Loans into and from Kilmeri as indicators of the people's migration route

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Introduction ⟹ **Map** (see end of document)

When linguistic research on the Border, Sentani, and Nimboran language families began in the late 1940s, 1950s and 1960s, they showed their distribution across the area west and east of the 141° E state border dividing line that we find today on language maps (Palmer 2018; Voorhoeve 1975; Gell 1975). As for the Border languages, this means that they cover a geographically discontinuous area across the north/south division of the Bewani mountains and the west/east division of the Border mountains. The Bewani mountain range is not inhabited. The people speaking Border languages live in three areas. Firstly, they settle north of the Bewani mountains in the Pual-Puwani river basin (Ainbai, Pagi, Kilmeri) and on the northern coast east of Vanimo (Ningera); this group is called the Bewani languages. Secondly, they live south of the Bewani mountains and east of the Border mountains in swampy hills and small creek systems (Imonda, Daonda, Waina, Auwe, Amanab) as well as in the *Wasengla valley* (Waris) - as the valley is called in some publications - that stretches south-east along the headwaters of the Bapi river, which drains towards the Sepik; this group accounts for most of the Waris languages. Thirdly, they live west of the Bewani watershed (Waris, Manem) and in the Tami/Bewani vallies (Taikat, Auyi); the latter two languages constitute the Taikat group. The Sengi (Waris languages) live further south in the Border mountains. The Bewani/Tami river system enters the Pacific ocean about 15 km west of the Indonesian/Papua New Guinea state border.

However, there is convincing evidence that the Border people have migrated to their current locations a number of generations ago. For the Imonda, Seiler (1985:1) states the following: "The Imonda trace their history to an area, to the north-west, across what is currently the border with the Indonesian province of Irian Jaya. They have been at and around the present location for many generations." Regarding the Waris people Brown (1990:8) says that their self-designation *Walsa* "seems to refer to them as the ones who successfully overcame the previous people to live in the area". The area in question is the Wasengla valley, and it may be the case that the Waris group nowadays dwelling there had pushed further south the people of the Waina-Umeda group, who now live in a less favourable location: "Umeda is situated in unfavourable terrain in the Border Mountains […] To the north, there is a trade route which runs along the relatively densely occupied Wasengla valley, which articulates with trade routes along the north coast of New Guinea and West Irian. But informants' accounts suggested that relations with Wasengla valley tribes were unremittingly hostile on pre-pacification times, and the Umedas did not dare venture into the no-man's land lying between themselves and the Wasengla valley (the *Aw-sis*, the limit of their world) across which Wasengla raiding parties would periodically make forays." (Gell 1992:153-154) In his anthropological description of the Yafar who form a subgroup of the Amanab people and language, Juillerat says that "the Border Mountains seem to have been populated, at least in part, from the west or northwest, and the cultures found there contrast sharply with those of the nearby plain." (Juillerat 1996:xxi) For the Kilmeri located north of the Bewani mountains Gerstner-Link (2018:17-19) provides evidence that the people arrived at their current locations ten generations ago; the clan leader(s) appropriated the land.

Thus, there can be little doubt that four groups of people speaking Border languages do originate from locations different from their current settling places, and it seems to be a plausible hypothesis that they came from the west spreading to the east. Plausibly, one route was up the Tami valley and further east and south; the second route, taken by the Kilmeri people, could have led east up the Bewani valley between the Oenake Range and the western slopes of the Bewani Mountains.

The Sentani people, on the other hand, trace their ancestors to the east: "Seinen [des Häuptlings Asareu] Mitteilungen zufolge sollen ausser den Urvätern von Kabiterau und Saboiboi auch die von Puyo aus der Erde gekommen sein. Die Leute von Öbar kamen vom Himmel herab, während die andern ursprünglich im Osten, in der Nähe der politischen Grenze, auf einem Berg, namens Fanim, ansässig gewesen waren." (Wirz 1934:257). "Auf diese Weise entstand eine der Siedelungen auf der Insel Osei als erste dieser von Osten her eingewanderten Bevölkerung." (1934:260). A Sentani myth says that a snake carrying a young man on its back swam across the Tami River towards the sea - the former Humboldt Bay - and finally reached today's location of the Nafri (Sentani family). The Tami and Bewani rivers flow through the area of the Manem and Taikat people, who speak Border languages. So we see that parts of the Sentani people originate in a location that nowadays is populated by Border speakers.

Finally, the Nimboran came from the south to their current location: "Nimboran people say that their ancestors, along with those of the related ethnolinguistic groups of Kemtuik, Kwansu and Gresi, spread out into the Grimi River valley from a location named Singgi or *hngni* in the hills to the south. Today nearly all of the Nimboran people live to the north-west of the River Nembu." (May 1997:3).

All these accounts provide clear evidence that the members of the three language groups have a history of migration, which for the Kilmeri dates back about 250 years according to oral traditon. For the other migrating groups/people the timespan between their arrival at the current settling locations and the reference year 1950 is rather vague. Presumably, the migration period stretched over decades or even centuries and, at a time, comprised groups of clan size. For the Border people, the migration direction is west to east; for the Sentani, by contrast, it is east to west. So much for the oral history provided by the speakers of the languages themselves. The area concerned between Ossima in the east (Kilmeri) and Genyem in the west (Nimboran) stretches over about 120 km today [see map].

In the following sections I turn to the linguistic situation and inspect the language families for traces of language contact. To begin with, some methodological considerations are necessary. A major indicator of language contact is lexical and grammatical borrowing. Here we need reliable data sources that allow to compare a sizable amount of words alongside with the languages' morphological devices. These demands restrict the comparable languages to those for which a grammar and/or a lexicon is available. For the Border languages, only Kilmeri, Waris, Imonda and, to a lesser degree, Amanab meet this condition. Though not mutually intelligible, Waris and Imonda are relatively closely related; therefore mainly Waris is taken into account for lexical comparison. Unfortunately, for the languages currently closest to Sentani, viz., Taikat and Auyi, only (unsystematic) wordlists are published. Nearly the same holds for Elseng, which I tend to consider as a member of the Border family, too. Kilmeri, on the other hand, belongs to the Bewani subfamily of the Border languages, and its documented lexicon is the most comprehensive one of the Border languages. If Waris/Imonda and Kilmeri show the same word or stem for a certain concept,

then the lexeme in question is regarded as inherited. If not, we have a case of borrowing into one of these languages.

Hypothesis 1

Originally, the Border languages were centered west and east of the Tami river, in the lowlands as well as in the hilly country stretching south towards Sengge. Presumably, their extension eastwards across the current state border was a slow process spanning several centuries. In their oral tradition the Waris and Imonda people trace themselves back to the west.

Hypothesis 2

Elseng is a member of the Border family, not an isolate. Support for this assumption (methodologically, cf. Ross 2005:25; 50):

First: 35 diagnostic cognates out of ca. 200 attested words (Smits & Voorhoeve 1994)

Second: Sound correspondences across Elseng, Waris and Taikat; sound correspondences between Elseng and Kilmeri

Third: 'individual-identifying' evidence: paradigmatic structure of the verb 'give' across all subgroups of the Border family

However, Elseng's exact position in the Border 'family tree' is not yet clear. This is due to the lack of phonological reconstruction of Proto-Border or subgroups thereof.

Table 1: The verb 'give' across all subgroups of the Border languages including Elseng

Elseng	Waris	Imonda	Kilmeri	Pagi	Taikat	Auyi
na (c1) ka_fänengnan (a) ka_pänengnan (b) 'give me' pokor (c2) ve-nen-ti-ji (m) 'gave her/her' (?) 'gave you' (?)	ka-m_ yaxu f-raxo ka-m v-ra-ho-o 'give me' tei_ yak 'give you'	baihowa fa-ai-h-u 'give me'	ko powai 'give me' de (po)na- 'give you/him/her'	pena- O.SG pala- O.PL	noa, ka_noa, 'give me' kan_wawon	nta_nu, ta_no, ka_nu

Note: Like colours indicate like morphemes or morpheme sequences according to my analysis, Brown's analysis (Waris) and Seiler's analysis (Imonda). 'give' has 2 stems: *nV* (yellow) and *ai/ra* (green). The morpheme *pV/fV* (and further variants thereof) is a classifier of the direct object of 'give' (turquoise). *ka/ta* are evidently free or cliticised pronouns of 1/2 person.

Hypothesis 3

Kilmeri together with Elseng (and maybe more languages) belongs to the western group of the Border family and was probably adjacent to Nimboran.

Support for intensive **contact with Nimboran**:

40+ lexeme resemblances between Kilmeri/Border languages and Nimboran. They are distributed over different word classes: 22 nouns, 14 verbs, 3 adjectives, 3 adverbs and 1 interrogative. Borrowing goes in both directions: Kilmeri (the Border languages) is (are) donor language of 10 nouns and recipient language of 9 nouns, while in the other instances the direction is unclear. Kilmeri is donor language of 3 verbs, but recipient language of 11 verbs. Thus, in the domain of verbs, borrowing is asymmetrical. Kilmeri is also recipient of the 3 adjectives. By default, the words borrowed by Kilmeri from Nimboran are

phonemically adapted, if necessary. The other way around, no phonemic adaptation was structurally called for.

Hypothesis 4
Kilmeri speakers were also in **contact with the Sentani** people. Support for this assumption: **13 lexeme resemblances** between Kilmeri/Border languages and Sentani, 8 nouns, 2 verbs, 3 function words (distal deictic, negative particle, indefinite determiner). Borrowing goes in both directions, Kilmeri is donor language in 5 instances and recipient language in 8 instances.

Hypothesis 5
Pattern and material replication in the verbal paradigm of the dative/recipient object affixes.
Kilmeri shares elements of the paradigmatic pattern and some of the paradigmatic material with Nimboran and Sentani/Tabla. Shared verbs with *obligatory dative/recipient agreement*:
(a) <u>Kilmeri and Nimboran</u> 'tell sb', 'ask sb', 'answer sb', 'gossip about sb, call sb names', 'show sb', 'wait for sb, meet sb', 'distribute food to sb', 'give to sb; take/get for sb': that is, 9 out of 13 Kilmeri verbs and 8 out of 11 Nimboran verbs. Borrowed verbs in this group are K *nie-* 'to show'/N *nenggýe-* 'to show', K *wui-* 'to answer'/ N *uú-* 'to answer'.
(b) <u>Kilmeri and Sentani</u> 'tell sb', 'give to sb': that is, 2 out of 13 Kilmeri verbs and 2 out of 4 Sentani verbs.
Generalised benefactive function of the dative/recipient object markers in Kilmeri, Nimboran and Sentani; also in Waris, Imonda and Amanab (Border family) and likewise in Tabla (Sentani family). In Waris and Imonda, obligatory agreement holds only for 'tell/say to sb'.

Table 2: Object affixes in Kilmeri, Nimboran and Sentani

Grammatical function of affix	Kilmeri Gerstner-Link 2018	Nimboran Anceaux 1965 May 1997 Foley 2018:450	East Sentani Cowan 1965	Central Sentani Foley 2018:444
(recipient) object (di)trans. [Foley: DAT]	1SG *-ipi* 2SG *-me/-mo* 3SG *-ne/-no* NSG *-ini/-en* 'give': 1SG *powai/powa* 2/3SG *pona-me/mo* NSG *pon-ini/ien*	SGmasc. *-man* SGn.masc. *-n* + Ap. NSG *-len* + Ap. <u>Note</u>: no person distinction in this paradigm [1997:86]	object affixes Pers SG DU PL 1 *d* *m* *m* 2 *w/j* *b* *m* 3 *n* *mi* *mi* [1965:31] <u>with vowels</u>: *-nə/-na*	direct obj. suffixes SG DU PL *-ar* *-am* *-am* *-aw* *-ab* *-am* *-an* *-ame* *-ame* <u>Note</u>: in Tabla no person distinction in NSG = Kilmeri
		direct obj. affixes 1/2SG *-nen* 3SGm/n.m *-la* / *-Ø* DU *-ta* PL *-da*		

Note: Like colours indicate like morphemes. With Kilmeri, the slash separates present and past tense forms.

Pattern: Kilmeri and Sentani/Tabla share person distinction in the singular and neutralisation of person in the plural (Tabla). Nimboran, by contrast, has gender distinction for dative/recipient agreement, while the direct object affixes distinguish number and, in the singular, gender and person.

Material: 3SG/non-masc.SG is most similar across all languages. NSG Kilmeri correlates with NSG Nimboran. No similarities for 1SG. 2nd person is more problematic: Kilmeri 2SG formally correlates to Sentani 2PL. Note that, in Sentani, the non-singular object affixes are formally very similar across person.

The object affixes and benefactive markers of Nimboran and the languages of the Waris group Waris, Imonda and Amanab, respectively, show also material replication and relics of pattern replication.

Table 3: Object affixes in Waris, Imonda, Amanab and Nimboran

Grammatical function of affix	Waris Brown 1990	Imonda Seiler 1985	Amanab Minch 1992	Nimboran Anceaux 1965 May 1997 Foley 2018
(recipient) object (di)trans. [Foley: DATIV]				SGmasc. -*man* SGn.masc. -*n* + Ap. NSG -*len* + Ap. Note: no person distinction in this paradigm [1997:86]
(general) benefactive marker	SG.BEN -*mana* NSG.BEN -*in* SG.give -*ho* NSG.give -*hun*	SG.BEN -*na* NSG.BEN -*n* SG.GIVE -*h* NSG.GIVE -*∅*	SG/NSG -*nag*	

Note: Like colours indicate like morphemes.
In Waris and Imonda, the recipient markers for 'give' have a special form that may be related to the Nimboran postposition *ho* 'at' that marks the recipient/ dative object noun phrase (May 1997:87; 88; 113; 126; 134; 146). Recall the shared morphological and formal structure of 'give' in all Border languages (Table 1 above).

Hypothesis 6

On their way east, the Kilmeri had **contact with the Skou people** (for Skou cf. Donohue 2004). Support for this assumption:

First: **11 lexeme resemblances** between Kilmeri/Border languages and Skou, 8 nouns, 1 verb, 2 adjectives. Borrowing goes in both directions, yet asymmetrically, Kilmeri is donor in 9 instances and recipient language in 2 instances.

Second: **Pattern replication of the classifying composite structure of kind-referring terms**. Kilmeri replicates the pattern of Skou: general term + specifying element. This classifying structure is abundant in Kilmeri with 12 faunal and 7 floral classes, but occurs only rarely in other Border languages. A very few structurally parallel terms are attested in Waris. Thus, this is a major lexical-semantic innovation of Kilmeri due to contact with Skou.

Table 4: Faunal classes of Kilmeri

	Marker	Meaning	Class / Life-form	Attested members
1	*bi*	'pig', 'ground-living animal' (generic term)	ground-living animals	19
2	*yûr* *i-/y-*	'bird' (generic term)	flying animals: birds and bats	34
3	*wal* wa-/we-	'fish' (generic term)	water-living animals: fishes and turtles	14
4	*u(r)-	??	lizards, crocodiles, sharp-finned fishes	10
5	*a-	? 'insect'	insects	10
6	*pial* pia-	'snake' (generic term)	snakes	12
7	*piu* *pe-	'frog' (generic term)	frogs	5
8	*be-	??	sago grubs	3
9	*suko-	??	(dangerous, biting) caterpillars	3
10	*dipi*	'ant' (generic term)	ants	3

Skou: *táng*   'bird'
       class of birds, bats, big insects *and* cassowary (18 examples)
       tángboe   'crowned pigeon'
       tángé   'eagle'
       tángung   'hornbill'
       tángrue   'praying mantis'
       tángfòemo   'dragonfly'
       tángráng   'bird of paradise'
       tángrángpoe   'sp. of bird of paradise'
       tángná   'cockatoo'
       tángfí   'black bat'

Kilmeri: *yûr* = /jʊr/ 'bird' < Nimboran *iý* = /jʉ/   'bird'
       class of birds and bats (34 terms attested)
       yem   'crowned pigeon'
       yopp   'eagle'

iwan	'hornbill'
ilese	'kind of bird'
yur	'bird of paradise'
yuwoso	'flying fox'
isep	'kind of small bat'

The classifying pattern is replicated from Skou, but class membership follows different criteria! The classifying element or taxa term is borrowed from Nimboran!

Hypothesis 7
Kilmeri shows 3 layers of contact: the first and oldest with Nimboran, then with Sentani, and the youngest with Skou.
Elseng as an additional member of the Border family would support the assumption that the historic centre of the Border family languages is west of the state Border. Their extension to the east is due to successive migration.

Counter-Hypothesis 1
The material and pattern resemblances between Kilmeri and the Border languages on one side and Nimboran on the other side are **relics of shared inheritance**.
The vocabularies of Kilmeri and Nimboran were systematically compared on the **basis of 337 semantic counterparts**. These counterparts don't include all of the terms of the Swadesh list/s, since not all of them were available for both languages. For Nimboran an alphabetic wordlist was compiled; then, in a second step, the closest Kilmeri counterpart was looked for. In several cases two Kilmeri terms with a similar meaning are given; partly, these terms are contextually restricted.
Based on 40 words regarded as diagnostic cognates, 22 types and 50 instances of regular sound correspondences can be found between Kilmeri and Nimboran.
Under this assumption, language contact is relevant only to account for the resemblances between Kilmeri/Sentani and Kilmeri/Skou.
Nontheless, the **migration route of the Kilmeri** to their current location is independent of an inheritance or a contact scenario, since both presuppose their historic settling quite far in the west.

Counter-Hypothesis 2
The historic centre of the Border family is east of the Border mountains and south of the Bewani mountains (Donohue & Crowther 2005). On the premise that the lexical and structural resemblances between Kilmeri and Nimboran/Sentani are not due to coincidence, **the migration scenario is more complex.**
First possible scenario: The Kilmeri moved to the west and spent considerable time near the Nimboran people and the Sentani people, and then, in a further step, moved east to their current location. This is hardly compatible with the assumption of shared inheritance between Border and Nimboran.
Second possible scenario: The Nimboran originate considerably east of their current location somewhere in the neighbourhood of the Kilmeri and then moved west, while the Kilmeri

might have crossed the Bewani mountains to reach their current location. This scenario is hardly compatible with the oral tradition of the Nimboran, which places their origin into the hills south of their current settling area. However, the time-depth of this oral tradition is unclear.

Open questions

Type of contact: Widespread bilingualism in all life stages or restricted bilingualism due to trade interaction?

Border languages: Increase of complexity in Kilmeri from applicative to full person distinction or decrease of complexity in the Waris group from full person distinction to one general applicative morpheme as in Amanab?

Pronouns in Border and Nimboran families: Shared pattern of 1/2/3/INCL, but unrelated forms, thus no genetic relationship between the families?

Does meaning shift of like stems suggest shared inheritance?
Compare: N *su:* 'boil' <> K/B *sʊ* 'fire'; N *biáb* 'good' <> K *biap-nɔ* 'for a while'; N *neri* 'moss' <> K *dɔrijɛ* 'swamp'; N *máre* 'unconscious' <> K *mari* 'to be sick'; N/B *méndʉ* 'mouth' <> K *bɛr* 'tongue', N *mámbrob* 'tongue' <> K *bɔpɔp* 'lips'; N *ŋgúa* 'bite' <> K *kwɛ* 'open mouth'; N *ueiáŋ* and Kemtuik (Nimboran family) *iwaŋ* <> K *iwan* 'hornbill'; N *-ne* 'from here to the end' <> K *nɛ* 'go thither'.
Note that in N words stress is indicated according to the transcription of Anceaux 1965.

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Language Families

Border		Sentani	
Kaure		Sko	
Kwomtari		Tofanma	
Nimboran		Tor-Kwerba	
Pauwasi		Austronesian	
Senagi		Language isolate /unclassified	

Language family border

Labels on map:

Mlap
Mekwei
Sowari
Tabla
Nimboran
Sentani
Nafri
Gresi
Kemtuik
Orya
Wutung
Dumo
Dusur
I'saka
Sko
Nyao/ Sangke
Ningera
Rawo
Taikat
Kilmeri
Puare
Auyi
Manem
Pagi
Elseng
Ainbai
Momu
Kaure
Waris
Daonda
Imonda
Auwe
Narau
Molof
Sengi
Waina
Baibai
Kaure
Zorop
Amanab
Kwomtari
Guriaso
Namla
Tebi
Angor
Dera
Usku
Tofanma
Emem
Karkar-Yuri
Nai-Biaka
Yadë
Kosare
Towei