

## ‘ALIENABLE’ POSSESSION IN BIAKIC

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## ABSTRACT

Alienable possessive constructions in Biakic stand out with respect to the South Halmahera-West New Guinea language family to which they belong. This article investigates the origins of the innovative alienable possessive forms in Biakic, which constitutes an example of grammaticalization from predicative to attributive possession. It describes the marking of alienable possession for each of the four Biakic languages, examining the form of the markers, their position with respect to the possessum, and the relative order of possessor and possessed, before examining previous analyses of those markers. Object relative clauses in Biakic are compared with possessive markers, concluding that the possessive markers arose from the grammaticalization of an object relative clause. Finally the remaining problem of possessive markers in Meoswar is examined.

1. INTRODUCTION<sup>1</sup>

Biakic languages are a subgroup of the South Halmahera-West New Guinea (SHWNG) family of Austronesian languages. The subgroup is formed of four languages, Biak, one of the largest languages of Indonesian Papua, spoken along the coast of the Bird's Head, on the major islands of Biak, Supiori and Numfor, and in the Raja Ampat by around 50,000 speakers; Roon spoken on Roon island; Dusner, now only remembered and no longer used in the village of Dusner; and Meoswar or Voswar spoken by around a thousand speakers in three villages on the island of Meoswar. The languages of the Biakic subgroup of SHWNG stand out from that family—and from the other languages in the area—with regard to the marking of possession (van den Berg 2009). The subgroup is well established on morphological, phonological and lexical grounds (Anceaux 1961; Kamholz 2014). On phonological evidence, a common innovation of Biak, Roon and Meoswar is proto-Malayo-Polynesian (PMP) *\*t > k*, a change that did not happen in Dusner,

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which retained PMP *\*t* (Kamholz 2012: 8). Wandamen also retained PMP *\*t*: the extensive contact of Dusner speakers with speakers of Wandamen/Wamesa combined with high rates of bilingualism (Dalrymple & Mofu 2012:1–3) might explain that single divergence. Biak, Roon and Dusner also stand out by marking gender in quite a similar way. Fairly little is known about Meoswar. Lexical and phonological evidence groups the language with Biakic, but no example is recorded in the literature for alienable possession as Anceaux (1961) only analyses inalienable possession. Unless otherwise stated, data on Meoswar come from my own fieldwork.

All SHWNG languages, except Taba in the South Halmahera group (Bowden 2001), make a distinction between alienable and inalienable possession. For alienable possession, a number of strategies can be distinguished. Some languages still retain reflexes of possessive classifiers, either distinguishing general and edible possession, as in Buli and Sawai, or presenting a unique alienable possessive marker that is said to be the reflex of an edible possession classifier *\*na* with a set of possessor agreement markers (van den Berg 2009). As proto-Oceanic has been reconstructed to have a general classifier *\*na*, which is also found in alienable possession in Larike (Central Malayo-Polynesian, spoken on Ambon in the Moluccas), it may be that the marker *\*na* was also the general classifier in proto-SHWNG. In Buli, the shape of both possessive classifiers reconstructed by van den Berg is still well preserved, using *ni* as a general alienable possessive marker, and *na* for edible alienable possession:

(1) Buli (van den Berg 2009: 334)

- |    |                                 |       |
|----|---------------------------------|-------|
| a. | ya-ni-k                         | ebai  |
|    | <i>1SG-POSS.GEN-1SG.POSS</i>    | house |
|    | ‘my house’                      |       |
| b. | ya-na-k                         | pinge |
|    | <i>1SG-POSS.EDIBLE-1SG.POSS</i> | rice  |
|    | ‘my rice’                       |       |

Languages making use of a single strategy for alienable possession based on a reflex of classifier *\*na* include Ambai, and more generally the West Yapen subgroup:

(2) Ambai (van den Berg 2009: 337)

- |    |                 |       |
|----|-----------------|-------|
| a. | e-ne            | munu  |
|    | <i>3PL-POSS</i> | house |
|    | ‘Their house’   |       |
| b. | ne-ku           | ina   |
|    | <i>POSS-1SG</i> | bone  |
|    | ‘my bone’       |       |

A few SHWNG languages mark alienable possession by a set of prefixes on the possessed noun, generally used in the other languages for marking inalienable possession only: Waropen, Warembori, Irarutu and Magey Matbat. In Magey Matbat for instance, inalienable possession is marked by suffixes (3a), whereas alienable possession is marked by prefixes (3b, the superscript indicates tone):

(3) Magey Matbat (van den Berg 2009: 336)

- |    |                      |
|----|----------------------|
| a. | fa-m                 |
|    | <i>husband-2SG</i>   |
|    | ‘your husband’       |
| b. | aw-wa <sup>3</sup> ŋ |
|    | <i>2SG-canoe</i>     |
|    | ‘your canoe’         |

Most SHWNG languages marking alienable possession by a separate word place the possessive word before the possessed noun, as is the case for the Buli and Ambai examples above. Languages marking it affixally all mark it through prefixation, which may have originated in a preposed marker that grammaticalized and became an affix. This ordering is also that which has been reconstructed for proto-SHWNG (van den Berg 2009).

The marking of possession is peculiar in Biakic languages in many respects, and shows a clear set of shared innovations for Biak, Roon and Dusner. First, the marking of inalienable possession is quite idiosyncratic in being marked by both prefix and suffix, and by showing several different subsystems of marking, sometimes with specific distributions on some items.<sup>2</sup> Some of these subsystems appear to include reflexes of proto-SHWNG alienable markers (van den Berg 2009: 349). Second, alienable possession is marked by a postnominal possessive marker which seems to be formed by a verb and a determiner (Steinhauer 2005; van den Heuvel 2006; Mofu 2008) and shows no similarity with the markers used in other SHWNG languages or in Papuan languages of the area. In particular, this marker shows agreement with the possessee, which no other SHWNG language marks on its alienable possessive marker (see the forms given in van den Berg 2009). Third, the possessive marker for alienable possession appears after the possessor and the possessed, a word order only attested in SHWNG outside the Biakic languages in Moor (Kamholz 2009), a primary branch of SHWNG. Only Biakic and Moor use this different ordering (see van den Berg 2009: 352). Biakic languages being closely related to Yapen languages (see Kamholz 2014: 141) that make use of a different strategy (preposed word with possessor agreement only), it is here proposed that the Biakic ordering and forms are an innovation, and that Moor independently innovated a different strategy for the marking of alienable possession.

Biak (4), and Dusner (5) mark alienable possession with postnominal markers agreeing with both the possessor and the possessum (see section 2). In the Biakic languages, the possessive marker is a complex word appearing at the end of the NP, after the possessed noun. In comparison, in Irarutu a possessive proclitic is simply added to the noun and agrees with the possessor only (example (6), see van den Berg & Matsumura 2008: 215). In Wooi (7) a possessive marker, possibly interpreted as a possessive noun, appears before the possessed noun, and only agrees with the possessor. This order is common throughout the SHWNG languages. It is for example attested in Buli, Sawai, Taba, Ambai, Wandamen, and Waropen, while Magey Matbat, Irarutu, and Warembori mark alienable possession through a prefix (van den Berg 2009).

(4) Biak (Mofu 2008: 61)

- |    |                |                   |
|----|----------------|-------------------|
| a. | rum            | b<y>e=dya         |
|    | house          | <3SG> POSS-DET.SG |
|    | 'His house'    |                   |
| b. | Yohanes rum    | b<y>e=dya         |
|    | John house     | <3SG> POSS-DET.SG |
|    | 'John's house' |                   |

<sup>2</sup> This is for example the case in Biak, where a number of inalienable nouns exhibit peculiar patterns separating the cells in the singular from the marking on the other cells. Marking on the word for 'tooth' is thus made with a suffix on the noun for 1/2SG possessor, but with both a suffix *-si* and an alienable possessive marker for all the other cells (Mofu 2008: 59). On inalienable possession in Biak, see van den Heuvel (2006: 232–53), for Dusner see Dalrymple & Mofu (2012: 26–7). On inalienable forms in SHWNG, see van den Berg (2009), and Kamholz (2014, chapter 6.4).

<sup>3</sup> Biakic languages use infixes to mark 2SG (<u>) and 3SG (<y>) in one class of consonant initial verbs, to which the original verb used in the attributive possessive construction belongs.

- This article proposes to investigate the origins of the innovative alienable possessive forms in Biakic, which constitutes an example of grammaticalization from predication to attributive possession. I first describe the marking of alienable possession for each of the four languages, examining the form of the markers, their position with respect to the possesum, and the relative order of possessor and possessed, before examining previous analyses of those markers. I then present object relative clauses in Biakic, and their commonalities with possessive markers, before concluding that the possessive markers arose from the grammaticalization of an object relative clause. Finally, I examine the remaining problem of possessive markers in Meoswar.

This section describes the markers of alienable possession in each of the four Biakic languages, as well as the relative position of possessor, possessum and possessive marker, before examining previous analyses given for those markers in the literature.

In Biak, the possessive marker appears after the head noun (possessum). The possessum can be left unexpressed (8), but in most cases, a possessum is expressed, followed by the possessive marker, while the possessor can be left unexpressed, but appearing through agreement on the possessive marker. When a possessor is overtly expressed, it generally appears before the

Table 1. Alienable possessive markers in Biak (van den Heuvel 2006: 230)

	SG	DU	PCL	PL
1INCL	(a)ye=dya	ku-ve=dya	ko-ve=dya	
1EXCL		nu-ve=dya	(i)nko-ve=dya	
2	be=dya	mu-ve=dya	mko-ve=dya	
3ANIM	v<y>e=dya	su-ve=dya	sko-ve=dya	s-e=dya
3INAN				n-be=dya

van den Heuvel (2006: 230)

possessum (9), but it seems that it can also appear after the possessum (van den Heuvel 2006: 229).

- (8) vín an-ya v<y>e=s-ya  
*woman GIV-3SG.SPC <3SG>POSS=3PL.ANIM-SPC*  
 ‘the woman’s relatives’ (van den Heuvel 2006: 231)

- (9) ikák an-i-ne snonsnon v<y>e=d-ya Korsamba  
*snake GIV-3SG.SPC-this name <3SG>POSS=3SG-SPC Korsamba*  
 ‘This snake’s name was Korsamba’ (van den Heuvel 2006: 231)

The possessive marker is formed of a verbal part agreeing with the possessor in person and number in the form of a prefix or an infix, as shown in Table 1, and a complex determiner enclitic agreeing with the possessum in givenness, number, and gender in the plural only (see van den Heuvel 2006: 230), as shown in examples (10) (paucal agreement with the possessum), (11) (givenness and singular agreement with the possessum), and (12) (third dual possessor agreement, plural inanimate possessum agreement). This final determiner is analysed as a clitic by van den Heuvel (2006), and an affix by Mofu (2008).

- (10) su rokir su-be=sko-i sko-beyo kyor  
*3DU child 3DU-POSS=3PCL-SPC 3PCL-become three*  
 ‘They (DUAL) had three children (litt. The children (PAUCAL) of the two of them were three)’ (Mofu & Dalrymple 2010: T01.013)

- (11) sko-frar makei sko-b=an-s-ya  
*3PCL-run dog PCL-POSS=GIV-3PL.ANIM-SPC*  
 ‘They (PAUC) ran their (already mentionned) dogs (PL)’ (Mofu & Dalrymple 2010: T01.043)

- (12) baken su-be=na na-syor  
*back 3DU-POSS=3PL.INAN 3PL.INAN-dry*  
 ‘Their backs were dry (litt. the back parts (PL.INAN) of the two of them were dry)’ (Mofu & Dalrymple 2010: T01.047)

The complex determiner can also be a demonstrative:

- (13) roma ko-v=an-si-wa  
*boy 1PL.INCL-POSS=GIV-3PL.ANIM-DEM.DISTAL*  
 ‘our boys over there’ (Mofu & Dalrymple 2010: T024.006)

Table 1 presents this marker for a third person singular definite possessum.

## 2.2. Roon

In Roon, the possessive marker appears after the head noun (possessum). When a possessor is expressed, it appears before the possessum:<sup>4</sup>

- (14) Hendriki wa v<y>e-rya  
*Hendrik boat <3SG.ANIM>POSS-SG.INAN:DEF*  
 ‘Hendrik’s boat’ (Gil 2017: 47)

According to David Gil, the alienable possessive marker appears to be formed of a possessive verb ‘do’ or ‘give’ (a highly polyfunctional element that depending on conjugation or bare form can function as a reifier, a verbalizer, a dative, an allative, or mean ‘do’, ‘give’ or ‘say’), with subject agreement corresponding to the possessor, and closed by a determiner agreeing with the possessum (Gil 2017:47–8) as in Table 2, where the forms are quoted with a final determiner *-rya* corresponding to a third singular inanimate and definite possessum. Compared to other usages of the verb *ve* the possessive marker further undergoes ablaut of a number of possessor agreement markers (1PL.INCL *ke-ve-rya* instead of an expected *\*ko-ve-rya*). There is also further reduction of some forms, such as 3PL.ANIM *se-rya* instead of an expected *\*se-ve-rya* (see section 3.3).

## 2.3. Dusner

In Dusner, the possessive marker appears after the head noun (possessum). When a possessor is expressed, it appears before the possessum (Dalrymple & Mofu 2012: 246):

- (15) snoman ya wak v<y>e-r-ya  
*man DET.3SG boat <3SG>POSS-EVID-DET.3SG*  
 ‘the man’s boat’ (Dalrymple & Mofu 2012: 26)

The alienable possessive marker also appears to be formed of a possessive verb with subject agreement corresponding to the possessor, and closed by a determiner agreeing with the possessum (Dalrymple & Mofu 2012:15–16, corrected) as in Table 3 for a definite 3SG possessum. Examples (16) and (17) show that there is at least number agreement with the possessum.

- (16) rum v<w>e-s-ia si-vuor  
*house <2SG>POSS-3PL-DET 3PL-many*  
 ‘your (many) houses’ (Dalrymple & Mofu 2012: 12)

Table 2. Alienable possessive markers in Roon

	SG	DU	PL
1INCL	e-ve-rya	ku-ve-rya	ke-ve-rya
1EXCL		nu-ve-rya	ngge-ve-rya
2	v<w>e-rya	mu-ve-rya	meke-ve-rya
3ANIM	v<y>e-rya	su-ve-rya	se-rya [<*se-ve-rya]
3INAN	re-rya [<*re-ve-rya]	nu-ve-rya	ne-rya [<*ne-ve-rya]

Gil (2017:48)

<sup>4</sup> For Roon, I adopt the forms presented in Gil (2017), which correct previously presented forms to an initial /β/ (orthographically *v*) instead of /b/. But the most recent paper does not provide examples of relative clauses, and I make use of previous handouts for such examples, with orthography standardized.

Table 3. Alienable possessive markers in Dusner

	SG	DU	PL
1INCL	y-e-rya	tu-ve-ri	to-ve-rya
1EXCL		ndu-ve-ri	ndo-ve-riya
2	v<u>e-irya	mu-ve-ri	mto-ve-ri
3	v<i>e-irya	su-ve-riya	default: s-ve-isya

Dalrymple & Mofu (2012:15–16, corrected)

Table 4. Personal pronouns in Meoswar

	SG	DU	PL
1INCL	aya	kun	kon
1EXCL		nun	nggon
2	au	mun	mkon
3	i	sun	si

Own field notes.

- (17) wak            y-e-s-ia  
       boat            *1SG-POSS-3PL-DET*  
       ‘my boats’ (Dalrymple & Mofu 2012: 25)

As it is the case in Biak, the possessive marker can also be closed by a demonstrative:

- (18) ya-mbur      ra          ro          munuai      y-e-ri-wa  
       *1SG-leave    move      at          village      1SG-POSS-EVID-DEM.POSTDIST*  
       ‘I will go home to the village (litt. my village over there)’ (Dalrymple & Mofu 2012)

#### 2.4. Meoswar

In Meoswar, the possessive marker appears after the head noun (possessum). When a possessor is expressed, it can appear either before or after the possessum, although the preferred order for my informants was after the possessum, as in example (19):

- (19) Rum Agusi a-i-rirya  
       house Agus *POSS-3SG-DET.SG*  
       ‘Agus’ house’

- (20) Agusi rum a-i-rirya  
       Agus house *POSS-3SG-DET.SG*  
       ‘Agus’ house’

The alienable possessive marker appears to be different from markers in the rest of the Biakic subgroup. It seems to be formed around a full pronoun (Table 4), with a prefixed *a-*, followed by a clitic determiner or demonstrative,<sup>5</sup> as in Table 5.

#### 2.5. Previous analyses

Various analyses of this different type of marker have been given in the literature, in particular for Biak. Most analyses rely on a simple segmentation and a glossing morpheme-by-morpheme in a purely synchronic analysis, without explaining the origins of the construction.

<sup>5</sup> I have not normalized the data and kept what determiner or demonstrative appeared in it. The marker *-rya* is a determiner, while *-rwa* is a distal demonstrative. The phoneme /r/ is realized [d] after a nasal.



Table 5. Alienable possessive marker in Meoswar

	SG	DU	PL
IINCL	a-ya=rya	a-kun=dirya	a-kon=de
1EXCL		a-nun=dirya (?)	(?) <sup>6</sup>
2	au=rirya	a-mun=dwa	a-mkon=dwa
3	a-i=rirya	a-sun=dwa	a-si=rwa

Own field notes.

The most common view is that this marker is made up of a verb, inflected for possessor agreement, followed by a possessum agreement marker and a specifier (van den Berg 2009: 348). Suriel Mofu and Wilco van den Heuvel follow essentially the same lines in their respective analysis of alienable possessive markers in Biak, the only differences being a different segmentation of the complex determiner marking possessum agreement and definiteness, in addition to encoding givenness.<sup>7</sup> The alienable possessive marker thus encodes by itself the possessive relation, information about number, gender and person of the possessor, and information about number, definiteness, distance and givenness of the possessum (Steinhauer 1985: 477; Steinhauer 2005: 809). Mofu (2008: 53) analyses the construction as a possessive pronoun which can be described as formed of two parts, a possessive verb root *be*, following the second, infixal, consonantal conjugation, and a determiner agreeing with the possessed noun and closing the pronoun. An essentially equivalent analysis is provided for Dusner (Dalrymple & Mofu 2012: 24–26) and in other works for Biak (van den Heuvel 2006).

Steinhauer's (2005) analysis relies in a different segmentation, only partially acknowledging the verbal nature of the base *ve* or *be*, as shown in Table 6.

Steinhauer, like van den Heuvel, further analyses the determiner that closes the possessive pronoun as a clitic (Steinhauer 2005: 798–9; Steinhauer 2003: 12–13; van den Heuvel 2006). This is extremely important since it posits that the possessive pronoun is not made out of one and only word: in effect, its structure can be broken by an intervening subject or object extracting relative clause (Steinhauer 2003: 12; van den Heuvel 2006: 230). It is not yet possible to know whether the same separation of the clitic determiner can happen in Dusner or in Roon, because the data are not available (Davił Gil, p.c.).

### 3. THE GRAMMATICALIZATION OF ALIENABLE POSSESSION IN BIAKIC

In this section, I argue that the alienable possessive construction in the Biakic languages (Meoswar excepted) originates in a relative clause including a verb having originally the broad meaning ‘do, give, possess’,<sup>8</sup> which has been partially grammaticalized. I give evidence that, although the construction might be more grammaticalized in Dusner and Roon, it still has properties of a relative clause in Biak. I further conclude with a discussion of the link between the paradigm of the verb used in that construction and its full predicative counterparts.

<sup>6</sup> Dual and plural first person exclusive forms were difficult to obtain during elicitation and never appear in the texts collected. The expected forms should be *anun=dirya* for dual and *anngon=dirya* for plural, but their status is unsure for now.

<sup>7</sup> Determiners and demonstratives in Biak are complex structures which encode person, number, gender (in the plural only), distance and Information Structure.

<sup>8</sup> In synchrony, Biak still presents a verb *ve* inflected according to first conjugational class and meaning ‘do, have a plan’, a verb *ve* inflected according to the infixal inflectional class and meaning ‘become’ (Steinhauer 2003: 12), as well as an homophonous verb *ve* used in general possession contexts as a verbalizer, and a directional preposition *ve*. Gil (2017) analyses the multifunctionality of the marker *ve* in Roon, and the multifunctionality of similar elements in languages of West Papua.



Table 6. Structure of the possessive pronouns in Biak, with two examples

	Possessor number, person, gender	root -v-	old / new information		clitic definite article (possessum number and gender)
2SG	<i>b-</i>		<i>-an-</i>	<i>-e-</i>	<i>=(d)i</i>
2DU	<i>mu-</i>	<i>-v-</i>			<i>=sui</i>

Steinhauer (2005: 810)

### 3.1. Relative clauses in Biakic

Relative clauses in Biakic languages use two main strategies: relative clauses use a gapping strategy, and subject relative clauses appear with the marker *be-* attached to the verb. The verb only shows subject agreement for non-subject relative clauses. All relative clauses are post-nominal and followed by the determiner closing the NP in the following structure:<sup>9</sup>

- (21) a. Subject RC: (N) [be-V (OBJ) (COMP)] =DET  
 b. Other RC: N [(NP<sub>SUBJ</sub>) V<sub>AGR</sub> (COMP)] =DET

Examples (22) to (24) show examples of subject (a) and non-subject (b) relative clauses for the Biakic languages Biak, Roon and Dusner, which show similar structures (bracketing of the relative clause on the examples is mine):

- (22) Biak (Mofu & Dalrymple 2010: T03.007; Mofu 2008: 219)

- a. korbeno [be-nir be Bakaka] =ya  
*dragon REL-be.named as Bakaka SPC*  
 ‘The dragon that was named Bakaka’  
 b. i-frur ro [mnggarm ya i-kofn] =na  
*3SG-do thing voice DET.SG 3SG-tell 3PL.INAN*  
 ‘He did the things that the voice said’

- (23) Roon (Gil 2008: 11, modified)

- a. i [ve-yom niaf i-wa]  
*3SG:ANIM REL-chase dog 3SG:ANIM-DEM:DIST*  
 ‘He chased that dog’ (=‘he that chased that dog’)  
 b. in [Rio-i i-kopur]-si-ya si-vua kako  
*fish Rio-PERS 3SG:ANIM-catch-3PL-DEF 3PL:ANIM-big very*  
 ‘The fish that Rio caught are very big’

- (24) Dusner (Dalrymple & Mofu 2012: 39–40)

- a. vemow [ve-ro Usner] i-wa  
*child REL-at Dusner 3SG-DEM.POSTDIST*  
 ‘the people who are in Dusner’  
 b. wak-wak [s-veve na ro ya]  
*boat-REDUP 3PL-give PRO.3PL.NONHUM at PRO.1SG*  
 ‘the boats that they gave me’

<sup>9</sup> In a few cases there is no closing determiner. This sometimes happens with non-definite NPs, and further happens when the verb in the RC is followed by a definite complement. In that case, there is almost never a doubling of a marker in definiteness for the closure of the NP.

### 3.2. *Alienable possession markers as relative clauses*

There are a number of arguments for analysing the alienable possessive construction in Biak, Roon and Dusner as originating from an object extracting relative clause. First, it includes the verb *be* or *ve* ‘possess, do’ inflected according to the infixal conjugation.<sup>10</sup> This verb can be used as a possessive verb with a direct object outside the alienable possessive construction, as can be seen in (22):

(25) Biak (Mofu 2008)

ma be-fara =ya b<y>e -babara  
 and REL-steer =SPC <3SG>possess scabies  
 ‘and the one who steered (the canoe), he has scabies’

At least in Biak, the paradigm of that verb is quite similar to the paradigm of the verb used in the alienable possessive construction (see section 3.3. below).

Second, the possessive construction is post-nominal and ends with a determiner agreeing with the head noun, as is a relative clause extracting on the object, both exhibiting the same syntactic structure:

(26) Biak. Object RC with expressed subject (van den Heuvel 2006: 423, adapted)

berkat v<y>uk=na  
 blessings <3SG>give= 3PL.INAN  
 ‘The blessings that he gives’

(27) Possessed NP with expressed possessor

wos b<i>e=na  
 word <3SG>POSS=3PL.INAN  
 ‘His words’ (=the words [that] he has) (Mofu & Dalrymple 2010, T07.182)

Furthermore, there can be headless relative clauses just as there can be fully pronominal alienable possessives: ‘(that) which is mine’. In both cases, the relative clause is still closed by the determiner of the absent head noun:

(28) Headless RC (Mofu 2008: 213)

inja e-ra be yaf s-ya  
 so REL-move to garden 3PL.ANIM-SPC  
 ‘so the ones that went to the garden ...’

(29) Headless possessive pronoun (Mofu 2008: 118)

b<y>e-su-ya su-fnak kaker ro mnu-babo  
 <3SG>POSS-3SG.DU-SPC 3DU-play still at village-new  
 ‘His two (children) are still playing in the new village’

And finally, there are examples where the possessive verb of the relative clause does not always form a phonological word with the complex demonstrative that follows (e.g. Mofu & Dalrymple 2010, T01.018: *ina bye ansiwa* ‘her daughter’ = girl 3sg.have that.over.there), just like in the case of relative clauses where the final determiner agreeing with the head noun is an enclitic. Furthermore, another attributive modifier can separate the possessive verb from the determiner in the same way it would in the case of stacked relative clauses (Example (30)). The structure is the same when a relative clause is stacked between the possessive and the head

<sup>10</sup> Biak has three major inflectional classes on verbs, which only mark agreement with the subject. Second, infixal class is characterized by an infixal realization of the values 2SG and 3SG.

noun, as shown in (31b) or when it is modified by another relative clause (32). That stacking is the obligatory structure when the possessed head noun is modified by an adjective or by another relative clause:

- (30) Stacked relative clauses (van den Heuvel 2006: 384)

[in ri [si-kun]<sub>RC1</sub> fa [ve-snarm]<sub>RC2</sub> ine]<sub>NP</sub> ke?  
*fish GEN.SG 3PL.AN-burn CONS REL-smell DEM.3SG DOUBT*  
 ‘Is it maybe a fish that they cook so that it smells?’

- (31) Predicative adjective construction vs attributive adjective construction in a possessed NP (Adapted from Steinhauer 2005)

a. rum b-an=su-ya su-ba  
*house 2SG.POSS-GIV=3DU-SPC 3DU -big*  
 ‘Your (SG) two (mentioned) houses are big’  
 b. rum be-ba b-an=su-ya  
*house REL-big 2SG.POSS-GIV=3DU-SPC*  
 ‘Your two big houses’

- (32) Intervening subject relative clause (Mofu & Dalrymple 2010:T01.001, glossing adapted)

romawa ye [be-farkor ro Amerika] iwa<sup>11</sup>  
*child 1SG.POSS REL-study at America DEM.DISTAL*  
 ‘my son who is studying in America’

In both cases, the structure is the same and can be represented as follows:

- (33) [N [V (NP)]<sub>RC1</sub> [V (NP)]<sub>RC2</sub> DET]<sub>NP</sub>

### 3.3. Evidence for the grammaticalization of alienable possessives

Evidence for the grammaticalization of the alienable possessive structure comes from both syntactic and morphological arguments. First, there is one case when the syntactic structure of the two constructions does not appear to be similar in Biak and Roon. As stated above, the possessor was the subject of the possessive marker, just like an object extracting relative clause may have an overt subject. But these do not appear in the same syntactic position. When an object relative clause has an overt subject, it generally appears inside the relative clause in Biak and Roon as exemplified in (34) and (35), that is linearly following the object that is relativized upon (there is not enough data about Dusner to be sure of the ordering).

- (34) Biak. Object RC with expressed subject (van den Heuvel 2006: 423)

berkat Mansern v<y>uk=na  
*blessings Lord <3SG>give=3PL.INAN*  
 ‘The blessings that the Lord gives’

- (35) Roon. Object RC with expressed subject (Gil 2008: 11)

In [Rio-i i-kopur]-si-ya si-vua kako  
*fish Rio-PERS 3SG:ANIM-catch-3PL-DEF 3PL:ANIM-big very*  
 ‘The fish that Rio caught are very big’

<sup>11</sup> *iwa* here has to refer to *romawa* and not to *Amerika* as proper names do not take determiners. It thus really is part of the possessive marker *ye-iwa*.

On the contrary, the overt possessor of an NP may sometimes appear before the possessed element (and possibly as a separate NP) as seen in (36) and (37), although it can also appear, less frequently, after it (38). In the latter case, the structure is similar to the structure of object extracting relative clauses with an overt subject.

- (36) Biak. Possessed NP with expressed possessor (Mofu 2008: 327)

Mananamak’rdi      marandan      b<y>e-di  
*Manarmakeri*      *travel*      <3SG>POSS-SPC  
 ‘Manarmakeri’s trip’

- (37) Roon. Possessed NP with expressed possessor (Gil 2017)

Dismas rum      v<i>e-ri-ya  
*Dismas* *house* POSS/<3SG:ANIM>do-3SG:INAN-DEF  
 ‘Dismas’ house’

- (38) Biak. Different possible order for expressed possessor (van den Heuvel 2006: 231)

knafofr      romá-mkun      an-ya      v<y>e=s-ya  
*cheek*      *child-little*      *GIV-SPC*      <3SG>POSS=3PL.ANIM-SPC  
 ‘The boy’s cheeks’

The structure exhibited by a possessed NP with expressed possessor preposed to the possessee in fact corresponds to internally headed relative clauses, a rare construction where the subject of a non-subject relative clause appears to the left, as seen in (39). Thus, the possessive marker takes the structure of a head internal relative clause when a possessor is expressed:

- (39) Biak. Head-internal object RC (Mofu 2008: 215)

sko-kon      do-yo [roma      an-skoi      [mob [sk-enf      ro] =ya]  
*3PCL-sit* *at-o*      *young.man* *GIV-DET.PCL* *place* *3PCL-sleep* *at* *DET*  
 ‘they sat at the place where the three young men had slept’

The fact that the two possible orderings attested for possessed NPs are similar to the two attested orders in relative clauses (externally headed and head-internal) is in favour of analysing possessive constructions as relative clauses originally. The fact that the frequency of each construction is asymmetric is in favour of its grammaticalization.

Table 7. Comparison of full verbal forms with possessive pronominal forms for verb *ve* in Biak

Biak	<i>ve</i> ‘have a plan’	<i>ve</i> ‘become’ / possessive verb and verbalizer	possessive pronoun (without final determiner)
1SG	ya-ve	ya-ve	(a)ye
2SG	wa-ve	v<w>e (realized be)	v<w>e (realized be)
3SG	i-ve	v<y>e	v<y>e
1DU.INCL	ku-ve	ku-ve	ku-ve
1DU.EXCL	nu-ve	nu-ve	nu-ve
2DU	mu-ve	mu-ve	mu-ve
3DU	su-ve	su-ve	su-ve
3PC	ske-ve	ske-ve	ske-ve
1PL.INCL	ko-ve	ko-ve	ko-ve
1PL.EXCL	nko-ve	nko-ve	(i)nko-ve
2PL	mko-ve	mko-ve	mko-ve
3PL.ANIM	si-ve	s-ve	se
3PL.INAN	na-ve	n-ve	n-be / ne

Steinhauer (2003: 12) and van den Heuvel (2006: 230) for the possessive.

Table 8. Possessive verb and alienable possession marker in Roon

Roon	'do, give, become'	possessive marker (without final determiner)
1SG	i-ve	e-ve-
2SG	v<w>e	v<w>e-
3SG.ANIM	v<y>e	v<y>e-
3SG.INAN	re [<*re-ve]	re [<*re-ve]
1DU.INCL	ku-ve	ku-ve
1DU.EXCL	nu-ve	nu-ve
2DU	mu-ve	mu-ve
3DU.ANIM	su-ve	su-ve
3DU.INAN	nu-ve	nu-ve
1PL.INCL	ko-ve	ke-ve-
1PL.EXCL	nggo-ve	ngge-ve-
2PL	moko-ve	meke-ve-
3PL.ANIM	se [<*se-ve]	se- [<*se-ve]
3PL.INAN	ne [<*ne-ve]	ne- [<*ne-ve]

Gil (2017: 45, 47)

The morphological evidence comes from the fact that some of the forms in the possessive paradigm of *ve* have undergone changes and fusion when it is part of the possessive marker. This is evidence of the grammaticalization of the construction. Table 7 presents the inflectional realizations of two homophonous verbs *ve* in Biak, the first meaning 'have a plan', the second meaning 'become', as well as the inflectional realization of *ve* in the possessive marker (without its closing determiner). *Ve* 'have a plan' follows the first consonantal conjugation where person and number agreement is exclusively realized by prefixes. *Ve* 'become' follows the second consonantal conjugation, with infixal realizations for second and third singular cells: *v<w>e* (realized *be*), and *v<y>e*. The same inflectional realizations are used for the possessive and verbalizer verb which first entered the possessive relative clause from which the now possessive marker originated. But in the possessive marker, some forms have been phonologically reduced as compared with the verb *ve* 'become', the first singular form *aye* or *ye* (as opposed to *ya-ve* in the independent verb) and the two third plural forms *se* for animates (as opposed to *sve* for the independent verb) and *nbe* or *ne* for the inanimate gender (as opposed to *nve* in the independent verb). These show that the possessive marker in Biak is morphologically different from the verb from which it originated, and has started to grammaticalize.

Even more changes have happened in Roon, as shown in Table 8. Both the verb and the possessive marker show some reduced forms in 3SG.INAN, and 3PL forms (e.g. *re* instead of the expected *\*re-ve* in 3SG.INAN). One additional change occurs, which is the raising of vowels on possessor agreement markers in plural forms, and a similar but different change in the agreement vowel of 1SG. Such markers are never found on verb agreement in Roon, and are a characteristic of the possessive marker (see Gil 2017: 47 note 6). These changes are indicators that the construction is now independent from the full verb included in a relative clause. There can obviously be an effect of frequency in these changes: the possessive construction is extremely frequent in the online corpora available for Biak (Mofu & Dalrymple 2010).

The fact that the forms seem to have developed in different directions morphologically in Biak and in Roon also seems to indicate that the pattern was inherited in both languages, not that Roon could have borrowed it from Biak, which is used as a regional lingua franca in the area.

### 3.4. *Meoswar and other Biakic languages*

As noted in section 2.4 above, Meoswar shows a distinctive pattern for the marking of alienable possession. Like its equivalent in Biak, Roon and Dusner, it is postnominal and closed by a determiner agreeing with the possessum. It also includes a pronoun agreeing with the possessor. As such, it is quite close to the other Biakic languages and distinct from the marking of alienable possession in other SHWNG branches, where alienable markers are predominantly prenominal. One potential hypothesis would be that Meoswar exhibits a further change from the Biakic pattern. In particular, the final determiner of Meoswar seems always to be a demonstrative including information about the distance of the referent. The *a*-prefix does not show up in object extracting relative clauses. One could posit that Meoswar diverged from the other Biakic languages in using a construction of the type pronoun-demonstrative, meaning something like ‘that (of) me’ using parataxis only.

## 4. CONCLUSION

The development of the alienable construction in Biakic constitutes an example of grammaticalization from predicative to attributive possession, although the verb used in the relative clause that grammaticalized to mark attributive possession does not correspond in synchrony to the verb used for predicative possession, at least in Biak.<sup>12</sup> There is evidence that at some point in proto-Biakic a new alienable construction arose, taking first the form of an object extracting relative clause involving a general verb having the broad meaning ‘do, give, possess’. Like all relative clauses in this group of languages, it was postnominal, and closed by the determiner of the head noun. When that construction grammaticalized, as evidenced by its progressive morphological reduction in Biak and Roon, the new alienable possessive marker was thus postnominal, occurring after the possessum. Because the original construction involved a verb agreeing with the possessor subject, the new construction also agrees with the expressed or unexpressed possessor in person, number, and gender, in a similar way as constructions in other SHWNG languages mark the possessor. But because of the closing determiner agreeing with the head noun (possessum), the new form now also agrees in number, gender, definiteness, and givenness with the possessum, and can also mark distance from the speaker. The development of a new possessive marker, now postnominal, is also evidence for subgrouping in the SHWNG family. Only Biakic languages developed this type of marker. The developments in Meoswar are for now left unexplained, but they could indicate subsequent developments with respect to the pattern exhibited by Biak, Roon and Dusner.

Ultan (1978: 15) indicates that in Cocopa (Yuman) the attributive marker is in fact made of a predicative verb of possession with subject agreement expressing the possessor. Heine (1997: 183) expresses the view that this will often involve ‘the use of a nominalizing/gerundival morphology [...] or a relative clause morphology’, but he does not give any examples of it. Biakic languages are such an example.

Some more recent work has shown that in Eastern Nusantara grammaticalization of predicative marking into possessive marking is not at all uncommon (van Staden 2009), although it generally involves the simple attachment of subject or object markers to a noun as a mean of expressing possession. Other developments in the area are attested that involve a change from predicative to attributive possession. Thus in Papuan Malay (and some other

<sup>12</sup> Biak uses the verb *na* ‘have’ to express predicative possession (van den Heuvel 2006: 253–4). Dusner seems to be using the same verb (Dalrymple & Mofu 2012 :6).

varieties spoken in Eastern Indonesia), the verb *punya* 'have' developed into a marker of attributive possession (40). Having grammaticalized, it also presents a shortened form (41):

(40) nanti Hendro punya ade perempuan kawing  
 soon Hendro POSS younger.sibling woman marry.unofficially  
 'Eventually Hendro's younger sister would marry' (Kluge 2017: 422)

(41) ko pu kampung  
 2SG POSS village  
 'Your village' (Kluge 2017: 430)

This development, although including a verb of possession, is still different from the Biakic marker in that it does not involve a relative clause. Developments from a full relative clause involving a verb used in predicative possession into a full possessive marker do not seem to be attested. There is certainly a link between the marking of possession and the marking of relative clauses in some languages, where the markers appear to be identical in both cases. Dixon (1969) in particular claimed that in at least two Pama-Nyungan languages that development was attested. His arguments are convincing for Dyirbal, both possessive phrase and relative clauses being marked by an identical marker *-ju* and showing a similar surface structure, but these findings were later on convincingly refuted for Gumbaynggir by one of his students (Eades 1977). The case of Dyirbal shows that it is by no means an unattested development. One should note however that in Dyirbal both constructions rely on a similar marker and construction, where the possessive construction does not rely on a possessive verb that later on fuses in a possessive word, as in Roon, Biak and Dusner. Cases similar to the Dyirbal example are also attested in Africa, where Ndebele and Shona both mark relative clauses and possessive phrases with an identical marker (Pietraszko 2019). It is difficult in such cases to assess the directionality of the development: did a relative clause marker develop into a marker of possession, or did a possessive marker become used also for relative clauses? All examples show a link between the two constructions, but different in nature from what developments occurred in Biak and related languages.

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