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## Papuan Kâte and Austronesian Jabêm: Long Contact, Little Convergence

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Everyone recognizes that Papuan and Austronesian languages have influenced each other, but the actual details for any pair of neighboring languages are difficult to pin down, partly because so few such pairs are adequately documented. After introducing several proposed models of convergence among New Guinea languages, this study examines specific areas of convergence and divergence in perhaps the most extensively documented pair of neighboring Papuan and Austronesian languages in Papua New Guinea: Kâte in the Huon branch of the Trans–New Guinea family and Jabêm in the Huon Gulf branch of the Austronesian language family. The results indicate regular contact over a long time, but show little evidence of structural convergence.

### Models of convergence

Linguists have long recognized that Papuan and Austronesian languages have influenced each other.<sup>1</sup> On the New Guinea mainland, most of the Austronesian languages have adapted many aspects of their typology to the prevailing SOV word order of their far more numerous Papuan-speaking neighbors (Bradshaw 1982). In the islands of East Nusantara (Eastern Indonesia and East Timor), on the other hand, speakers of Papuan languages seem to have adapted aspects of their structural typology to that of their more numerous Austronesian neighbors (Klamer, Reesink, and van Staden 2008). One striking characteristic of these structural adaptations is that they are rarely accompanied by the massive borrowing one might expect when one language exerts such a strong influence over another. Several linguists have proposed explanations for such disparities between structure and vocabulary.

George Grace (1981, n.d.) proposed a distinction between the “lexification” and the “content form” of each language. The lexification is the physical form (sounds and spelling) of its signifiers, in other words, the parts that are replaced when a language is “relexified.” This most emblematic component of language provides the criteria for tracing linguistic ancestry, and speakers are often reluctant to abandon it even while adapting their content form to neighboring languages. The content form is the semantic and syntactic packaging of a language, including its idiomatology, everything recorded in a dictionary except the spelling and pronunciation of words and grammatical morphemes. Grace suggested that many languages in Melanesia adapted their content form to that of neighboring languages while keeping their lexification distinct as markers of their own identity.

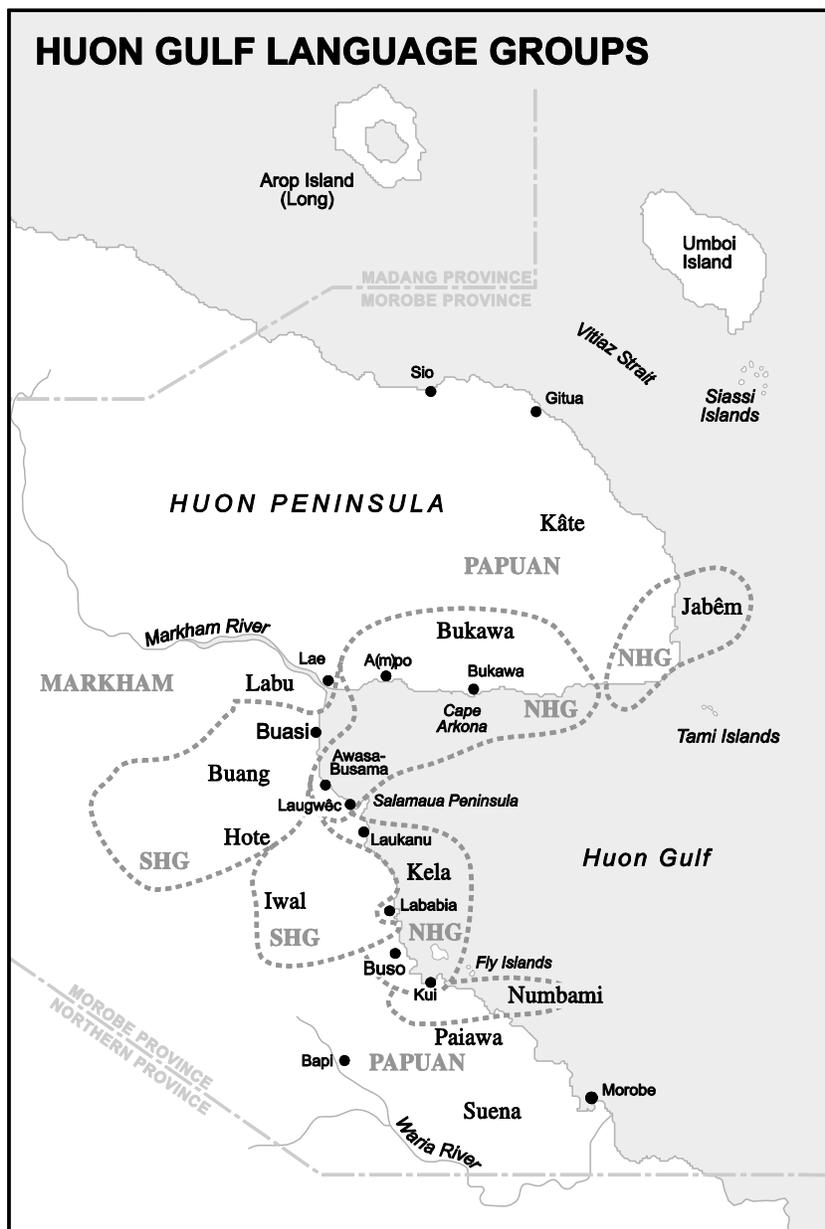
Malcolm Ross (1996) labeled the process of adapting another language’s structure without heavy borrowing of vocabulary as *metatypy*. He compared two languages on Karkar Island, where

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most people are bilingual in Takia, an Oceanic language, and Waskia, a Papuan language of the Trans-New Guinea family. Waskia is the intergroup language, the lingua franca, and Takia speakers have changed their word order to match that of Waskia without, however, altering their phonology or lexicon. Presumably the word-order synchrony facilitates translation in a multilingual environment, while phonological and lexical differences preserve emblems of separate linguistic communities. An example from Ross (1996: 191) follows.

Takia: *tamol an ηai i-fun-ag=da*  
 man DETERMINER me he-hit-me-IMPERFECTIVE  
 Waskia: *kadi mu aga umo-so*  
 man DETERMINER me hit-PRESENT-he  
 ‘The man is hitting me.’



After examining relations between neighboring Austronesian and Papuan languages in New Britain, Thurston (1987, 1989) suggested that languages undergo specific types of change depending on their roles in multilingual communities. Intergroup languages are subject to exoterogeny: simplification and regularization that make them easier for outsiders to learn, somewhat akin to creolization. In contrast, emblematic in-group languages are subject to esoterogeny: increasing complexity and irregularity that make them less penetrable by outsiders, through phonological elision, morphological suppletion, elaboration of lexical synonymy, and so forth. (In later research on Northwest New Britain languages, Ross [2014] found ample evidence of esoterogeny, but no evidence of exoterogeny.)

## Language families on the Huon Peninsula

This study will focus on just the two best-documented languages on the Huon Peninsula, Papuan Kâte and Austronesian Jabêm, but we first need to sketch a bit of the complex linguistic geography that surrounds them.

Kâte is a member of the Finisterre-Huon branch of the Trans-New Guinea (TNG) family (Suter 2012). Its phonological and morphosyntactic typology is fairly typical of that branch (McElhanon 1973) and its complex verb morphology is typical of the TNG family as a whole, with subject-agreement suffixes marking person and number, and morphosyntactic distinctions between medial and final verb forms (Pawley 2005, Pilhofer 1933). All of the Finisterre-Huon languages are verb-final.

Languages of the Huon subgroup to which Kâte belongs cover the upland areas of the Huon Peninsula in Morobe Province of Papua New Guinea and also extend to a few coastal villages (like Sialum) and to Umboi Island in the Vitiaz Strait. Kâte itself is spoken at the eastern end of the peninsula just inland of Jabêm, The Huon languages are surrounded by Oceanic languages along the coasts of the peninsula and on the offshore islands, including Umboi. Most of the languages descended from Proto-Oceanic (POc) along the north and northeast coast are members of the diverse Ngero-Vitiaz linkage (Ross 1988), whose members range from verb-final coastal languages of Madang Province to verb-medial languages of West New Britain Province across the Vitiaz Strait. Among those mentioned below are Biliau, Sio, Gitua, and Tami.

Jabêm is spoken along the coast at the eastern tip of the peninsula. It belongs to the Huon Gulf subfamily, which includes all the Oceanic (Oc) languages around the coast of the gulf: the South Huon Gulf (SHG) subgroup that reaches deep into the mountains south of the gulf, and the Markham subgroup that stretches far up the Markham Valley at the head of the gulf. (See map.) Jabêm, Bukawa, and Kela comprise the North Huon Gulf (NHG) subgroup, which stretches all along the north shore of the gulf, where its Papuan neighbors inland are all members of the same Huon subgroup as Kâte. The northern tier of (Oc) Markham languages also borders the southern tier of (Papuan) Finisterre-Huon languages, and the Markham subgroup appears to have been more heavily influenced by Papuan languages than their coastal relatives (Holzknecht 1989, 1994). Two of the Markham languages mentioned below are Wampar in the Lower Markham group and Adzera in the Upper Markham group.

The reason Jabêm and Kâte became so well documented is that they were chosen as the German Lutheran Neuendettelsau Mission's church languages for use among Austronesian and Papuan communities, respectively, beginning in the early 1900s. In that capacity, each language became very influential within its own circuit, whose village languages soon acquired many loanwords from each language. Jabêm and Kâte became the languages of literacy throughout their respective circuits, which at one time covered most of the languages in Morobe Province, and their orthographic practices remained very influential many decades later, as the other village languages began to develop their own writing systems (Paris 2012, Schreyer 2015).

There is little direct evidence of the nature and frequency of interactions between Jabêm- and Kâte-speaking communities before Europeans arrived on the scene, but Schmitz's (1960a) exhaustive survey of early linguistic and ethnographic literature on the precontact cultures of the Huon Peninsula convinced him that that Kâte culture was much more heavily influenced by Jabêm culture than vice versa. Schmitz identifies three broad cultural complexes: pre-Austronesian in the remote highlands, Austronesian along the coasts, and a mixed culture in intermediate zones. The

last includes Austronesian-speaking communities in the Markham Valley as well as Papuan-speaking communities in the mountain valleys of the Huon Peninsula. Of the various cultures on the Peninsula, Schmitz (1960a: 372) considers Kâte culture to exhibit the strongest and greatest admixture of all three cultural traditions, thanks to Jabêm influence, which introduced the “Balum-Kult” (Jabêm *balôm* ‘ancestor spirits; bullroarer’), a circumcision and initiation ceremony for young men.

Elsewhere, Schmitz notes that coastal villages around the Huon Peninsula are generally separated from their rainforest neighbors by a more or less uninhabited zone (1960a: 10), and that Jabêm-speakers referred to the Kâte as Kai ‘bush; bush people’ (1960a: 30), the same term they used to refer generically to the forest and forest dwellers everywhere else. The name Kâte itself simply translates Jabêm Kai into the Wemo dialect of what eventually became the name of the standardized language of literacy developed by the Lutheran mission. (*Wemo* is how the speakers of that dialect say ‘what’; Schmitz 1960: 32.)

The history of the Lutheran mission in the area (Wagner and Reiner 1986: 31–50) seems to suggest that coastal villages had more regular contact with other coastal and island villages than with neighboring forest-dwellers. The Neuendettelsau missionaries established their first station at Simbang near Finschhafen in Jabêm territory in 1886, and their second in the nearby Tami Islands in 1889. The Tami Islanders were chosen because they were seafaring people with large canoes who had trade ties with villages all around the Huon Gulf, as well as in the Siassi Islands and on the western tip of New Britain. The Tami villagers became evangelical allies and the mission subsequently established stations at Deinzerhill near Taemi, a Tami-speaking village on the mainland, in 1899; at Cape Arkona, a Bukawa-speaking area on the north coast of the Gulf in 1906; and at Malalo, a Bukawa-speaking village on the south coast of the Gulf in 1907. (For more on relations among the Huon Gulf coastal villages, see Bradshaw 1997.)

Mission work proceeded more slowly in the Papuan-speaking areas north of Finschhafen, where there were fewer trading and tribal connections, but a station was finally established at Sialum in 1907. The mission established its first station among Kâte-speakers in the Sattelberg mountains overlooking Finschhafen in 1892, followed by another in the thickly populated Wamora mountains to the north in 1903. (*Wamora* is how the speakers of that dialect say ‘what’; Schmitz 1960: 32.) The breakthrough came when mission schoolteacher Christian Keysser and local bigman Zake of Bare organized a singsing for about 200 local leaders who reluctantly agreed to come without weapons. After dancing all night, the guests sat down to a feast at which Keysser spoke openly about the baleful effects of sorcery and revenge killings and then Zake confessed his role in a recent murder. Several other leaders then confessed to attempted sorcery against each other. After that, the mission station became a neutral site for negotiation and peacemaking between local leaders (Wagner and Reiner 1986: 45–46). This suggests that intervillage relations were rather more hostile in the more populous highlands than they were in the more sparsely settled coastal zone.

## Phonology

Kâte has a six-vowel system, as is typical for Finisterre-Huon languages—although a few have five-vowel systems (McElhanon 1973). The vowel written *â* is slightly rounded, as in English *saw* or *law* (Pilhofer 1933: 14).

**Table 1. Kâte vowels**

	Front	Back
High	i	u
Mid	e	o
Low	a	â

Jabêm distinguishes seven vowel positions, plus high or low tone (pitch) at each position (Bradshaw and Czobor 2003: 2–3). High tone is unmarked. Low tone is predictable on syllables with voiced obstruents, and is only marked (with a grave accent) when otherwise unpredictable, where once-voiced obstruents have been lost or devoiced.

**Table 2. Jabêm vowels**

	Front	Central	Back
High	i		u
Upper mid	ê		ô
Lower mid	e		o
Low		a	

The vowel systems of Jabêm’s closest congeners in the North Huon Gulf subgroup differ slightly. Bukawa (also spelled Bugawac) distinguishes eight vowel positions, adding a front rounded  $\ddot{o}$  [ø] to the Jabêm set, and also retains high and low tone contrasts (Eckermann 2007); while Kela (also called Kala) distinguishes only five vowel positions, plus oral–nasal contrasts at each position, but without any tonal contrasts (Schreyer 2015). The vowel systems of Kâte and Jabêm thus seem not to have converged to any significant degree.

The most unusual segments in the consonant inventory of Kâte are a set of coarticulated labiovelar stops—[k̠p], [g̠b], [m̠ŋ]—which are found in nearly all of the Finisterre-Huon languages (McElhanon 1973). The German Lutheran mission orthography assigned *q* to represent the voiceless stop, and created a special *q* with hooked serifs to represent its voiced equivalent. (The nearest Unicode equivalent is *q̠*.) These will be respelled with digraphs or trigraphs in the remainder of this work.

The mission orthography also distinguished two affricates, *z* [ts] and *ʒ* [dz], even though they are almost in complementary distribution in standard Kâte, which is based on the Wemo dialect. The other dialects have only voiced *ʒ* both initially and medially. The Wemo dialect only has medial *ʒ* in a few reduplicated forms and a few loanwords from Jabêm (see below); otherwise the medial allophone is devoiced *z*.

**Table 3. Kâte consonants (orthographic)**

	Labial	Labiovelar	Dental	Alveopalatal	Velar	Glottal
Voiceless obstruents	p	q = kp	t	-z-	k	-c
Voiced obstruents	b	q̠ = gb	d	ʒ-	g	
Prenasalized obstruents	mb	ŋq̠ = ŋgb	nd	nʒ	ŋg	
Fricatives	f, w			s		h-
Nasals	m		n		ŋ	
Liquids/glides			l = r	j		

The Lutheran mission assigned several Austronesian-speaking villages on the north coast of

the Huon Peninsula, including Sio and Gitua, to the (Papuan) Kâte Circuit. Missionary M. Stolz adopted the Kâte orthography wholesale to represent the sounds of Sio (also spelled Siâ), which has the same vowel system as Kâte. Dempwolff later (1936) used the Stolz materials to compile a short sketch of Sio in which he assumed the labiovelars were coarticulated stops: [kp], [g̃b], [m̃g̃b], [ŋ̃m]. Capell (1976) made the same assumption. However, after working with Sio villagers who wanted to revise their orthography, Clark (1993) found the labiovelars to be bilabial stops with rounded release: [p<sup>w</sup>], [b<sup>w</sup>], [mb<sup>w</sup>], [m<sup>w</sup>]. The Sio labiovelars thus resemble those of other Oceanic languages, like Jabêm, and not those of Kâte.

**Table 4. Sio consonants (orthographic)**

	Labial	Labiovelar	Dental	Alveopalatal	Velar
<b>Voiceless obstruents</b>	p	q = pw	t		k
<b>Voiced obstruents</b>	b	q = bw	d	z	c = g
<b>Prenasalized obstruents</b>	mb	m̃q = mbw	nd	ʒ = nz	ŋg
<b>Nasals</b>	m	m̃j = mw	n		ŋ
<b>Fricatives</b>	v			s	
<b>Liquids and glides</b>	w		l, r	j (= y)	

Dempwolff (1939) apparently considered labialized labials to be an illogical redundancy, so his orthography for Jabêm adds round vowels to labials that have rounded release. Thus, *poa* = *pwa*, *boa* = *bwa*, *moa* = *mwa*, and so forth. The only consonants that may occur in syllable-final position are *-c* (/ʔ/), *-ŋ*, and the labials *-b* (on low-tone roots), *-p* (on high-tone roots), and *-m* (on either high- or low-tone roots). Current /s/ comes from two sources, \*s and \*z (which latter yielded low-tone). Low-tone also resulted from a former \*v (< \*p). The innovative tonal distinctions in Jabêm are internal developments, not due to contact with other tonal languages. (See Bradshaw 1979.)

**Table 5. Jabêm consonants (orthographic)**

	Labial	Labiovelar	Coronal	Velar	Labiovelar	Glottal
<b>Voiceless obstruents</b>	p	po/pô(V)	t	k	kw	-c
<b>Voiced obstruents</b>	b	bo/bô(V)	d	g	gw	
<b>Prenasalized obstruents</b>	mb	mbo/mbô(V)	nd	ŋg	ŋgw	
<b>Nasals</b>	m	mo/mô(V)	n	ŋ		
<b>Fricatives</b>			s			
<b>Liquids/glides</b>	w		l, j			

The only consonants that may occur in syllable-final position in Kâte are *-ŋ* and *-c* (/ʔ/), each of which corresponds to a greater variety of nasal vs. oral consonants in Western Huon languages: *-m*, *-n*, *-ŋ* > *-ŋ* /    #; *-p*, *-t*, *-k* > *-c* /    # (McElhanon 1974). In some Huon languages, final *-c* alternates with medial *-w-* (< \*p), *-r-* (< \*t), or *-h-* (< \*k). So final consonants have eroded further in Kâte than they have in its congeners farther west. Perhaps this indicates some small degree of convergence with Jabêm, which has similar restrictions on syllable-final consonants. (Jabêm's closest congeners, Bukawa and Kela, show even greater erosion of final consonants, but Bukawa has added *h*, a voiceless lateral written *lh*, and voiceless glides written *yh* and *wh* to its consonant inventory; Eckermann 2007.)

However, the consonant inventories of the two languages do not otherwise show any unique

similarities. Neither language distinguishes *l* and *r*, which used to be written as *l* in both languages. (The Kâte orthography changed *l* to *r* during the 1950s.) Note also that Kâte *w* is a fricative, the voiced equivalent of Kâte *f*, while Jabêm *w* is a glide, the labiovelar match to palatal *j*. Kâte also has a syllable-initial glottal fricative *h-*, which Jabêm entirely lacks.

In sum, the Kâte and Jabêm vowel systems have not converged. (However, Sio's six-vowel system matches that of Kâte.) Jabêm developed phonemic tone for internal reasons, but no tonal distinctions are found in Kâte. Kâte's very distinctive coarticulated labiovelar stops have no counterpart in Jabêm (nor in Sio, contra Dempwolff). The only notable area of possible phonological convergence seems to be in canonical syllable shapes. The standard Wemo dialect of Kâte, which was in closest contact with Jabêm, permits fewer consonants in syllable-final position (only the glottal stop and velar nasal) than other dialects farther inland. Jabêm permits only glottal stop, the velar nasal, and three labial stops (*-p*, *-b*, *-m*) in syllable-final position.

## Lexicon

It is not easy to find lots of vocabulary shared between the two large dictionaries, Flierl and Strauss (1977) for Kâte and Streicher (1982) for Jabêm. The introduction to Flierl and Strauss (1977: xi) specifically mentions the presence of words from Jabêm, Bukawa, and Tami, but external origins are rarely identified in the entries. However, it is possible to identify a few domains likely to show borrowing. The lexical similarities below seem to indicate regular contact between Kâte speakers and their Oceanic neighbors, but nothing extraordinary.

Kâte exhibits some maritime vocabulary that seems to have come from Jabêm and other coastal Oceanic languages. (Proto-Oceanic reconstructions are cited from Blust and Trussel 2016.) The correspondences between Kâte *guriŋ* 'helm', *haroŋaŋ* 'coral', *jâkpâ* 'shark', *jâmâ* 'mast', *kâwi* 'baler', *nuc* 'island', *oâ* 'crocodile', *oracbeŋ* 'fish poison plant', *haruc* 'crab', *rac* 'sail', *râŋusec* 'sea eagle', *sao* 'fish spear' and their Jabêm equivalents seem to indicate recent borrowings from Jabêm. But Kâte *foi* 'paddle', *hawic* 'fishhook', *someŋ* 'outrigger', and *woke/wogâ* 'canoe' seem to have come from other, more phonologically conservative Oceanic languages (cf. Biliau *foi* 'paddle', Sio *sâma* 'outrigger', Sio *wâŋga* 'canoe'). Kâte dialectal variants *woke/wogâ* very likely reflect POc \*waga. Less certain is the similarity between Kâte *hâwec* 'sea, saltwater' (as in *Hâwec jaje* 'sea people') and Jabêm *gwêc* (as in *Lau gwêc* 'sea people'), which look more similar orthographically than they actually sound. Moreover, the correspondence between Kâte *h* and \*k (whether in Huon or Oceanic languages) looks sounder than that between Kâte *h* and Jabêm *g*. The *k:k* correspondence in *kâwi:kawi* 'baler' and *kuric:kulic* 'octopod' may indicate very recent borrowings. A final possible maritime borrowing is *zipi* 'a small marine shellfish that adheres so strongly to rock that it must be prized off' (a limpet?), which is also used figuratively in phrases meaning 'obstinate, stubborn'. I cannot find sources for 'limpet', but compare Tami *sipa* 'adhere, stick fast', Numbami *-sipi(sipi)* 'to adhere to'.

**Table 6. Maritime vocabulary**

Kâte	gloss	Jabêm	gloss
foi	'paddle, oar'	`ôc (*v- > L tone); POc *pose	'paddle'
guriŋ	'helm, rudder'	gôliŋ; *POc *quliŋ	'rudder'
haroŋaŋ	'coral'	kalong(kalong)	'rocky, coral-covered'
haruc	'crab'	kalum	'hermit crab'
hawic	'fishhook'	êŋ; POc *kawil	'fishhook'
hâwec	'sea, saltwater'	gwêc	'sea, saltwater'

jâkpâ	‘shark’	jakwa (POc *ikan + *kwarawa?)	(unrelated?) ‘shark’
jâmâ	‘mast’	jamoâ	‘mast’
kâwi	‘shell baler’	kawi	‘baler’
kuric	‘cuttlefish’	kulic, POc *kuRita	‘octopus’
nuc	‘island’	nuc	‘island’
orabeŋ	‘fish poison vine’	o-làbeŋ, POc *waRoc	‘fish poison vine’ (lit. ‘vine-làbeŋ’)
oâ	‘crocodile’	oâ/wâ (*v- > L tone), POc *puqaya	‘crocodile’
rac	‘sail’	lac, POc *layaR	‘sail’
râŋusec	‘sea eagle’	laŋô-sec	‘sea eagle’ (lit. ‘face ugly’)
sao	‘many-pronged fish spear’	sao	‘many-pronged fish spear’
someŋ	‘outrigger’	sap, POc *saman	‘outrigger float’
woke/wogâ	‘canoe’	waŋ, POc *waga	‘canoe’

German missionaries arrived by sea, and thus evangelized coastal Jabêm speakers before reaching their inland neighbors. In spreading the Word to Kâte speakers they also spread two words from Jabêm adapted to Christian usage: *Anutu* ‘God, Creator’, from Jabêm *Anôtô* ‘land spirit; God, Creator’ (POc \*qanitu); and *miti* ‘gospel, Christianity’ from Jabêm *mêtê* ‘art, craft, custom, tradition; Gospel, preaching’ (Streicher 1977). The Christian usage of the word *Lord*, however, was adapted for each language from its word for ‘chief, owner, master’: Kâte *Wofuŋ*, Sio *Maro*, Jabêm *Apômtau*, Bukawa *Pômdau*, Tami *Sibumtao*, Iwal *Pomate*, Numbami *Pomata*.

Another Jabêm word very likely borrowed after the missionaries arrived is *susu* ‘milk’ (as a commodity), from Jabêm *susu* ‘female breast, milk’ (POc \*susu). Compare the native Kâte words *moŋ* ‘breast, milk’ and *moŋ gume* ‘breastfeed (a child)’ (Pilhofer 1953).

Trade items from the coast account for a few more borrowings. Kâte *ki* ‘key; iron in general’ is probably from two sources. The ‘key’ sense is from English *key*, as in *ki nen goc* ‘lock’ (lit. ‘key mother’) and *ki motec* ‘key’ (lit. ‘key child’); while the ‘iron in general’ sense, as in *ki suguruc* ‘iron screw’ and *ki-zi bakicne* ‘made of iron’ (lit. ‘iron-by/with made’), is more likely from Jabêm *ki* ‘axe blade; iron generally’ (< POc *kiRam* ‘axe, adze’).

Clay pots were another trade item upland from the coast or the Markham Valley. At some point during the time Flierl was compiling his dictionary, “a netbag was worth a pot” (Flierl and Strauss 1977: 181). Kâte *kuzi* ‘pot with wide opening’ (vs. *hapec* ‘pot with narrow opening’) almost certainly comes from Jabêm *ku*, Tami *kul*, Sio *kulo* (< POc \*kuron) ‘clay pot’. The voicing of the medial -ʒ- is unexpected (initial ʒ- and medial -z- are usually in complementary distribution), so it may have once started a new morpheme. There is no likely candidate in the Kâte dictionary, so the most likely source is Jabêm *ku-sì* ‘pots from Adsera, Wampar’ in the Markham Valley. (Wampar pots are heavy and wide-mouthed; May & Tuckson 2000: 128.) The low tone on Jabêm *sì* indicates that it once had a voiced obstruent, probably \*zi.

Another Kâte word with an unexpected voiced medial -ʒ- is *taizəŋ* ‘much, many’, from Jabêm *taêsəm* ‘many, plenty’, with a low tone on the second syllable, which suggests it was once a separate morpheme beginning with a voiced obstruent, perhaps \*zam, which may also have yielded the low tone *səm* of *səmob* ‘all’ or *səmbôm* ‘large, widespread’.

Kâte *huc* ‘betel-lime, lime-flask’ (also ‘betel chew’, as in *huc nâzo* ‘to chew betel’) very likely comes from POc \*qapuR, but Oceanic sources for the borrowing are hard to find (cf. Gitua *avu*, Sio *kâu*, Tami *ka*, Numbami *awila*, Jabêm *ɲop* [‘gourd’ > ‘lime-flask, betel-lime, betel chew’]). An Oceanic intermediary for Kâte *kiruŋ* ‘obsidian’ is also hard to find (cf. Tami *gagal*, Numbami *kakali*, Kove *aliali*, Sio *mbelo*). Obsidian is likely to have come via trade from the Talasea peninsula of New Britain. (Kâte *so* ‘obsidian splinter, thorn of lemon tree, pin’ may be related to Jabêm *so*, *soso* ‘pointed’ but it is hard to judge the direction of borrowing.)

Other earlier Oceanic borrowings into Kâte include *furi* ‘price’ (cf. POc \*poli; Jabêm *ôli* ‘price, payment’, with low tone < \*v) and *fuŋ* ‘base, origin’ (cf. POc \*puna; Tami *pu*, Bukawa *hu*, Jabêm *m̄* ‘origin, cause’, with low tone from \*v-, as in Jabêm *m̄* ‘banana’; Bukawa *huŋ*, Tami *pun* < POc \*pudi). Another word of clear Oceanic origin in Kâte is *demeŋ* ‘bright star in Pleiades’ (cf. POc \*damaR ‘torch, Pleiades’; Jabêm *dam*, Tami *ndam*, Numbami *damana*). The Kâte term for the entire ‘Seven Sisters’ of the Pleiades is *demeŋ gbafâc* ‘Demeŋ and his younger brothers’ (Flierl and Strauss 1977). A word of more specific Oceanic origin is *mimi* ‘shame’, *mimi-e* ‘be ashamed’, probably from Tami *mimia-* (Bamler 1900: 201; cf. Jabêm *maja*, Numbami *memeya* < POc \*ma-mayaq).

Another item of exchange between regular trading partners is likely to have been spouses, and perhaps a few related kinship terms. Papuans and Austronesians throughout Melanesia have very similar bifurcate-merging kinship systems, as do many other parts of the world. In such systems, same-sex siblings are treated differently from cross-sex siblings. For instance, same-sex siblings are distinguished by age in relation to ego. Elder same-sex siblings are *hahac* in Kâte and *têwa* in Jabêm, while younger same-sex siblings are *gba* in Kâte and *lasi* in Jabêm. Cross-sex siblings are not distinguished by relative age: they are lumped together as *seŋ* in Kâte and *gwadê* in Jabêm. Similarly, one’s mother and mother’s sisters are both referred to as ‘mother’, *neŋgoc* in Kâte, *têna* in Jabêm (< POc \*tina), while one’s father and father’s brothers are referred to as ‘father’, *mamac* in Kâte, *tama* in Jabêm (< POc \*tama). (The relative age of other ‘mothers’ and ‘fathers’ relative to one’s birth parents are often indicated by descriptors meaning ‘large/old’ or ‘small/young’.) However, one’s mother’s brothers (and father’s sisters’ husbands in Jabêm) are classified differently, as *wawa* in Kâte and *sa* in Jabêm.

A few Kâte kin terms might have been borrowed from Oceanic languages. Compare: *mamac* ‘father’ with Jabêm *mamac* ‘father (vocative)’ (< POc \*mama)<sup>2</sup>; *hahac* ‘elder same-sex sibling’ with Jabêm *kaka* ‘elder same-sex sibling (vocative)’ (< POc \*kaka); *naru* ‘girl, daughter’ with Proto-Markham *naru* ‘child’ (< POc \*natu); *wawa* ‘mother’s brother’ with Jabêm *wawa* ‘mother’s brother, father’s sister’s husband (vocative)’ (cf. Kove *wawa* ‘mother’s brother [vocative]’, Sio *wawa* ‘mother’s brother’). The direction of borrowing is harder to determine for two other kin terms. Compare: Kâte *apa* ‘great grandparent/grandchild’ with Jabêm *âba/âba-ò* ‘ancestor, ancestress (grandparents and above)’; and Kâte *mimi/mimi-oc* ‘grandmother/great aunt’ with Jabêm *mimi/mimi-ò/mimi-àc* ‘ancestors in a wider degree than *âba*/ancestors-female/ancestors-collective’. The meaning of each term in Kâte seems somewhat more specific than its lookalike in Jabêm, so these two terms may have originated in Kâte. Besides, Jabêm already had a term that closely matches Kâte *apa* in meaning, namely, *dêbu* ‘grandparent, grandchild’ (< POc \*tibu).

<sup>2</sup> The Kâte term for ‘father’ does not resemble the same term in other Papuan languages on the Huon Peninsula, and therefore is likely to be borrowed from the Jabêm vocative. Compare Erawa and Nahu *awa*, Wantoat *nana*, Komba *awon*, Bongu *mem*, the last possibly borrowed from Oceanic Biliau or Gedaged *mam* ‘father’ (Schmitz 1960b).

**Table 7. Kinship terms**

Kâte	gloss	Jabêm	gloss
apa	‘great grandparent, great grandchild’	àba	‘ancestor (grandparent and above)’
hahac	‘elder same-sex sibling’	kaka	‘elder same-sex sibling (vocative)’
naru	‘girl, daughter’	latu (POc *natu; Proto-Markham *naru)	‘child’
mamac	‘father, uncle (F, FB)’	mamac (POc *mama)	‘father (F, FB) (vocative)’
mimi	‘grandmother’	mimi	‘ancestor’
mimi-oc	‘great aunt’	mimi-ò	‘ancestor-female’
wawa	‘uncle (MB)’	wawa	‘uncle (MB, FZH) (vocative)’

While the basic kin terms in each language often translate exactly, each language has a rich set of derived kin terms that diverge sharply in meaning and usage. Kâte has a ubiquitous suffix, *-oc*, that can be added to virtually any kin term to mark relations that are collateral, not in the direct line of descent. Thus, one’s own daughter is *naru*, while one’s same-sex sibling’s daughter is *naru-oc* ‘niece (man’s brother’s daughter or woman’s sister’s daughter)’. Similarly, compare *sey* ‘cross-sex sibling’ vs. *sey-oc* ‘(man’s) half-sister or stepsister, (woman’s) half-brother or stepbrother’; *hahac* ‘elder same-sex sibling’ vs. *hahac-oc* ‘elder same-sex half-sibling or stepsibling’; and *neȳgoc* ‘mother’ vs. *neȳgoc-oc* ‘aunt (mother’s or father’s sister)’. (Dempwolff 1924/25 provides many more examples.)

For its part, Jabêm has a very common suffix *-ò* ‘female’ (< *àwê* ‘female’) to explicitly distinguish female from male referents in the same kin relation. (Bukawa *-whê* < *awhê* ‘female’ and Numbami *-ewe* < *ewa* ‘female’ perform the same function.) Thus, Jabêm *latu-ò* ‘child-female = daughter’; *gwadê-ò* ‘cross-sibling-female = (man’s) sister’; and *dêbu-ò* ‘grandparent/grandchild-female = grandmother, granddaughter’. Another suffix, *-àc* (with low tone from \*vat < POc \*pat ‘four’) frequently appears on kin terms referring to collective groups, as in *latu-àc* ‘all his/her sons’, *têna-m-àc* ‘your mother and her sisters’, *tam-oc-àc* ‘my father and his brothers’. These three kin term suffixes in Jabêm and Kâte all sound somewhat similar, but they mean completely different things and have no relation to each other.

Before leaving kin terms, we should note that both Kâte and Jabêm show evidence of the common areal usage of ‘mother’ as an augmentative modifier, as in Kâte *woke neȳgoc* ‘canoe mother = very large ship’ and Jabêm *gwêc têna* ‘sea mother = deep sea, high seas’. Similar usage can be seen in expressions where the larger component of a projectile weapon is distinguished as the ‘mother’ piece, as in Kâte *tepe neȳgoc-ne* ‘bow, gun’ (vs. *tepe motec-ne* ‘arrow, bullet’) and Jabêm *talam ŋa-têna* ‘bow, gun’ (vs. *talam ŋa-sôb* ‘arrow, bullet’). Such idiomatic usages are so widespread that they indicate no special relationship between Kâte and Jabêm. But a finer analysis of body-part idioms (along the lines of McElhanon 1975) might reveal interesting areal isoglosses that crosscut language-family boundaries.

## Clusivity

Van den Berg (2015) documents two sporadic but widespread developments in Western Oceanic languages that suggest Papuan influence: the loss of clusivity and the rise of gender-differentiating pronouns. There is no trace of the latter in either Kâte or Jabêm, but both languages show some ambiguity with regard to inclusive–exclusive distinctions in their pronoun systems. In brief, Jabêm

has lost the clusivity distinction in its free pronouns, but retains it in its (somewhat eroded) pronominal affixes, while Kâte has added clusivity distinctions to its free pronouns, but not to any of its pronominal affixes.

**Table 8. Jabêm free pronouns**

	<b>Singular</b>	<b>Dual</b>	<b>Plural</b>
<b>1st person</b>	aê	aê-àgêc	aê-àc
<b>2nd person</b>	aôm	am-àgêc	am-àc
<b>3rd person</b>	eŋ	esê-àgêc	êsê-àc

Jabêm free pronouns shown no distinction between inclusive and exclusive in the 1st person dual and plural. The Jabêm plural and dual markers *-àc* (< \*vat < POc \*pat) and *àgêc* also appear in numerals (*lu-àgêc* ‘2’, *têlê-àc* ‘3’, *àc-lê* ‘4’) and on collective nouns denoting kin groups (*dêbu-àc* ‘grandparents/grandchildren’) (Streicher 1982). They can also function as anaphoric 3rd plural and dual subjects, like Tok Pisin *ol* ‘they’ and *tupela* ‘they two’.

**Table 9. Kâte free pronouns: normal vs. emphatic**

	<b>Singular</b>	<b>Dual</b>	<b>Plural</b>
<b>1st person incl.</b>		nâhâc / nâhâc	nâŋâc / nâŋâc
<b>1st person excl.</b>	no / nahac	nâhe / nâhâc	nâŋe / nâŋâc
<b>2nd person</b>	go/ gahac	ŋohe / ŋahac	ŋoŋe / ŋaŋac
<b>3rd person</b>	e / jahac	jahe / jahac	jaŋe / jaŋac

Kâte, by contrast, has created inclusive–exclusive distinctions for its regular 1st person dual and plural free pronouns by allowing the emphatic 1st person dual and plural forms to double as regular inclusive forms. The emphatic pronoun paradigm itself makes no inclusive–exclusive distinctions in either the dual or plural. The regular plus emphatic pronouns translate ‘we ourselves’ (or ‘our own’ in genitive constructions). The *-ac* formant on the end of the emphatic pronouns can be translated ‘alone’, thus, e.g., *no nahac* ‘I myself alone’ (McElhanon 1973: 21). The emphatic forms also combine with a greater range of case-marking suffixes. (Pilhofer 1933: 51ff.)

**Table 10. Kâte Far Past tense suffixes**

	<b>Singular</b>	<b>Dual</b>	<b>Plural</b>
<b>1st person</b>	-po	-pec	-mbeŋ
<b>2nd person</b>	-meŋ	-pic	-mbiŋ
<b>3rd person</b>	-wec	-pic	-mbiŋ

In each of Kâte’s five tenses, subject-marking suffixes do not distinguish 2nd and 3rd person for either dual or plural number. All impersonal subjects are indexed for 3rd person singular, regardless of number (Pilhofer 1933: 27). Personal dative and accusative objects are indexed by separate sets of suffixes that precede the subject suffixes.

**Table 11. Kâte Hortative Present suffixes**

	Singular	Dual	Plural
<b>1st person</b>	-pe	-nac	-naŋ
<b>2nd person</b>	-c	-nic	-niŋ
<b>3rd person</b>	-oc	-nic	-niŋ

According to Pilhofer (1933: 71) there is one (and only one) Kâte verb whose subject-suffixes distinguish inclusive and exclusive: *fâ* ‘come to you’, one of a set of three deictic verbs correlated with 1st, 2nd, and 3rd person destinations. He does not translate his hortative present-tense examples, but I believe they can be construed as dual *nâhâc fâ-noc* ‘let’s both (incl.) come to (meet at) your place’ vs. *nâhe fâ-nac* ‘let us two (excl.) come to (meet) you’, and plural *nâhâc fâ-noŋ* ‘let us all (incl.) come to (meet at) your place’ vs. *nâhe fâ-naŋ* ‘let us (excl.) come to you’. However, if one compares the subject suffixes in these examples with the table of hortative present suffixes (1933: 32; reproduced in Table 11), one finds only the 1st person exclusive suffixes (-*nac* and -*naŋ*) and not the inclusive suffixes (-*noc* and -*noŋ*), which are otherwise unattested in Pilhofer’s grammar. Schneuker’s (1962) handbook consistently distinguishes 1st person inclusive and exclusive verb usage, but only by means of preposed free pronouns (e.g., *nâhâc* vs. *nâhe*), not by the suffixes. Schneuker (1962: 50) also includes a long note on the importance of distinguishing inclusive from exclusive uses when addressing God.

**Table 12. Jabêm Realis mode prefixes**

	Singular	Plural
<b>1st person incl.</b>		ta-/da-
<b>1st person excl.</b>	ga-/ka-	a-/â-
<b>2nd person</b>	gô-/kô-	a-/â-
<b>3rd person</b>	gê-/kê-	sê-/tê-/dê-

Jabêm verbs distinguish only two modes, Realis and Irrealis, roughly equivalent to Present+Past vs. Future+Conditional. Each person and number category has at least two sets of prefixes. Those prefixes with voiced obstruents are low-tone, those with voiceless obstruents are high-tone. (Tone and obstruent harmony conditions are complex; see Bradshaw 2001.) Jabêm verbs do not index accusative or dative objects. The subject prefixes do not distinguish 1st person exclusive from 2nd person plural, so the free pronouns can be used to disambiguate the two. Conversely, the free pronouns do not distinguish 1st person plural inclusive and exclusive, so the subject prefixes serve to disambiguate them in verbal expressions, as in *aêàc tasôm* ‘we (incl.) say’, *aêàc asôm* ‘we (excl.) say’, *amàc asôm* ‘you (pl.) say’.

The Jabêm possessive suffixes that appear on body-part and kin terms are eroded enough to lose distinctions between 2nd person singular and plural, and 1st person and 3rd person plural (Bradshaw and Czobor 2005: 22ff.). Kin-term suffixes differ from body-part suffixes by adding -*i* for plural possessors. Preposed free pronouns are used to disambiguate or emphasize the person and number of the possessor, as in *aêàc tameŋi* ‘our father’, *êsêàc tameŋi* ‘their father’. Dempwolff’s grammar (1939: 20) claims that the possessive suffixes lack a separate form for 1st person plural exclusive, but Streicher’s dictionary (1982: 635) lists a full paradigm for ‘father’ that includes *aêàc tamemai* ‘our (excl.) father’. The suffix -*ma* is the same one that occurs among the preposed possessive pronouns that mark alienable possession (Table 14). But the suffix on

*tamemai* may be unique to liturgical Jabêm, perhaps akin to retention of archaic English *Thou* and *Thine* in religious contexts.

Possessive suffixes in closely related Bukawa are so eroded that they fail to distinguish not just inclusive from exclusive possessors, but even singular from plural: *-ŋ* ‘1st person’, *-m* ‘2nd person’, *-Ø* ‘3rd person’ (Eckermann 2007: 19). Neighboring Tami, however, distinguishes 1st person inclusive *-n* from exclusive *-mai* (Bamler 1900: 199), and several of the earliest indigenous composers of Jabêm hymns were Tami speakers, who were strong evangelical allies of the Lutheran mission. The word *Tamemai* has been very well-attested in Jabêm hymnals from the earliest days (Zahn 1996). Four hymns begin with *Tamemai*; four more with *O Tamemai*, the Lord’s Prayer begins *Tamemai, taŋ gômoa undambê* ‘Our Father, that dwellest in heaven’, and many other invocations use the same vocative form, as in *O Apômtau, tamemai undambêŋa* ‘O Lord, our heavenly Father’. (Compare the referential rather than vocative usage in *Tama agêc Latu ma Dalau Dabuŋ* ‘Father, Son, and Holy Ghost’.)

**Table 13. Jabêm possessive suffixes**

	Singular	Plural
1st person incl.		-ŋ(i)
1st person excl.	-c	-ŋ(i) / -ma(i)
2nd person	-m	-m(i)
3rd person	-Ø	-ŋ(i)

**Table 14. Jabêm preposed possessive pronouns**

	Singular	Plural
1st person incl.		(aêac) nêŋ
1st person excl.	(aê) ŋoc	(aêac) ma
2nd person	(aôm) nêŋ	(amac) nêŋ
3rd person	(eŋ) nê	(êsêac) nêŋ

In Kâte, suffixed possessives are obligatory on body-part and kin terms, but optional otherwise (McElhanon 1973). They do not distinguish 1st person inclusive and exclusive possessors. The 3rd singular form *-ticne* is used for individual possessors, as in *ufuŋ-ticne* ‘his men’s house’, while *-ne* is used for types or parts of wholes, as in *gâtâ-ne* ‘the root (of a plant)’ (Pilhofer 1933: 55). The latter is discussed further in the next section.

**Table 15. Kâte possessive suffixes**

	Singular	Plural
1st person	-nane	-nâŋec
2nd person	-ge	-ŋeŋic
3rd person	-ticne/-ne	-jeŋic

## Inherent possession

Pronominals in Kâte and Jabêm only mark the person and number of human or higher-animate beings. Both Pilhofer and Dempwolff stress the fundamental distinction in each language between

two classes of entities. Pilhofer (1933: 26, 43) labels the classes “animates” (*Beseeltes*) and “inanimates” (*Unbeseeltes*) and defines the former as humans, spirits, and larger animals. Dempwolff (1939: 19) labels the two classes “individuals” (*Einzelwesen*) and “types” (*Gattungen*), which usually equate to person and thing (“*Person und Sache*”).

Both languages mark nonhuman genitives in very similar contexts, but with different morphemes in different positions. Nouns denoting inherently possessed entities, such as parts of wholes or even qualitative attributes, are suffixed with *-ne* in Kâte and prefixed with *ŋa-* in Jabêm. Kâte *-ne* looks like the possessive suffix for nonhumans (see above), and one of its functions is to turn nouns into adjectives, as in *opâ* ‘water’ > *opâ-ne* ‘watery’, *hâmoc* ‘death’ > *hâmoc-ne* ‘dead’, *fiuc* ‘theft’ > *fiuc-ne* ‘thievish’. But it also marks some adjectives derived from reduplicated verb roots, as in *hone* ‘see’ > *hohone-ne* ‘visible’, *nâ* ‘eat’ > *nânâ-ne* ‘edible’ (Pilhofer 1933: 49). Jabêm *ŋa-* also serves to derive some adjectives from nouns, as in *dani* ‘thicket’ > *ŋa-dani* ‘thick, dense’, *lemoŋ* ‘mud’ > *ŋa-lemoŋ* ‘muddy, soft’ (Bradshaw and Czobor 2005: 31). (When *ŋa-* occurs in whole-part or derived-adjective constructions, Dempwolff [1939: 26] translates it as *davon* ‘thereof’.) But each language also has other adjectives, like Kâte *biaŋ-ne* and Jabêm *ŋa-jâm* ‘good, beautiful’, that are not derived from any otherwise identifiable stems.

**Table 16. Inherent possession marking**

Kâte	Jabêm
furi-ne ‘price’	ŋa-ôli ‘(its) price’ (*v- > L tone)
fuŋ-ne ‘origin, cause’	ŋa-m̄ ‘(its) origin, cause’ (*v- > L tone)
gâtâ-ne ‘root’	(cf. m̄ ‘banana’ < POc *pudi)
sahac-ne ‘(its) skin, exterior’	(talec) ŋa-latu ‘(hen) chick’
(cf. sahac-nâŋe ‘our skin/body’)	(cf. [ŋoc] latu-c ‘my child’)
zaŋe-ne ‘its name’	ŋa-ê ‘its name’
opâ-ne ‘juice, sap / watery’	ŋa-kwê ‘husk, clothing’
ŋokac-ne ‘its female / female’	ŋa-dauŋ ‘smoke / smoky’
zoric-ne ‘its length / long, tall’	ŋa-mata ‘its eye / sharp, pointy’
biaŋ-ne ‘good, beautiful’	ŋa-jâm ‘good, beautiful’

Despite the different shapes and different positions of the morphemes involved, this functional overlap between marking nonhuman inherent possession and deriving adjectives is a striking feature shared by these two neighboring languages. According to McElhanon, similar patterns are found throughout the Finisterre-Huon languages: “The adjectivizer is usually homophonous with one of the allomorphs (if any) of the third person singular nominal possession-marking suffix” (1973: 58). Within the Huon Gulf subgroup of Oceanic languages, however, this pattern is found only in the North Huon Gulf subgroup—Jabêm, Bukawa (Eckermann 2007: 95–97), and apparently Kela, who comprise the Oceanic subgroup that would have been for several centuries in the closest regular contact with the Papuan languages on the Huon Peninsula.

## Numerals

Kâte has a numeral system typical of Papuan languages. It has simple morphemes for ‘1’ and ‘2’ but additive forms for ‘3’ (‘2+1’) and ‘4’ (‘2+2’). Multiples of ‘5’ contain morphemes for ‘hands’ and ‘feet’, and ‘20’ translates as ‘one man’ (with two hands and two feet). All other numbers are built by adding these elements together.

Jabêm, by contrast, has a numeral system more typical of Oceanic languages in New Guinea,

which usually retain POc morphemes for ‘1’ through ‘5’, but not for ‘6’ through ‘10’. Multiples of ‘5’ are rendered in composite forms similar to those in Papuan languages, including the equation of ‘one man’ with ‘20’ (digits). All other numbers are built by adding these elements together.

The Markham languages are the only members of the Huon Gulf family to have lost their POc etyma for ‘3’ and ‘4’, presumably due to Papuan influence, but Labu has reconstituted Oceanic-looking numbers for ‘3’ and ‘4’ by borrowing them back from Bukawa (Holzknecht 1989, 1994).

The three North Huon Gulf languages have all more or less retained ‘1’ through ‘5’: Bukawa *tigen/dan* ‘1’, *lu* ‘2’, *tö* ‘3’, *hale* ‘4’, *lim/aman-dan* ‘5’ (‘hand/hands one’) (Eckermann 2007: 79); Kela *ti aŋo*, *nuwa* (*ta* and other forms) ‘1’, *luwa* ‘2’, *talawa* ‘3’, *ŋa* ‘4’, *li-ta* ‘5’ (‘hand one’) (DeVolder, Schreyer, & Wagner 2012).

**Table 17. Numerals**

<b>Kâte</b>	<b>Jabêm</b>
moc ‘1’	tageŋ/teŋ ‘1’
(ja)jahec ‘2’	lu-àgêc ‘2’
jahec-â-moc ‘3’	têlê-âc ‘3’
jahec-â-jahec ‘4’	âc-lê ‘4’
me-moc ‘5’ (‘hand-one’)	lemeŋ-teŋ ‘5’ (‘hands one’)
me-moc â me-ŋifec-moc ‘6’ (‘hand-one and hand-otherside one’)	lemeŋ-teŋ ŋanô ta ‘6’ (‘hands-one right/true one’)
me-jajahec ‘10’ (‘hand-two’)	lemeŋ-lu ‘10’ (‘hands two’)
me-(ja)jahec â kike-o moc ‘11’ (‘hand-two and foot-LOC one’)	lemeŋ-lu ŋanô ta ‘11’ (‘hands two right/true one’)
me-jajahec â kike moc ‘15’ (‘hand-two and foot one’)	lemeŋ-lu ŋa-lemeŋ-teŋ ‘15’ (‘hands-two its-hands-one’)
ŋic-moc-buc ‘20’ (‘man-one-only’)	ŋac-sàmuc ‘20’ (‘man-whole’)
me ‘hand/foreleg’ vs. kike ‘foot/hindleg’	lêma/lemeŋ ‘hand-3s/3p’ vs. à/èŋ ‘leg-3s/3p’

## Conclusions

The evidence examined above suggests that Kâte has had regular contact with Jabêm and other Oceanic languages over some time, but that neither language has much altered its grammatical structure to facilitate translation between the two languages. In Ross’s (1994) terminology, neither language has undergone much metatypy. The lexical borrowings indicate regular communication between the two language communities, but there is no evidence that either language has served as an intergroup language for the other to such an extent that everyone spoke both languages. Nor is there much evidence that either language underwent spells of exoterogeny or esoterogeny, to use Thurston’s (1987) terms, at least not until after European contact, when each language was standardized for use as a lingua franca for educational and evangelistic purposes.

Neither language has adopted the most distinctive phonological features of the other. Jabêm’s tonal distinctions have not penetrated into Kâte, nor have Kâte’s coarticulated labiovelar stops been borrowed into Jabêm. The only notable area of phonological convergence is in canonical syllable shapes, where Kâte permits fewer consonants in syllable-final position than do its congeners, possibly due to Jabêm influence.

Kâte speakers have borrowed a good deal of vocabulary from Jabêm and other coastal and lowland languages with whom they have traded. A few borrowed kin terms also suggest some

degree of intermarriage between the lowlanders and highlanders. The huge disparity between the volume of reconstructed vocabulary in Austronesian vs. Papuan languages makes it far easier to identify Papuan borrowings from Austronesian languages than vice versa.

Grammatical convergence has been minimal. Kâte can distinguish between 1st person inclusive and exclusive reference, but only in its independent pronouns. Jabêm has lost some distinctions in its pronominal affixes, but only for language-internal reasons. The counting system in each language remains entirely typical of each language family. Perhaps the most striking area where Jabêm seems to have adapted its grammar to Kâte is in the way it marks inherent possession for inanimates, but this seems as much a functional as a structural convergence.

The lack of metatypy in basic word order sharply distinguishes this case study from those involving Austronesian languages along the northwest coast of the New Guinea mainland or along the southeast and south coast of former Papua. The Huon Gulf subgroup in Morobe Province remains the largest repository of verb-medial languages on the New Guinea mainland. But I suspect it is not just the sheer number of Austronesian languages there, but their distribution that limited their exposure to heavy typological pressure from Papuan languages. Oceanic languages occupy not just the entire coastline around the Huon Gulf, where traditional trade networks were dominated by the Tami Islanders. But Oceanic languages also extend deep into the mountain ranges along the south coast of the Gulf, and far up the extensive grasslands of the Markham Valley, so that most of the trade networks would have been between speakers of related languages, not between speakers of languages with radically different word-order typologies.

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