person subject marker is followed by a plural number marker in a transitive verb of this type the number refers only to the object—otherwise a portmanteau would have been used.

(3) Also, when the subject is third person dual or plural and the object is dual or plural as well, an auxiliary number and subject person portmanteau is used, which leaves the number marker to refer only to the object.

(4) Again, when the subject is first person singular and the object is third person plural, an auxiliary number marker is used. Only in this instance does the auxiliary number marker specifically refer to the object; and since it does, the singular number marker, Ø, specifically refers to the subject.

Examples:

duu?-p-aa-ko?	'They washed it.'
wash-it-they-did.	

duu ² -p-u-di-ko?	'He washed them.'
wash-them-he-pl-did	
duu ² -p-aa-de-ko?	'They washed them (dl).'
wash-them-they-dl-did	
paku-θ-ad-ant-θ-in	
help-them-pl-I-sg-did	'I helped them.'

Examples of reflexive and reciprocal class 1 verb number markers:

duu ² -d-a-da-man	'You are washing yourself.'
wash-you-self-sg-are	
ta-m-ee-di-man	
hit-we-rcpl-pl-are	'We are hitting one another.'
ta-b-ee-∅-maan	
hit-they-rcpl-pl-are	'They are hitting one another.'

Note that the absence of a number form usually indicates "singular," but in the case of the reciprocal verb it indicates "plural."

Examples of number markers in class 2 verbs:

ud-o-∅-man	'He is taking the lead.'
lead-he-sg-is	
ud-o-de-maan	
lead-they-dl-are	'They two are taking the lead.'
ud-eaa-man	
lead-they-are	'They are taking the lead.'
aat-iaa-maan	
sleep-they-are	'They are going to sleep.'

Examples of number markers in class 3 and class 4 verbs:

peeda-do-∅-man	'You are getting hungry.'
hunger-you-sg-are	
peeda-do-de-maan	
hunger-you-dl-are	'You two are getting hungry.'
peeda-do-di-maan	
hunger-you-pl-are	'You (pl) are getting hungry.'
peeda-bo-do-maan	
hunger-they-pl-are	'They are getting hungry.'
mo-∅-maan	
I.come-sg-am	'I am coming.'
mo-de-man	
we.come-dl-are	We two are coming.'

mo- <i>di</i> -man	'We are coming.'
we.come-pl-are	
po- <i>do</i> -man	'They are coming.'
they.come-pl-are	

6.2 The *auxiliary* numbering system is used, in general, to indicate that both the subject and the object are at least dual in number. It changes in form, function and position in the verb depending on whether the subject of the verb is first, second or third person, and depending on whether the verb is transitive or ditransitive. (It does not occur in an intransitivized verb.) These forms are charted in Table 4.

TABLE 4: Auxiliary number markers

Person	Transitive	Ditransitive
1st	-ad	-od
2d	-ded*	-deded*
3d	-aa*	-aa*
(portmanteau)		(portmanteau)

* These morphemes are perturbed as described in Sections 10.4 and 10.5, Morphophonemics.

6.2.1 The auxiliary number markers which occur with the *first person* subject precede that subject in the *ANu slot* of the formula for the verb. They signify that neither subject nor object is singular, that is, both the subject and the object are dual or plural (with the exception, mentioned in 6.1, that when the subject is first person singular and the object is plural, the auxiliary number marker is used to register a "plural" for the object). In addition to these auxiliary number markers, a regular dual or plural number marker still occurs and refers to either the subject or the object. Examples:

oo- <i>Ø</i> -ad-amp-et-in see-them-d/p-I-dl-did	'We saw them (dl).' OR 'We (dl) saw them.' OR 'We (dl) saw them (dl).'
oo- <i>Ø</i> -ad-amp-id-in see-them-d/p-I-pl-did	'We saw them (dl).' OR 'We (dl) saw them.' OR 'We saw them.'
oo-eb- <i>od</i> -omp-id-in see-theirs-d/p-I-pl-did	'We saw theirs (dl).' OR 'We (dl) saw theirs.' OR 'We saw theirs.'

- oo- \emptyset -ad-ant- \emptyset -in
see-them-pl-I-sg-did
oo-eb-od-ont- \emptyset -in
see-theirs-pl-I-sg-did
- ‘I saw them.’
‘I saw theirs.’

6.2.2 The auxiliary number markers which occur with the *second person* subject follow the subject marker and combine with the conventional number markers as portmanteaux in the *Nu slot* in the verb formula. They signify that both the subject and the object are either dual or plural. Other than that there is no more numerical information to be found in the verb. Example:

- oo-b-e-ded-in
see-them-you-d/p-did
- ‘You (dl) saw them.’
‘You (dl) saw them (dl).’
‘You saw them (dl).’
‘You saw them.’

6.2.3 The auxiliary number marker which occurs with the *third person* subject is actually combined with the subject marker as a third person auxiliary portmanteau in the *ANu* and *SbjP slots*. It signifies that the subject is a more-than-singular third person and that the object is dual or plural according to the filler of the number slot.

Although the form of this third person auxiliary portmanteau is *-aa* it should not be confused with the third person plural portmanteau *-aa* of Section 6.1. Though the forms of these two are the same, both their functions and numeric values are somewhat different, and we say that the latter fills the *SbjP* and *Nu slots* because auxiliary number markers do not occur in verbs where either the subject or the object is singular.

Table 5 compares two verbs to show the difference between the two *-aa* morphemes.

TABLE 5: Contrast between two /-aa/ morphemes

Stem	ObjP	(ANu)	SbjP	Nu	Ts-Asp	Gloss
oo see	-d you		-aa they (pl)	-aa they (pl)	-in did	‘They (pl) saw you (sg).’
oo see	-d you	-aa they (d/p)	-aa they (d/p)	-d pl	-in did	‘They (d/p) saw you (pl).’

7. NEGATIVE MARKER. Following the number markers comes the potential or optional negative marker. This marker has only one manifestation which is *-adu*. It may be used with all but the few verbs whose tenses have their own negative counterparts. Example:

oo-d-aab-adu-in
see-you-they-not-did 'They didn't see you.'

8. TENSE-ASPECT. We are now considering the last morpheme position in the verb. This position may be filled by one of two types of morphemes: the tense-aspect or the relational. The tense-aspect markers will be discussed first; see Table 6.

TABLE 6: Tense-aspect markers

		Positive	Negative
Future	General	-ain	-auka [?] nun
	Immediate	-ai	-auka [?]
Present	Temporal	-n	-a [?]
	Progressive	-man*	-a [?]
	Habitual	-maun	-aun
Past	Immediate	-in	(-a [?])
	Intermediate	-ien	
	Distant	-u [?] nun ~ -u [?]	
	Habitual	-ko [?] nun ~ -ko [?]	
Volitional Avolitional Subjunctive Traditional Durational Neutral		-a [?] naan*	
		-?neen	
		-peu [?]	
		-koo [?]	
		-ko	
		-i	

* These morphemes are perturbed as described in Sections 10.7 and 10.8, Morphophonemics.

-ain This future marker in the right context is also a gentle imperative. Example:

daka[?]-p-e-Ø-ain
cover-it-you-sg-will 'You will cover it.' OR
 'Cover it sometime.'

-auka²nun The negative future marker, in the right context, is also a gentle negative imperative. Example:

daka²-p-e-Ø-*auka²nun*
cover-it-you-sg-will.not

'You will not cover it.'

-ai The immediate future marker is also the direct imperative, particularly when the subject is the second person. Examples:

daka²-p-e-Ø-*ai*
cover-it-you-sg-will
daka²-p-u-Ø-*ai*
cover-it-he-sg-will

'Cover it!'

'He'll cover it at once.'

-auka² The negative immediate future marker is also the negative direct imperative. Examples:

daka²-p-e-Ø-*auka²*
cover-it-you-sg-shall.not
daka²-p-u-Ø-*auka²*
cover-it-he-sg-shall.not

'Don't cover it!'

'He's not about to cover it.'

-n The temporal marker refers to a small chunk of the immediate present which can (1) reach back a few minutes, (2) reach forward a few minutes or (3) concern itself with a short-ranged 'here and now'. Examples:

nin	mo-Ø-n	'I just now came.'
I	I.come-sg-temporal	
nin	nan-a-Ø-n	'I'll go for a minute.' OR
I	go-I-sg-temporal	'I'm on the verge of going.'
nin	tampa ² o ² no-Ø-n	'I am well.' OR 'I am fine.'
I	well am-sg-temp.	

-man The present progressive marker signifies incompleted action going on at the present time. Example:

nai-e-de-*man*
drink-you-dl-are

'You two are drinking.'

-a² This is the negative form of the present progressive, the present temporal and the immediate past when it is *very* immediate (otherwise

the regular negative marker *-adu* occurs indicating *not* very immediate past). Example:

ta-b-amp-θ-a ²	'I didn't hit him.' OR
hit-him-I-sg-am/did.not	'I am not hitting him.'

-maun The present habituative marker indicates that the action being engaged in is the usual thing for a particular individual or group to do. Example:

Tankian-nadi-koo	duu ² -m-a-da- <i>maun</i>
Takian-river-at	wash-me-self-sg-usually
'I usually wash myself at the Tankian River.'	

-aun The negative present habituative marker indicates that the action is not the usual thing for an individual or a group to do. Example:

Mietabe-nadi-koo	duu ² -m-a-dab- <i>aun</i>
Mietabe-river-at	wash-me-self-sg-not.usually
'I don't wash myself in the Mietabe River.'	

-in The immediate past marker denotes time anywhere from present perfect to yesterday about sundown. Examples:

aat-u-θ-in	'He is sleeping.' OR 'He slept.'
sleep-he-sg-did	
nka-ant-θ-in	'I carried it recently.'
carry-he-sg-did	

-ien The intermediate past marker denotes time of one or two days ago. Actually the limits may not be so strict but may indicate a time in the past relatively nearer the present than some other point of time. Example:

koo ² -m-a-d- <i>ien</i>	'We fled a day or so ago.'
flee-we-self-pl-recently	

-u²nun The distant past marker denotes time of three or more days ago. Example:

tenken-θ-i-θ- <i>u²nun</i>	
leave-indf-you-sg-three.or.more.days.ago.did	
'You left quite some time ago.'	

The abbreviated form of this morpheme is *-u²*. It is used where abruptness is desired for effect or where extra emphasis on the stem is desired.

-ko²nun The past habituative marker usually denotes the concept "used to," and it may cover any activity in the distant past that was done as few as two or three times or simply lasted quite a long time. Examples:

bio ²	maa ² -an-Ø-ko ² nun	'I used to eat meat.'
meat	eat-I-sg-used.to	
nan-u-Ø-ko ² nun, nan-u-Ø-ko ² nun	go-he-sg-used.to go-he-sg-used.to	'He went and went.' (one long trip)

-ko², the abbreviated form of *-ko²nun*, like the abbreviation *-u²*, is not as common as the longer form, but in certain places is preferred for the right effect. One informant said that the short form fits the intonation pattern better in a particular place. If this be the case a more definite description of this variation may have to wait for a full analysis of Nasioi intonation.

-a²naan The volitional marker denotes an event which the actor of the preceding verb intends to happen. If there is no preceding verb then it denotes an event which will inevitably happen. It is analogous to the expression 'going to . . .' in English. Examples:

da ²	nan-i-Ø-a ² naan?	'Were you intending to go?'
you	go-you-sg-volition	
apo ² -u-Ø-a ² naan		'It is going to rain.'
rain-it-sg-volition		

nin	mo-Ø-in	kapoo ²	nau-d-am-Ø-a ² naan?
I	I.come-sg-did	thing	tell-you-I-sg-volition

'I came to tell you something.'

-²neen The avolitional marker denotes an event which the actor of the preceding verb intends to prevent. If there is no preceding verb in the same sentence then it denotes an event which needs to be prevented by someone. An avolitional verb is often shouted as an alarm when, for instance, a child is in a precarious position. Example:

dua ² -Ø-a-da- ² neen	'Look out, he'll fall!'
fall-him-self-sg-avolitional	

-peu² The subjunctive marker denotes hypothesis, supposition, possibility and ability. Example:

aa²-p-u-Ø-peu²
say-it-he-sg-could

- 'He can say ...'
- 'He could say ...'
- 'He would say ...'
- 'He could have said ...'
- 'He would have said ...'
- 'Supposing he would say ...'
- 'Supposing he would have said ...'

-koo² The traditional marker denotes that the action is common to everybody in the society. It is the done thing. For instance, it is used to talk about how certain ethnic groups build their houses. Example:

paba ee² kani-Ø-amp-i-koo²
houses thus build-it-we-pl-traditionally
'This is the way we build houses.'

-ko The durational marker is used as an occasional substitute for tense markers in verbs which are repeated to denote that the action or state persists at some length. Although it is used almost entirely in the environment of past tense, it is itself tenseless. Example:

Bata²-Ø-u-Ø-u²nun. Bata²-Ø-u-Ø-ko bata²-Ø-u-Ø-ko.
chase-it-he-sg-did. chase-it-he-sg-kept.doing chase-it-he-sg-kept.doing.
Emu² moo²-Ø-u-Ø-u²nun.
Then catch-it-he-sg-did.
'He chased it. He chased and chased it. Then he caught it.'

-i The neutral marker is used as an occasional substitute for other tense-aspect markers, particularly in narratives and reported speech. Its most formal use, however, is in the dependent clause of the Hypothetical Sentence. Examples:

Iapa-b-a-ra-ra	nai-Ø-u-Ø-i.
Cook-him-self-sg-when	eat-it-he-sg-neutral.
Nai-Ø-u-Ø-ra-i ² nan	nan-Ø-u-Ø-u ² nun.
Eat-it-he-when-time	go-indf-he-sg-did
'When he had cooked himself (some food) he ate it. When he had eaten it he went.' (These two sentences were taken from a story.)	
Nau-m-e-Ø-i	dei do ² dedo ² de ² -m-a-ra-peu ² .
Tell-me-you-sg-neutral if rejoice-me-self-sg-subjunctive	
'If you would tell me I would rejoice.' (Hypothetical Sentence)	

9. RELATIONALS. Whereas tense-aspect markers occur with independent verbs, the relational markers indicate that the verb is dependent. They also indicate whether the subject of the dependent verb is the same as or different from that of the independent verb. It is convenient to chart the relational markers in two columns; see Table 7. One column is for those markers which indicate "same subject" and another for those which indicate "different subject."

TABLE 7: Relational markers

	Same Subject	Different Subject
<i>Action changes</i>		
Presently	-kotaa?	
Immediately	-da ~ -ta	
		-ko
<i>Action continues</i>		
At length	-itaa?	
Briefly	-ma	
<i>Action coordinates</i>	-i ~ -a?	-io?

-kotaa? This relational indicates that the action of the dependent verb had been going on for some time when the same actor interrupted it or stopped it to do something else. Often, but not always, it carries with it an implication that the action of the dependent verb precipitates that of the independent. Examples:

- Dadutue o?no-Ø-kotaa? tenken-Ø-ant-Ø-in
 Darutue am-sg-after.some.time leave-indf-I-sg-did
 'Having been at Darutue for some time, I left.' OR 'I was living at Darutue until I left.'
 madatini nai-Ø-u-Ø-kotaa? bo-Ø-in
 medicine drink-it-he-sg-after.some.time he.die-sg-did
 'He took medicine until he died.' (He may have taken too much.)

-da indicates that the action of the dependent verb having been completed, the same actor does something else as indicated in the independent verb. Example:

- da? po-Ø-da nan-Ø-amp-e-ain
 you come-sg-when go-indf-we-dl-will
 'When you come we (inclusive) will go.'

Note that this particular form does not follow a dual number marker.

-ta is an allomorph of *-da* which only follows dual number markers.
Example:

d-ee?	po-de- <i>ta</i>	nan-Ø-amp-i-ain
you-dl	come.you-dl-when	go-indf-we-pl-will
'When you come, we (inclusive) will go.'		

-itaa? indicates that the actor has been doing something as indicated in the dependent verb while he begins and finishes the action of the independent verb. When the dependent verb is the verb *oto?*, 'to be', usually the state of being is considered to be rather long prior to the action of the independent verb. Otherwise it is considered that the time spent after the action of the independent verb begins is the longer period. Examples:

Ukarumpa o?no-d- <i>itaa?</i>	nin Goroka aape nan-Ø-ant-Ø-u?
Ukarumpa were-pl-during	I Goroka to go-indf-I-sg-did
'While we were at Ukarumpa I made a trip to Goroka.'	

ba?na-m-a-d- <i>itaa?</i>	deedu-Ø-ant-Ø-in
sit-me-self-sg-during	read-it-I-sg-did
'I read while sitting down.'	

-ma indicates that the actor has just begun to do something as indicated by the dependent verb. Almost simultaneously he starts the action of the independent verb. The action of the independent verb may stop when the action of the dependent does, or in the appropriate context it may continue for a while after the dependent action stops.
Example:

kad-o-ma	nan-Ø-ant-Ø-in
talk-I-while	went-indf-I-sg-did
'I went talking.'	

-i indicates that the actor is coordinating two actions, the action of the dependent verb modifying the action of the independent verb.
Example:

nka-Ø-e-Ø-i	po-Ø-ai
carry-it-you-sg-ing	come-sg-will
'Carrying it, come!' OR 'Bring it here!'	

-ko indicates a change of actor in the next verb and can be translated as "when." Examples:

aa² o²no-di-ko b-a-ud-in ponto²-Ø-a-d-u²nun
 here we're-pl-when his-sg-child-male born-it-self-sg-did
 'When we were here his baby boy was born.'

da² po-Ø-ko nan-Ø-amp-e-ain
 you come-sg-when go-indf-we-dl-will
 'When you come, we (excl) two will go.'

-io² indicates that two different actors are coordinating their action, the action of the dependent verb modifying the action of the independent. In certain contexts it implies that the action of the dependent verb caused that of the independent verb. Examples:

nen-t-a-d-io² aun a-d-omp-Ø-ain
 wait-you-self-sg-while this give-you-I-sg-will
 'You wait and I'll give this to you.'

poodo² bau²-Ø-amp-adu-*io²* koo²-Ø-a-d-in
 pig feed-it-I-not-while flee-it-self-sg-did
 'The pig ran off because I didn't feed it.'

Note: A time suffix followed by an emphasis (emp) clitic may follow the three relational containing alveolar stops. Following glottal stop the form is *-nay-e*. Following vowels the form is *-i²nay-e*. This compound suffix emphasizes the time element involved in the relationship between the dependent and independent verbs and gives a more deliberate style. Examples:

Dadutue o²no-Ø-ita²-*nay-e* siipa-mo-Ø-u²nun
 Darutue I. was-sg-after.some.time-time-emp sick-I-sg-did
 'Then it was after having been in Darutue some time that I got sick.'

oo Ø-ami-Ø-da-i²*nay-e* tee tenken-Ø-ant-Ø-u²nun
 seec-it-I-sg-when-time-emp then/it leave-indf-I-sg-did
 'And so then when I saw it I left.'

Often in stories where a long action is dramatized the relational marker *-kotaa²* is used with repeated verbs, the last of which is climaxed by the emphatic ending. Example:

bata²-Ø-an-Ø-kotaa² bata²-Ø-an-Ø-kotaa²
 chase it-I-sg-continued chase-it-I-sg-continued
 'I chased it and chased it and

bata[?]-Ø-an-Ø-kotaa[?]-nay-e moo[?]-Ø-ant-Ø-in
 chase-it-I-sg-continued-time-emp catch-it-I-sg-did
 chased it until finally I caught it!'

Sometimes the story teller will get into such a rush with such a series of identical dependent verbs that *-kotaa[?]* is reduced to simply *-ko*. Example:

bata [?] -Ø-an-Ø-ko	bata [?] -Ø-an-Ø-ko
chase-it-I-sg-continued	chase-it-I-sg-continued
'I chased it and chased it and	
bata [?] -Ø-an-Ø-kotaa [?] -nay-e	moo [?] -Ø-ant-Ø-in
chase-it-I-sg-continued-time-emp	catch-it-I-sg-did
chased it until finally I caught it!'	

The emphasis clitic may also follow any of the independent verbs to emphasize the action or the object.

10. MORPHOPHONEMICS

10.1 Rules of juncture which especially affect *verb stems* and the *object markers* which follow them are as follows:

Voiced stops become voiceless following nasals.

Nasals assimilate to the point of articulation of stops which immediately follow them.

A nasal will become silent (drop out) when another nasal immediately follows, syllabic nasals excepted.

Monosyllabic verb stems ending in /p/ drop the /p/ preceding /p/.

Examples:

oo-d-a-Ø-maan	manton-t-a-Ø-maan
see-you-I-sg-do	feel-you-I-sg-do
'I see you.'	'I feel you.'
pe [?] nun-t-u-Ø-in	pe [?] num-p-u-Ø-in
find-you-he-sg-did	find-it-he-sg-did
'He found you.'	'He found it.'
pe [?] nu-m-u-Ø-in	manto-m-u-Ø-in
find-me-he-sg-did	feel-me-he-sg-did
'He found me.'	'He felt me.'
ti [?] -m-u-Ø-in	ti-p-u-Ø-in
put-me-he-sg-did	put-it-he-sg-did
'He left me.'	'He left it.' OR 'He put it.'

10.2 Distribution of the *first person subject markers* (of verbs of classes 1 and 2 and of *mabo²* and of *boo²*) is as follows:

-V (vowel)	occurs before /m/
-Vm	occurs before /p/ and -a ² naan
-Vmp	occurs before nonhigh vowels except that of -a ² naan
-Vmi	occurs before -?neen
-Vmi or Vnti	occurs before -da
-Vnt	occurs before high vowels
-Vn	occurs before /k/

Examples:

-V	oo-Ø-a-Ø-maan see-it-I-sg-do	'I see it.'
-Vm	aat-um-Ø-peu? sleep-I-sg-can	'I can sleep.'
	oo-Ø-am-Ø-a ² naan see-it-I-sg-volition	'... so I'll see it.'
-Vmp	oo-Ø-amp-Ø-ain see-it-I-sg-will	'I will see it.'
	kad-omp-e-ain speak-I-dl-will	'We two will speak.'
-Vmi	bok-umi-Ø-?neen shout-I-sg-must.not	'I must not shout.'
	oo-Ø-ami-Ø-da see-it-I-sg-when	'When I see it.'
-Vnti	mmad-unti-Ø-da flee-I-sg-when	'When I fled.'
-Vnt	mmad-unt-Ø-in flee-I-sg-when	'I fled.'
-Vn	ud-on-Ø-ko ² nun lead-I-sg-used.to	'I used to lead.'

10.3 Distribution of the second and third person composite stems of the verb *boo²*, 'to die', is as follows: the geminate vowel cluster is reduced to one syllable preceding high vowels and remains two syllables elsewhere. Examples:

bo-Ø-ien he.die-sg-recently	'He died recently.'
boo-Ø-ain he.die-sg-will	'He will die.'

10.4 The distribution of the allomorphs of the *number morphemes* may be charted in a four dimensional matrix, a chart of distinctive features, as shown in Table 8.

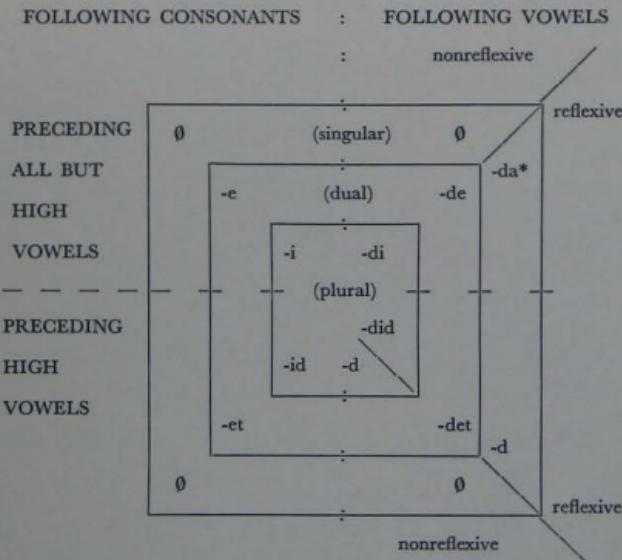
The first, or vertical, dimension divides all the forms into two groups—those that follow consonants and those that follow vowels.

The second, or horizontal, dimension divides all the forms again into two groups—those that precede all phonemes except high vowels and those that precede only high vowels.

The third dimension of concentric rectangular fences divides all the forms into three groups, each group consisting of all the allomorphs for their respective number morphemes—singular, dual and plural.

The fourth dimension of obliques is used in only three places where a distinction is made between forms used with reflexive and non-reflexive verbs.

TABLE 8: Number marker variation



Two rules of thumb may make it easier to remember the distribution.

- (1) Those allomorphs which follow consonants begin with vowels; those which follow vowels begin with consonants. (2) Those allo-

morphs which precede high vowels end with alveolar consonants; those which precede other than high vowels do not. Examples of the different forms of number markers:

Singular		
nka-b-ant-∅-in	'I carried it.'	
carry-it-I-sg-did		
pu [?] -m-a-da [?] -neen	'I mustn't fall.'	
fall-me-self-sg-mustn't		
pu [?] -m-a-d-in	'I fell.'	
fall-me-self-sg-did		
Dual		
nka-b-amp-e-ain	'We two carried it.'	
carry-it-we-dl-will		
oo-m-e-de-ain	'See me, you two!'	
see-me-you-dl-will		
oo-d-amp-et-u [?] -nun	'I saw you two.'	
see-you-I-dl-did		
nau-m-u-det-in	'They two told me.'	
tell-me-they-dl-did		
Plural		
nau-∅-amp-i-maun	'We do tell him.'	
tell-him-we-pl-do		
paku-m-e-di-ain	'You (pl) help me!'	
help-me-you-pl-will		
nka-∅-amp-id-in	'We carried it.'	
carry-it-we-pl-did		
tati [?] -m-e-d-in	'You knew us.'	
know-us-you-pl-did		
oo-m-a-did-u [?] -nun	'We saw ourselves.'	
see-us-he-pl-did		

10.5 The distribution of the allomorphs of the *auxiliary number markers* is charted in Table 9 in a three dimensional matrix.

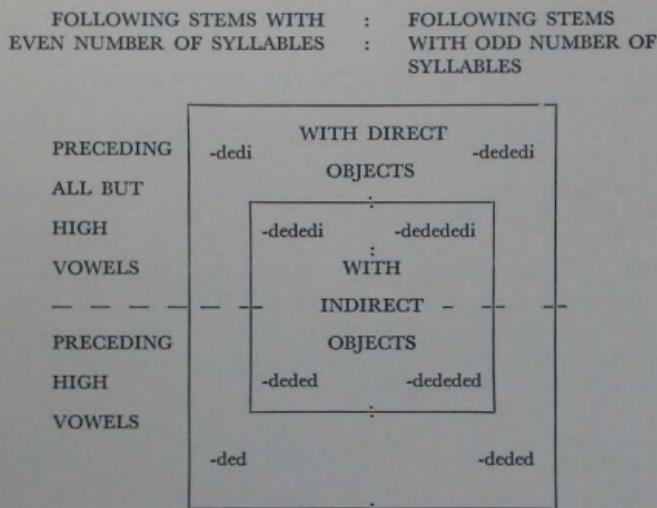
The first, or vertical, dimension divides the forms into two equal groups—those which may be affixed to verb stems that have an even number of syllables and those which may be affixed to verb stems containing an odd number of syllables.

The second, or horizontal, dimension divides the forms again into two groups—those which precede all phonemes except high vowels and those which precede only high vowels.

The third dimension of concentric rectangular fences divides the

forms into a further two groups—those which occur with indirect objects and those which occur with direct objects.

TABLE 9: Auxiliary number marker variation encountered with second person subject



Three general statements can be made about the distribution of these forms. (1) The 'even stems' take shorter forms; the 'odd stems' take longer forms. (2) The 'high vowel preceders' are shorter; the others are longer, adding a final *i*. (3) The 'directs' are shorter; the 'indirects' longer. Examples:

dikidoko? -m-e-ded-in	'You (d/p) tickled us (d/p).'
tickle-us-you-d/p-did	
tati? -p-e-ded-in	'You (d/p) knew them (d/p).'
know-them-you-d/p-did	
beedo? -m-e-deded-in	'You (d/p) visited us (d/p).'
visit-us-you-d/p-did	
ti? -m-e-deded-u?	'You (d/p) left us (d/p).'
leave-us-you-d/p-did	
bakiaa? -mem-u-deded-in	'You (d/p) stole ours (d/p).'
steal-our-you-d/p-did	

nka-eb-u-deded-u?	'You (d/p) carried theirs (d/p).'
carry-their-you-d/p-did	
deedu-mem-u-dededed-u?	'You (d/p) counted ours (d/p).'
count-our-you-d/p-did	
o-peb-u-dededed-in	'You (d/p) finished theirs (d/p).'
finish-their-you-d/p-did	
duaana-m-e-dedi-ko?nun	'You (d/p) used to dress us (d/p).'
dress-us-you-d/p-used.to	
ti?-m-e-dededi-peu?	'You (d/p) can leave us (d/p).'
leave-us-you-d/p-can	
nka-eb-u-dededi-maan	'You (d/p) are carrying theirs (d/p).'
carry-their-you-d/p-are	
o-peb-u-dedededi-ain	'You (d/p) will finish theirs (d/p).'
finish-their-you-d/p-will	

10.6 Before /a/ initial tense-aspect markers, the /a/-final number markers or portmanteaux include a /b/ as a buffer between the two /a/'s. There is one exception to this rule, and that is when the singular number marker for a class 1 reflexive verb, *-da*, precedes *-a²naan*, the buffer may optionally occur. Examples:

oo-θ-aa-man	'They see it.'
see-it-they-do	
oo-θ-aab-ain	'They'll see it.'
see-it-they-shall	
oo-θ-aab-a ² naan	'They'll see it.'
see-it-they-will	
oo-θ-a-da-man	'He sees himself.'
see-him-self-sg-is	
oo-θ-a-dab-ain	'He'll see himself.'
see-him-self-sg-shall	
oo-θ-a-da-a ² naan	'He'll see himself.'
oo-θ-a-dab-a ² naan	
see-him-self-sg-will	
mmad-iaab-a ² naan	'They'll flee.'
flee-they-will	

10.7 The present progressive tense-aspect marker has two forms, *-man* and *-maan*. They are so distributed that they always cause the verb to have an odd number of syllables. That is, if five syllables precede this morpheme the form will be long, making the total number seven. If four

syllables precede this morpheme the form will be short, making the total number five, and so on. Example:

bakiaa [?] -Ø-e-Ø-maan steal-it-you-sg-are	'You're stealing it.'
bakiaa [?] -Ø-e-de-man steal-it-you-dl-are	'You two are stealing it.'

10.8 The *volitional tense-aspect marker* has five forms. The form -a²naan may be used consistently throughout a text or the first vowel may optionally harmonize with any immediately preceding vowel. Example:

apo [?] -Ø-u-Ø-u ² naan rain-it-it-sg-volitional	'It's going to rain.'
---	-----------------------

11. RESIDUE. Seven verb stems have not yet been fully described.

11.1 *anta*, 'to cause', is a class 1 verb stem which cannot stand alone. It must be preceded by another verb stem. Whether the preceding stem is a prefix or not is open to debate. The fact that the preceding stem always occurs in its free form is evidence that it is a separate word. The fact that *anta* does not take stress as a word separate from the preceding stem is evidence that the two are part of one phonological word. At present, when *anta* is affixed as a verb, the authors regard them as two words since other verbs also may be preceded by a lone verb stem. When *anta* is not affixed as a verb, it is suffixed to the preceding stem, making a compound word. Examples:

pu [?] anta-Ø-ant-Ø-in stumble cause-him-I-sg-did	'I caused him to stumble.'
po [?] anta-Ø-aa-d-in come cause-them-they-pl-did	'They caused them to come.'
koono-anta suspect-cause (suspicion causer)	'A warning'

11.2 *nanu²*, 'to travel', is a class 1-C stem, but it is only intransitive. Examples:

nanu ² -koo pia-mo-Ø-maan travel-to want-I-sg-do	'I want to go.'
nan-Ø-amp-Ø-ain travel-indf-I-sg-will	'I will go.'

11.3 *abu*², 'to give it', is basically a class 1-C verb stem, but with two differences: (1) it does not take an indirect object; (2) its first person subject marker is the type which otherwise belongs to ditransitive verbs; that is, it uses the vowel /o/ instead of /a/. Examples:

<i>abu</i> ²	<i>nko-θ-amp-θ-aun</i>	'I don't practice giving.'
give	do-it-I-sg-don't	
<i>a-m-e-θ-ain</i>		'Give it to me.'
give.it-me-you-sg-will		
<i>temu</i> ²	<i>a-d-ont-θ-in</i>	'I already gave it to you.'
before	give.it-you-I-sg-did	

11.4 *boku* is a class 1 verb stem meaning 'to call', but it is also the free form of a class 2 verb stem meaning 'to shout'. It is different from the other stems of class 2, however, in that it uses subject person markers which otherwise are used only with stems having geminate phoneme clusters such as *aati*² and *mmadi*² have. That is, *boku* uses the subject person markers with the high vowels. Examples:

<i>aat-un-t-θ-in</i>	<i>ud-ont-θ-in</i>	<i>bok-un-t-θ-in</i>
sleep-I-sg-did	lead-I-sg-did	shout-I-sg-did
'I slept.'	'I led.'	'I shouted.'
<i>aat-iaab-ain</i>	<i>ud-eaab-ain</i>	<i>bok-iaab-ain</i>
sleep-they-will	lead-they-will	shout-they-will
'They will sleep.'	'They will lead.'	'They will shout.'

11.5 *abodo*², 'to fear', is basically a class 2 stem. It is unique for two reasons, however. (1) It is a discontinuous stem in its bound form: *a...d*. (2) Class 3 subject person markers fill the slot between the first and last parts of the bound stem—and in such a way that they agree with the regular class 2 subject person markers which follow Examples:

<i>a-mo-d-ont-in</i>	'I was afraid.'
fear.I-I-did	
<i>a-do-d-e-in</i>	'You were afraid.'
fear.you-you-did	
<i>a-bo-d-eaa-in</i>	'They were afraid.'
fear.they-they-did	

11.6 *mabo*², 'to eat staples and delicacies together', is basically a class 3 stem, but it has two differences. First, the first person subject marker may be longer than usual, a nasal plus a stop being added to

the end. Second, the nasal plus stop are subjected to the same morpho-phonemic rules as are those which occur with class 1 and 2 verbs (see Section 10.2). Examples:

ma-mo-Ø-man	'I am eating.'
eat-I-sg-am	
ma-mom-Ø-peu ²	'I can eat.'
eat-I-sg-can	
ma-momp-Ø-ain	'I will eat.'
eat-I-sg-will	
ma-mont-Ø-in	'I ate.'
eat-I-sg-did	

11.7 *oto²*, 'to be', is a class 4 verb stem which has two additional and special functions: (1) to state possession, and (2) to function as part of a compound verb.

11.7.1 When the verb stem *oto²* states possession its free stem takes an indirect object plus the third person subject marker -u and all the other affixes which would follow in a class 1 verb. Examples:

oto ² -mem-u-Ø-n	'I have it.'
be-mine-it-sg-temporal	
oto ² -eb-u-Ø-u ² nun	'He had it.'
be-his-it-sg-did	
oto ² -ded-u-d-in	'You (sg) had them (pl).' OR
be-yours-it/them-pl-did	'You (pl) had it.' OR
	'You (pl) had them.'

11.7.2 When the verb stem *oto²* functions as part of a compound verb, it follows a medial verb (usually one ending in -i or -ma or -a²) to give the sense of duration. In such a role it uses its own class 4 affixes in which the person marker may agree with either the subject or the object of the preceding verb and number markers may be omitted. Following a verb ending in -ma, *oto²* loses its initial /o/ and is fused to the end of the preceding verb like a suffix. In such a case its number markers do not occur and -ma may vary with the allomorph -maa in exactly the same manner as -man and -maan vary (see Section 10.7). Examples:

oo-Ø-amp-id-i o ² no-d-in	'We were watching it.'
see-it-we-pl-while be.I-pl-did	

oo-Ø-amp-id-i	o ² no-Ø-in	'We were watching it.'
sce-it-we-pl-while	am-sg-did	
oo-Ø-amp-i-ma	oto-Ø-maun	'We are watching it.'
see-it-we-pl-while	be.I-sg-do	
oo-Ø-amp-i-mato-maun		'We watch it.' OR 'We are watching it.'
see-it-we-pl-durative-do		
oo-Ø-amp-Ø-a ²	o ² no-Ø-n	'I don't see it.'
see-it-I-sg-do.not	I.am-sg-temp.	

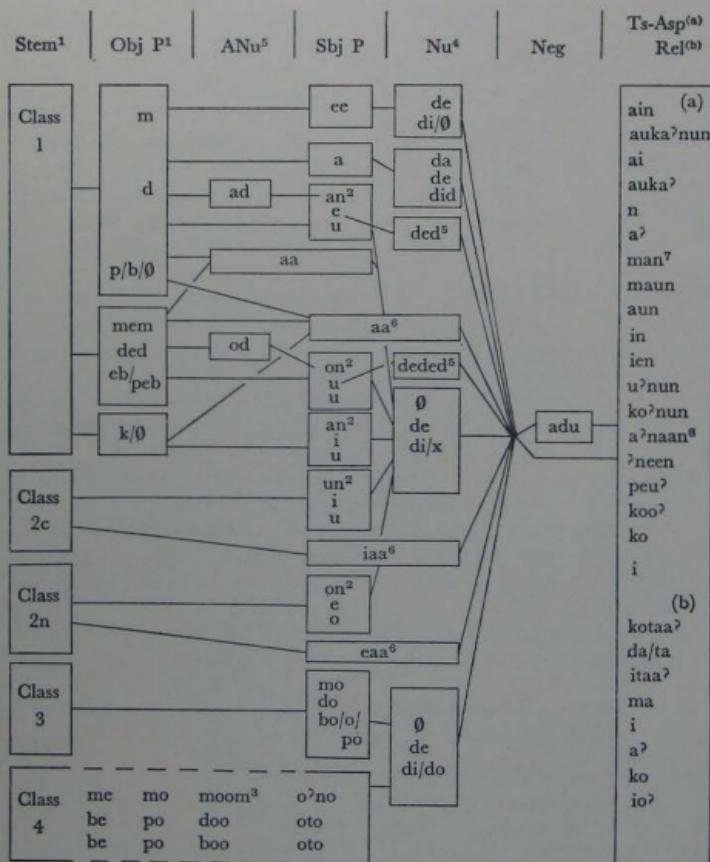
Appendix

Table 10 is a display of all the morphemes and morphologically determined allomorphs with which Nasioi verbs are constructed. The morphemes are arranged in columns in their respective orders. They are also grouped into boxes according to their various sets. In each box containing more than one morpheme (except for Tense-Asp/Rel) they are listed from top to bottom in the following order: first, second and third person; or singular, dual and plural, as the case may be. (In one set there is no singular.) The plural number marker for the third person subject is shown under a virgule (/).

Lines are drawn from box to box as in a wiring diagram to show how these morphemes and sets are actually combined. Given the morphophonemic rules for the first person subject markers, the number markers and the portmanteaux, practically any Nasioi verb may be constructed from this chart. Having picked a nonrestricted verb stem, one has only to follow his choice of lines and choose a morpheme from each box. Cooccurrence restrictions are as follows:

- (1) Object and subject person markers may not both be first person or both be second person in the same verb.
- (2) Auxiliary number markers will not cooccur with a singular number marker (one exception noted in Section 6.2.1) and may only occur with particular subject person markers as indicated by the lines which enter the boxes to single them out.
- (3) Following either class 1 or 2 verb stems the third person subject marker and the plural number marker may not cooccur, hence the "x" under the virgule. A portmanteau must be used instead.
- (4) The tense-aspect markers -auka²nun, -auka² and -a² are negative in themselves and do not occur with the negative marker -adu.

TABLE 10: A unified display of Nasioi verb affixes



Superscript numbers refer to the subsections of the discussion on morphophonemics in Section 10 of this paper.

Notes

¹ There are eight dialects of Nasioi, namely:

Nasioi Proper	Oune
Pakia-Sieronsi	Orami
Koromira	Mainoki
Lantanai	Korpei

This paper is based on the dialect of Nasioi Proper, which the majority of the people speak.

Nasioi is a Non-Austronesian language of the Nasioi-Nagovisi-Siwai-Buin stock. The Nasioi family includes Nasioi and Nagovisi. For more detailed information about the relationships see *Languages of the Bougainville District*, by Gerald Allen and Conrad Hurd, 1965 (56 pp. + map). It may be obtained from the Department of Information and Extension Services, Port Moresby, Papua.

² We have collected our material at Daratue Village in the Bougainville District. The people here have been very helpful and we wish to express our thanks to them, especially to Aatuu³ of Mantopisi Hamlet and Joseph Duiona who helped in the initial analysis and to Joseph Aatuu³ of Toberau Hamlet for help in the revision. We are also grateful to Fr. Hogan of the Tubiana Catholic Mission for lending us a carbon copy of Fr. Mueller's *Nasioi Grammar* which gave us a head start on analysis.

Still another source of help for which we are thankful was a concordance of Nasioi words and morphs based on seventy-five pages of Nasioi text. The concordance was produced by computer by the Linguistic Information Retrieval Project of the Summer Institute of Linguistics and the University of Oklahoma Research Institute, sponsored by Grant GS-934 of the National Science Foundation.

Our thanks to Dr. Darlene Bee of the Summer Institute of Linguistics for the help she gave as consultant in the organizing of this description of the Nasioi verb.

This research has been supported in part by the New Guinea Branch of the Summer Institute of Linguistics Research Fund.

³ The special symbols used in this paper are as follows:

- Ø A cipher signifies a zero morph, that is, the presence of meaning by virtue of the absence of a form.
- . A period between words in an English gloss signifies that all words so joined relate to one Nasioi morpheme.
- ~ A tilde between two forms signifies that they are variant forms of one morpheme.
- { } Braces enclose alternate choices which are separated by a semicolon.
- () Parentheses, when used in formulas, enclose optional (nonobligatory) items.

/ A virgule between English glosses indicates that either gloss is acceptable.

sg Singular

dl Dual

pl Plural

d/p Dual or Plural

indf Indefinite (object marker)

A plural English gloss stands for a plural Nasioi expression unless it is labeled dual (dl) in parentheses.

⁴ Note that here there are five syllables, no consonants.

⁵ Note that here there are four syllables, not three.

⁶ Person markers in verbs are very similar to the possessive prefixes⁷ of the pronouns and kin terms. A comparison of verbal and possessive markers follows:

Person	Verbal Suffixes		Nominal Prefixes
	Subjects	Objects	
1st	-am ~ -an ~ -om ~ -on ~ -um ~ -un ~ -mo ~ ...	-m ~ -mem	in- ~ n- ~ m-
2d	-e ~ -u ~ -i ~	-d ~ -ded	d-
3d	-u ~ -aa ~ ...	-b ~ -eb ~ -p ~ -θ ~ -peb ~ ...	b-

Examples of nominal possessive markers:

n-θ-ka-naa	'mine'
my-sg-self-one	
d-a-ka-naa	'yours'
your-sg-self-one	
b-a-ka-naa	'his'
him-sg-self-one	
n-θ-udin	'My son'
my-sg-son	
d-a-udin	'Your son'
your-sg-son	
b-a-udin	'His son'
his-sg-son	
in-θ-un	'My husband'
my-sg-husband	

m-Ø-ma? 'My father'
my-sg-father

⁷ Number markers in verbs are similar to the number prefixes for pronouns and kinship terms. Comparison of number markers:

Person	Verbal Suffixes	Nominal Prefixes
1st	Ø ~ -da*	Ø ~ -a
2d	-e*	-e ~ -ee
3d	-i*	-i ~ -ii

The morphemes that are starred are perturbed as described in Section 10.4, Morphophonemics.

Examples of nominal number prefixes:

<i>n-Ø-ka-naa</i>	'mine'
<i>me-sg-self-one</i>	
<i>b-a-ka-naa</i>	'his'
<i>him-sg-self-one</i>	
<i>b-ee-ka-naa</i>	'theirs' (dl)
<i>they-dl-self-one</i>	
<i>b-ii-ka-naa</i>	'theirs'
<i>they-pl-self-one</i>	
<i>n-Ø-udin</i>	'My son'
<i>my-sg-son</i>	
<i>n-e-udin</i>	'Our (dl) son'
<i>our-dl-son</i>	
<i>n-i-udin</i>	'Our son'
<i>our-pl-son</i>	