

# Borrowing from Bislama into Raga, Vanuatu

## Borrowing frequency, adaptation strategies and semantic considerations

Marie-France Duhamel  
Australian National University

This paper reports on variation among speakers of Raga, an Oceanic language of Pentecost island, Vanuatu, in their use of borrowings from Bislama, the national language of Vanuatu, an English-lexifier contact language. The study measures the frequency of borrowings from Bislama in the speech of 50 speakers, surveys speakers' strategies in assimilating loanwords into Raga and quantifies speakers' rate of lexical replacement and insertion. This corpus of natural speech reveals an overall low incidence of borrowing from Bislama at 1.6 Bislama words per 100 recorded words. Women and younger speakers borrow more frequently from Bislama. Young speakers use borrowings in equal measure to add to their vocabulary and replace Raga words, while their elders tend to borrow from Bislama to add to their vocabulary, rather than replace Raga words.

**Keywords:** borrowing, loanword, Oceanic linguistics, Raga, Vanuatu, variation, Bislama, nativisation, quantitative study, minority language

### 1. Introduction

Borrowing lexical terms from another language can be perceived by speakers of the recipient language as evidence that their language is losing vitality. Speakers of a minority or endangered language may see in borrowing, and particularly in lexical borrowing, a sign that their language is on the way out and slowly being replaced by the donor language. Linguistic insecurity and opposition to loanwords are not restricted to minority languages and have also been observed in speakers of large and robust languages.

Borrowing from Bislama, a creole of English and Vanuatu's national language, is a recurrent feature in the 138 Oceanic languages of the archipelago of Vanuatu (François, Franjeh, Lacrampe, & Schnell, 2015, for language count and influence of Bislama on Vanuatu languages). Vanuatu is renowned for its high cultural and linguistic diversity and Raga is one of four languages spoken on the island of Pentecost, in north-central Vanuatu, by approximately 6,500 people. Raga presents conservative features (Blust, 2013, p.691; Pawley, 2006, p.219; Vari-Bogiri, 2011) and shows no regional variation, which sets it apart from other languages in Vanuatu.

The overall incidence of borrowing presents a cross-linguistic measure of comparability in this highly diverse linguistic area. The rate of borrowing was previously studied in four Vanuatu languages: Sye (Crowley, 2004), Kwamera (Lindstrom, 2007), Bierebo (Budd, 2011) and Nkep (Meyerhoff, 2016). Table 1 summarises the four studies, in addition to the present study in Raga. This Raga corpus reveals a comparatively low 1.6% rate of borrowing.

**Table 1.** Summary of the studies on borrowing from Bislama into the languages of Sye, Kwamera, Bierebo, Nkep and Raga

Language	Borrowing frequency	Total word count	Number of speakers	Age of speakers	Sex of speakers	Type of text
Sye	2.6%	15,000	24 or less	NS	NS	Depends on age
Kwamera	2.9% to 5.2%	35,479	NS	40–50	Male only	Oratory
Bierebo	2.9% to 4.9%	10,000	25	11–70	Both	Diverse
Nkep	5%	6,927	16	Broad range	Both	Diverse
Raga	1.6%	40,055	50	15–84	Both	Diverse

NS: Not specified

This investigation of borrowing from Bislama into Raga firstly measures the frequency of borrowings from Bislama in the narratives of 50 Raga speakers. Then it examines the different patterns displayed by speakers in their frequency of use of borrowed terms, their strategies in assimilating the borrowed terms into Raga, and the extent to which speakers differ in replacing or inserting loanwords into their native repertoire. Within these three facets of borrowing, we look for patterns in interspeaker variation, particularly along age and sex distributions.

## 1.1 Code-switching, borrowing and loanwords

The first point to clarify is how this study identified lexical borrowings, and the criteria used to differentiate instances of borrowings from instances of code-switching.

Borrowing can be understood in the very broad sense of speakers making use of material from another language when speaking their own language. This description, however, includes utterances of code-switching which we may want to separate out from borrowings and loanwords.

Thomason (2001, pp. 67–68) distinguishes *borrowing* from *interference* on the basis of whether the speakers who use material copied from another language into their recipient language are native speakers (*borrowing*) or non-native speakers (*interference*) of the recipient language. This distinction is of importance when studying a multilingual speech community which includes a significant number of non-native speakers, but the Raga speech community of north Pentecost does not correspond to this definition of a multilingual community. All but three participants investigated are native speakers of Raga and this low rate of non-native speakers is characteristic of the traditionally endogamous speech community.

Whether speakers are native speakers of the donor language is also relevant to this study. Most adults in north Pentecost are familiar with Vanuatu national language, but they cannot be said to be native speakers of Bislama. These speakers start using Bislama when attending secondary school alongside students of a different linguistic background and, in Raga area, most young children cannot speak the national language.<sup>1</sup> In agreement with Takau in her comparison of syntactic features in Raga and Bislama languages (Takau, 2010), my observation is that, by and large, Bislama is a second language to Raga speakers in North Pentecost.

This study uses Poplack and Meechan's definition of borrowing, that is, the '*adaptation of lexical material to the morphological and syntactic (and usually, phonological) patterns of the recipient language*' (Poplack & Meechan, 1995, p. 200, their italics). Poplack and Meechan distinguish the concepts of borrowings and loanwords and argue that loanwords have not only adapted to the recipient language system but also show widespread diffusion in the speech community. The authors introduce the category of 'nonce-borrowing' for those integrated borrowings which have not diffused to the community. They define code-switching as 'the juxtaposition of sentences or sentence fragments, each of which is internally consistent with the morphological and syntactic (and optionally, phonological) rules of its lexifier language' (Poplack & Meechan, 1995).

---

1. In Lol tong village, the young children did not understand me if I addressed them in Bislama, and the adults commented that the small children did not know the national language.

Because of the scant morphology presented by Raga (discussed in Section 5), the distinction between code-switching and borrowing can be difficult to establish. All instances of terms copied from Bislama conformed to Raga morphosyntax and there were few utterances, as in (1) and (2), of fragments which were analysed as code-switching and therefore excluded from this survey:

A young male speaker switches to Bislama when asking for clarification to his Raga-speaking interviewer.

- (1) *Yu tok wan famili nem?*  
 ‘You mean a family name?’<sup>2</sup> [MFD1-005-M11 0:52]

A fragment in Bislama is used by a young female speaker who grew up speaking both Bislama and Raga.

- (2) *Mwa hovi wan saed.*<sup>3</sup>  
 3SG.PROG fall one side  
 ‘It fell on one side.’ [MFD1-003-F10 1:38]

Despite Poplack and Meechan’s distinction, this paper uses the terms borrowings and loanwords interchangeably since the small size of the corpus investigated does not allow to draw strong conclusions about diffusion of borrowings. For the same reason, this investigation makes no use of the category of ‘nonce borrowing’ and its distinction from loanwords. The corpus shows a majority of singly occurring words taken from Bislama, but it is not possible to establish whether these words have diffused throughout the community or not, since it may so happen that they appear only once in this corpus.

## 2. Bislama, the donor language

One of the factors affecting speakers’ perception of loanwords in their language is the status of the donor language and Bislama does not have the status that might be expected of a national and official language. The lingua franca has no formal role in the educational system, unlike the other two official languages of Vanuatu, English and French. In Raga area, most adults speak Bislama as a second language and restrict its use to communicating with non-Raga speakers. Children acquire

---

2. Except where mentioned, all examples are from my recordings collected in north Pentecost in 2015–2017. These recordings are archived with PARADISEC under the collections labelled MFD1 and MFD2 at <http://www.paradisec.org.au/collections/>

3. Raga orthography: <g> stands for /ɣ/, <ḡ> for /<sup>h</sup>g/, <ṅ> for /ŋ/. Bislama <ae> and <ao> represent /ai/ and /au/.

Bislama when attending secondary schools, in contact with classmates of linguistic background other than Raga.

## 2.1 Bislama – or English?

The question may arise whether the lexical terms were copied from English, rather than, or in addition to, Bislama. The national language of Vanuatu is an English-lexifier contact language and there may exist interference from English into Bislama in communities such as the one of north Pentecost, whose language of education is primarily English. By and large, on north Pentecost, English is restricted to the domain of education. Religious texts were translated into Raga in the early nineteenth century, and, in this area predominantly Anglican, liturgical services are held in Raga. Access to traditional and social media does not appear to be widespread on North Pentecost and Bislama is the language that speakers are the most likely to use with non-Raga speakers, face-to-face or via mobile phone. It is Bislama, and not English, that most participants for this study were using as a second language and many were not confident English speakers. On this basis, in this study it is considered that the source language of the investigated borrowings is Bislama, and that occurrences of morpho-phonological adaptations start from Bislama linguistic features.

None of the words discussed in this study appeared in Raga older written material which include the ethnographic notes of a Raga speaker (Yoshioka, 1987), a dictionary (Hardacre, 1924), and a word list (Yoshioka & Leona, 1992). It cannot be assumed, however, that all words discussed in this study were borrowed contemporarily in the speech of the surveyed speakers. The older participants surveyed were born in the first half of the twentieth century and some of the borrowings observed in their speech may have been borrowed by their forebears in the nineteenth century and perhaps not exclusively from Pacific pidgin English, the ancestor to Bislama (Clark, 1979–1980). In the nineteenth century, borrowing may have occurred in contact situations with other languages, with Mota and English, when Christianisation and western education were introduced to north Pentecost, and with Samoan and Fijian, as a result of the indentured labour of Vanuatu workers in Samoa and Fiji.

## 2.2 Attitudes towards Bislama

Attitudes towards Bislama seemed to vary from one Raga speaker to another, but no participant appeared to disapprove of the national language or its use. Most participants included it as one of the languages they could converse in and only one participant was reported to have little knowledge of the national language.

The Bislama term *pisin* ‘pidgin’ was sometimes how speakers referred to Bislama but, by and large, the language was named by one of the phonetic variants [bis-lama] [biɭlama] [biɭlamar] [bislaman]. Some speakers have referred to Bislama with a Raga compound: a woman in her fifties used the expression *avoan tuturani* ‘language of the foreigners’ while a man in his mid-forties talked of Bislama as *avoan bulbulu* ‘language of unity’. These expressions seem to reflect the two extremes of people’s attitudes to the language. Also noteworthy was the principal of the largest secondary school of north Pentecost (the English-medium Liñi Memorial College) who mentioned that Bislama is the language spoken in his home. A native speaker of Raga, he explained that the national language is a better option than Raga as a home language for his family since his wife has a different linguistic background. The Raga language being widely spoken in the community, the principal was confident that his children’s home language would not hinder their acquisition of the community language and that they would become fluent speakers of Raga, which appeared to be the case.

### 2.3 Language regulators

The members of the Raga community that I met in north Pentecost and in Port Vila, the capital of Vanuatu, generally appeared confident in the vitality of their community language. Lexical borrowing, however, may be perceived by some speakers as a threat to their Raga identity. The Turaga indigenous movement of North Pentecost, led by Chief Viraleo Boborenvanu, has its base in a remote village on the east coast of north Pentecost. Among other activities, the Turaga create words in the Raga language to replace those borrowed from Bislama. They operate schools where they teach the Raga words that they have created along with the writing system, inspired from the traditional sand drawings, that they have designed for Raga. Raga speakers who have stayed with the Turaga movement, in order to attend the Turaga schools, explained that the traditionalist movement is wide-ranging in its endeavour to rid Vanuatu cultural and economic domains of the western influences deemed harmful to Vanuatu society. Replacing the words copied from Bislama with Raga compounds fits the purpose of the indigenous movement well.

The lexical terms created by the Turaga have spread through the Raga speaking community, but these new terms are not used uniformly by all speakers. Except for *waḡa gaga* ‘airplane’, a compound of *waḡa* ‘canoe’ and *gaga* ‘to fly’, these innovative words created from Raga elements are scarcely used, despite the Raga speaking community knowing about their existence. Individual attitudes to these neologisms vary from speaker to speaker and may reflect a speaker’s assessment of the role of the Turaga movement in the Raga community.

### 3. The data

#### 3.1 Speakers: Number, sex, age and mobility

The selection of the texts from this Raga corpus was based on the age and sex of the speakers to ensure that each combination of speakers' age group and sex would be represented. The sample selected for the quantitative survey consists of 86 texts recorded from 50 speakers of both sexes and across the three age groups (Table 2). For each sex by age group cell, the number of speakers ranged from 4 to 12, and the number of texts (in brackets) from 7 to 20.

**Table 2.** Count of participants and texts (in brackets) by speakers' sex and age group

	Elder (>50)	Middle (25 to 50)	Young (<25)	Total
Female	4 (7)	12 (20)	9 (16)	25 (43)
Male	10 (16)	8 (17)	7 (10)	25 (43)
<b>Total</b>	<b>14 (23)</b>	<b>20 (37)</b>	<b>16 (26)</b>	<b>50 (86)</b>

Number of recorded words by speakers' sex and age group (Table 3) ranged from a minimum of 2,366 words (young males) to a maximum of 11,618 words (older males).

**Table 3.** Word count by speakers' sex and age group

	Elder (>50)	Middle (25 to 50)	Young (<25)	Total
Female	2,694	8,987	3,637	15,318
Male	11,618	10,753	2,366	24,737
<b>Total</b>	<b>14,312</b>	<b>19,740</b>	<b>6,003</b>	<b>40,055</b>

In this article, mobility (Table 4) means the movements of Raga speakers outside north Pentecost. Information about the mobility of speakers outside Raga region was collected during the interviews, or from conversations with the speakers, their friends and family. Speakers who travel away from Raga area at least once a year or who have spent time away from the region for at least a year, are ascribed a 'high' level of mobility. For the other speakers, their mobility is assessed 'low', except for a handful of speakers for whom no information on their movements was collected and whose mobility is 'unknown'. For the older speakers, the category evaluates their history of mobility, and the speakers who used to travel extensively, but no longer do, are described as highly mobile.

**Table 4.** Distribution of speakers and texts by speakers' mobility

Mobility	Number of speakers	Number of texts
Low	33	53
High	10	21
Unknown	7	12
Total	50	86

### 3.2 Type of texts

Narratives of diverse types were sampled for this survey: traditional stories, interviews, personal stories and 'danger' stories. Some recordings provided more spontaneous speech than others.

It was noted at the time of transcription that fewer loanwords appeared in the traditional narratives than in the other types of narratives. This can be explained by the reduced need for the speaker to borrow words from another language when telling stories set in a familiar cultural context. We can also understand that this lower frequency of borrowing results from the practice of speakers who rehearse and repeat such stories over the years, refining their narration with practice, and avoiding loanwords whenever possible. In this corpus, traditional stories offer the least spontaneous texts.<sup>4</sup>

The texts labelled 'other' include personal stories, but also narrations from storyboards. The purpose of this 'other' category is to offer supplementary data for some speakers (e.g., young speakers who did not tell traditional stories or who said very little in their interview). These recordings contain speech that is often more spontaneous than in traditional stories but that can be constrained by previous rehearsals, or by storyboards.

The interviews and the danger stories feature the least contrived speech in this corpus. When speakers relate the natural disasters that they survived they are unguarded about the language they use. In the context of this study, interviews consisted of topics that the interviewer, a native speaker of Raga, would discuss with the interviewee. Topics included the interviewee's family, education, linguistic inventory, and work and movements history. Naturally occurring speech is what was expected from interviewees, though the response to an interview situation varied widely among participants and some participants kept to monosyllabic answers while others conversed with the Raga-speaking interviewer or offered detailed answers.

---

4. Word lists were collected for this corpus, but they are not included in this survey. It is however noteworthy that no loanwords were proposed by any speaker for these words.



Table 5 shows the distribution of the texts sampled for this study on borrowing. The aim was to survey borrowing in the three main types of texts (traditional, danger and interview), across the three age groups and for both sexes. Preference was given to the texts expected to feature natural speech and so the selection of texts includes mainly interviews and danger stories ( $N=54$ ) and fewer traditional stories ( $N=21$ ). Whenever possible the selected texts were distributed across speakers so that all age groups and both sexes were represented. The recordings in the 'other' category ( $N=11$ ) fill the gaps in the distribution of the texts across the diverse speaker groups.

**Table 5.** Number of sampled texts by text type and speakers' sex and age group (Numbers in parenthesis: first number refers to the number of texts for female speakers, and second number to the number of texts for male speakers)

Type of recorded texts	Elder (>50)	Middle (25 to 50)	Young (<25)	Total text type (f:m)
Interview (F:M)	8 (2:6)	14 (9:5)	12 (8:4)	34 (19:15)
Danger (F:M)	7 (2:5)	9 (5:4)	4 (3:1)	20 (10:10)
Traditional (F:M)	7 (3:4)	10 (4:6)	4 (2:2)	21 (9:12)
Other (F:M)	1 (0:1)	4 (2:2)	6 (3:3)	11 (5:6)
<b>Total</b>	<b>23 (7:16)</b>	<b>37 (20:17)</b>	<b>26 (16:10)</b>	<b>86 (43:43)</b>

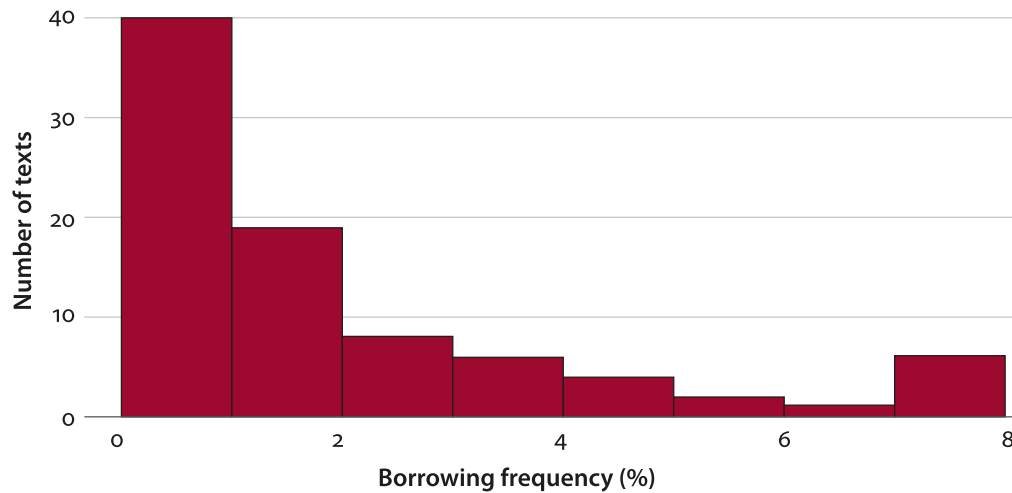
#### 4. Borrowing frequency

For each of the 86 texts, the number of occurrences of the words borrowed from Bislama was counted, including repetitions of the same word. From the 86 texts surveyed, 658 occurrences of words borrowed from Bislama were extracted, from a total word count of 40,055.

The rate of borrowed words was calculated by dividing the number of borrowings by the total word count for the text. The frequency of borrowing thus calculated was found to range between 0 and 8% (Figure 1). For just under half of the texts (40 texts) the frequency of the words borrowed from Bislama is less than or equal to 1%.

The overall borrowing frequency for the 86 texts surveyed is 1.64%. It was calculated by dividing the total number of occurrences ( $N=658$ ) by the total word count ( $N=40,055$ ).

Nouns made up 64.5% of the surveyed loanwords, verbs 17.5%, numerals 9%. The 9% remaining words were adverbs, adjectives, discourse markers, modals, and prepositions.



**Figure 1.** Borrowing frequency (ranging from 0 to 8%) by number of texts ( $N=86$ )

The factors whose impact on borrowing frequency is investigated in this section were selected based on the intuited effect of their distinct levels on the variable, and the interest they present in this research project. Correlation between the frequency of loanwords and the type of narrative was noted during transcription and it is a factor whose effect we want to measure. The age and sex of speakers, along with the interaction between age and sex, are included as independent variables since one aspect of this study is to expose any evidence of intergenerational and inter-gender variation. Movements of speakers outside their speech community create more opportunities for them to use the national language, which may impact on their rate of borrowing from Bislama when speaking Raga.

#### 4.1 Narrative type

It was noted that the occurrence of borrowed words fluctuates depending on the nature of the narrative. Table 6 displays the token numbers for frequencies by type of narrative. For each text, the borrowing ratio was calculated by dividing the number of tokens of borrowed word by the total word count for the text. The borrowing frequency displayed in the rightmost column of Table 6 is the median value of the texts' rate of borrowing, for the four text types, and Figure 2 plots the distribution of the borrowing frequencies for these four types.

A chi-square test based on the token numbers of borrowed words displayed in Table 6 revealed significant correlation between narrative types and incidence of borrowing:  $df=3$ ,  $N=658$ , chi-square = 164.781,  $p < .001$ .

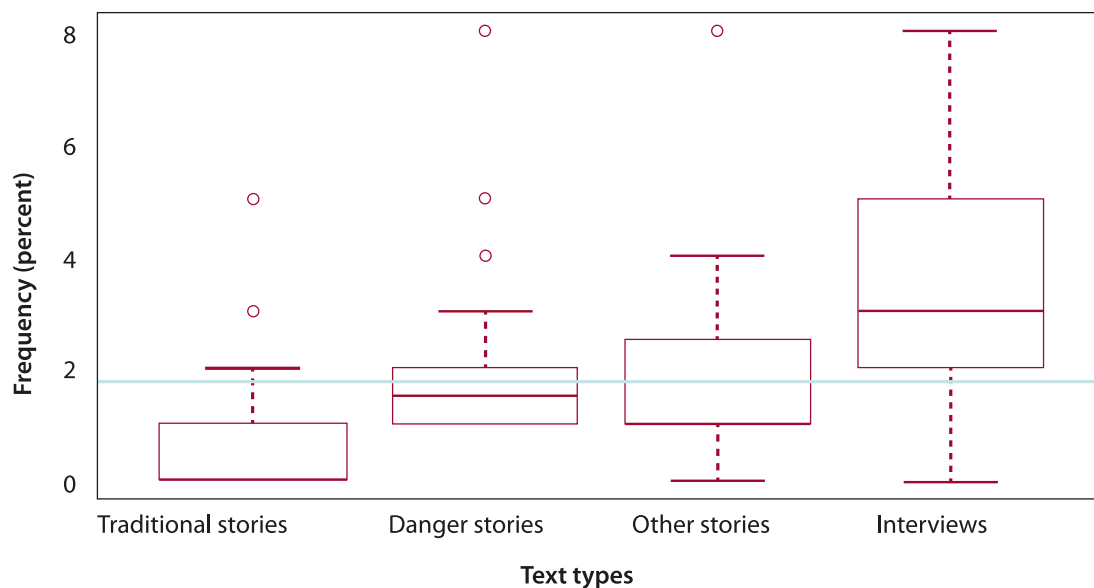
Traditional stories display the lowest frequency of borrowing (0.12%) and interviews the highest frequency (2.87%). The category 'other stories', which includes a mix of rehearsed and spontaneous stories, displays the second lowest

**Table 6.** Word count, and median values of the texts' borrowing frequency, by type of narrative

Type of narrative	Borrowed words	Native words	Total	Borrowing frequency
Traditional Stories	63	11,121	11,184	0.12%
Danger Stories	207	11,379	11,586	1.61%
Other Stories	50	4,321	4,371	0.97%
Interviews	338	12,576	12,914	2.87%
<b>Total</b>	<b>658</b>	<b>39,397</b>	<b>40,055</b>	

frequency (0.97%) while danger stories present the second highest borrowing frequency (1.61%). We also note from the data distribution displayed in Figure 2 that the frequency of borrowing in the interviews spans the entire range of frequency (0 to 8%), while for danger stories the frequency distribution ranges from 1% to 3% and for traditional stories from 0% to 2%. This is telling us that, especially for the interviews, factors other than the narrative type influence borrowing frequency.

The incidence of borrowing for most interviews is above the median value of the borrowing frequency for all texts (horizontal line in Figure 2), unlike the three other types of texts.

**Figure 2.** Borrowing frequency by text type. The horizontal line indicates the median value for all 86 texts surveyed

## 4.2 Age and sex

Variation between sexes, across and within age groups, was noticed when exploring the data. It is therefore of interest to measure the impact of age, sex, and interaction between age and sex, on speakers' borrowing frequency. Raga men and women do not share all activities and duties, and they may hold dissimilar aspirations. In the discussion section of this article, I consider gendered roles and aspirations to interpret the distribution of frequency of borrowing between speakers.

The median values of the frequency for each age group (Table 7) show that the young group, with a median of 3.50%, is producing borrowings at a much higher rate than the speakers older than 25 years (1.45% for the middle age group and 1.11% for the older group).

**Table 7.** Word counts and borrowing frequency by age group (median value)

Age group	Borrowed words	Native words	Total	Borrowing frequency
Elder group (years>50)	183	14,129	14,312	1.11%
Middle group (years 25 to 50)	248	19,492	19,740	1.45%
Young group (years <25)	227	5,776	6,003	3.50%
Total	658	39,397	40,055	

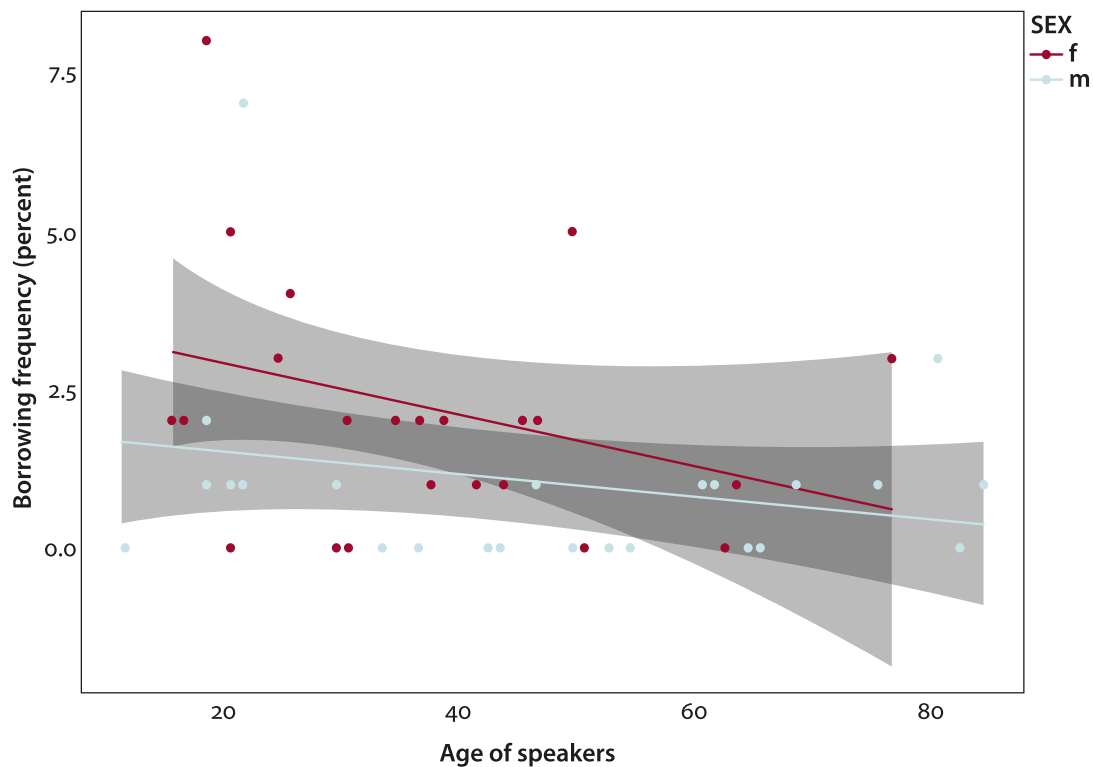
Considering the numbers of borrowed words displayed in Table 7, a chi-square test revealed significant correlation between age group and incidence of borrowing:  $df=2$ ,  $N=658$ , chi-square = 203.89,  $p < .001$ . This correlation is further confirmed by the regression modelling reported in Table 10 below, which selects the young age group for its significance on predicting higher rates of borrowings.

Table 8 shows the difference in patterns between the two sexes, with women showing a higher median borrowing frequency than men. A chi-square test revealed significant correlation between speakers' sex and incidence of borrowing:  $df=1$ ,  $N=658$ , chi-square = 114.62,  $p < .001$ , and the linear model reported in Table 10 confirms the correlation between the category of female speakers and an increase in borrowing frequency.

**Table 8.** Word counts and borrowing frequency by sex (median value)

Sex	Borrowed words	Native words	Total	Borrowing frequency
Female	384	14,934	15,318	1.89%
Male	274	24,463	24,737	1.09%
Total	658	39,397	40,055	

Using a linear function, Figure 3 displays the relationship between the age and sex of speakers and their borrowing frequency. Y-axis shows the borrowing incidence and X-axis the age of speakers. The red regression line fits women's data and the blue line, men's data. The relationship between age and borrowing ratio represented by the two lines shows that, as speakers' age increases, their rate of borrowing decreases. We also observe a gap between the two lines, with women displaying a higher incidence of borrowing than men. This gap shrinks as the age of speakers increases, the two lines joining for speakers aged 75.



**Figure 3.** Linear model of the borrowing frequency by age and sex of speakers

### 4.3 Mobility

It is anticipated that there exists a correlation between the mobility of speakers outside Raga linguistic region and their use of the national language. High mobility creates more opportunities for contact with speakers of other languages and, as displayed in Table 9, speakers with a history of high mobility show a higher median frequency of borrowing from Bislama into Raga.

Based on the token numbers of borrowed and native words displayed in Table 9, a chi-square test showed significant correlation between mobility and incidence of borrowing:  $df=2$ ,  $N=658$ ,  $\text{chi-square}=60.31$ ,  $p<.001$ . However, the mixed-effect model (reported in Section 4.4) did not select the mobility of speak-

**Table 9.** Word count and borrowing frequency by speaker's level of mobility

Mobility	Borrowed words	Native words	Total	Borrowing frequency
Low	311	20,338	20,649	1.72%
High	298	12,935	13,233	2.07%
Unknown	49	6,124	6,173	0.85%
<b>Total</b>	<b>658</b>	<b>39,397</b>	<b>40,055</b>	

ers as significantly predicting the borrowing frequency, and only retained age group, speaker's sex and text type as significant predictors. There is an association between speakers' mobility and their rate of borrowing, but the factors selected by the regression model are better at explaining the trends in borrowing.

We turn to statistical testing to find out how the high frequencies we noticed in the interviews, in the speech of young speakers, females, and mobile speakers, are representative of the Raga speech community, and how these factors interconnect.

#### 4.4 Regression modelling

The variable examined statistically is the ratio of the count of words borrowed from Bislama to the total word count. This ratio was calculated for each of the 86 recorded texts and statistical models were run to assess the effect on this numeric variable of the fixed factors listed below. These factors consist of the independent variables in the model.

The different levels of the independent variables considered in the statistic model are:

- Text type – 4 levels: 'traditional stories', 'danger stories', 'other stories', and 'interviews'
- Speaker's age group – 3 levels: Elder (>50 years), Middle (25 to 50), Young (<25 years)
- Speaker's sex – 2 levels: Female or Male
- Age by sex group – 6 levels: Elder-Female, Elder-Male, Middle-Female, Middle-Male, Young-Female and Young-Male
- Speaker's mobility – 3 levels – High mobility, Low mobility, Unknown.

A multiple linear regression was run to predict the effect on the rate of borrowing of the type of narrative, speaker's age, speaker's sex, interaction between speaker's age and sex, and speaker's mobility. The individual effect of the 50 speakers is accounted for in the statistical tests by including it as a random effect.

Two tests were run in the R package lme4 (R Core Team, 2013).

The first model used for this numeric dependent variable was the linear mixed-effect model (LMER) which allows for the inclusion of fixed and random effects in the statistical tests. Three independent variables, age group, narrative type and sex, were selected in this mixed-effect model for their significant effect on the dependent variable. The mobility of speakers and the interaction between their age and sex were not selected by this model as significantly predicting the borrowing frequency. Furthermore, a null variance was reported for the random effects of speakers and we can therefore remove this term from the model without affecting the integrity of our data.

The second model used for this numeric dependent variable was a simplified model, namely a linear regression model. This model was run with the sole three independent variables (age group, narrative type, and sex) that were selected by the mixed-effect model as significantly predicting the dependent variable, and without the random effect of speaker. This second model is summarised in Table 10.

**Table 10.** Summary of the linear model with the fixed effects of age group, text type and sex, for the dependent variable (borrowing frequency) in 86 texts

Fixed effects					
Independent variables	Estimate	Std. Error	t-value	p-value	Significance
(intercept)	0.044	0.006	0.742	0.46	ns
Age group = Elder	0.004	0.004	0.887	0.37	ns
<b>Age group = Young</b>	<b>0.020</b>	<b>0.004</b>	<b>4.527</b>	<b>&lt;0.001</b>	<b>***</b>
Text type = 'danger stories'	0.005	0.006	0.828	0.41	ns
Text type = 'traditional stories'	-0.007	0.006	-1.113	0.26	ns
<b>Text type = 'interviews'</b>	<b>0.015</b>	<b>0.006</b>	<b>2.549</b>	<b>&lt;0.05</b>	<b>*</b>
<b>Sex = Female</b>	<b>0.010</b>	<b>0.003</b>	<b>2.812</b>	<b>&lt;0.01</b>	<b>**</b>

*Note.* ns = not significant; the number of \* indicates the degree of significance

The results of this second model confirm those of the mixed-effect model and the same independent variables, age group, narrative type and sex, appear for their significance in predicting the frequency of borrowing.

Additionally, this model reports that the three predictors explain 41.4% of the variance ( $R^2 = 0.414$ ).

Table 10 reports on the levels of the independent variables and their effect on the dependent variable. The frequency of borrowed words increases significantly in the speech of young speakers (estimate = 0.02, t-value = 4.52), and female speak-

ers associate with a significantly higher rate of borrowings, estimated at 0.01 for a t-value of 2.81. In their interviews, speakers display significantly more borrowing than in 'other' stories (the reference level) with an estimate of 0.01 for a 2.54 t-value (recall that the borrowing frequency ranges from 0 to 0.08).

A core facet of this investigation is to examine intergenerational and inter-gender variation. It would therefore be beneficial to determine how the factors age group, narrative type and sex compare for their degree of significance as a group, rather than within the group. The ANOVA test (Analysis of Variance) allows us to compare the means of multiple groups. It was run on the second model to assess this variability by comparing the means of the independent variables age group, narrative type, and sex. Table 11 summarises the result of this analysis and, of interest for our study, confirms the high significance of speakers' age and sex.

**Table 11.** Analysis of Variance for the linear model with age group, narrative type and sex as independent factors

Predictors	df	Mean squared	f-value	p-value	Significance
Age group	2	0.0046	15.7454	<0.001	***
Narrative type	3	0.0026	8.9003	<0.001	***
Sex	1	0.0023	7.9092	<0.01	**

The survey informed us that young speakers and female speakers produce the highest frequency of borrowing. The statistical tests also established that age ( $p < .001$ ) and sex ( $p < .01$ ) were significant in determining the frequency of borrowing, but that the age group by sex factor was not ( $p = .16$ ).

To summarise this section on borrowing frequency, it was revealed that:

- speaker's age group and sex, and the type of narrative, have significant effects on the frequency of borrowing from Bislama into Raga
- the young group displays the highest borrowing frequency of the three age groups
- females show a higher frequency of borrowing than males

Now that we have a clearer idea of borrowing frequency patterns, we need to examine if any trend can be revealed in the nativisation of the lexical terms copied from Bislama and their insertion in the Raga lexicon.

## 5. Nativisation: Phonetic and morphological

The preceding section established that the age and sex of the Raga speakers surveyed had a bearing on their rate of borrowing, and that the topic of the narrative



also affected this rate. In this section we survey the phonological and morphological assimilation strategies encountered in the speech of the surveyed speakers and examine whether any strategy is specifically associated with groups of speakers.

### 5.1 Possible contexts for adaptation of Bislama words

Loanwords are likely to have gone through a process of nativisation, as they diffused in this community of mostly non-native speakers of Bislama, and to have undergone phonological, morphological, syntactic or semantic adaptation to the receiving language. These strategies are discussed in the rest of this study.

Speakers' own linguistic system, and in particular their phonological inventory, may affect their realisation of the lexical term copied into their native language, and the boundary between phonological adaptation and interference can be difficult to establish. No attempt was made to distinguish interference from actual adaptation because the phonological nativisation of borrowed words is a component of the drawn-out process of diffusion in the community, as we will see in the progressively greater use of the nativised form of the Bislama word for 'school' in three generations of speakers. Any Bislama word that fitted Raga phonology was coded as an actual adaptation, provided it differed from its original Bislama form.

Bislama and Raga sound inventories display a significant overlap, yet some phonological areas of difference exist that can determine how Bislama words are adapted into Raga by speakers who are not, by and large, native speakers of Bislama: Raga does not allow consonant clusters; affricates, the unvoiced bilabial and voiced velar stops are not part of its phonemic inventory; there are difference in Raga and Bislama phonotactics and Raga only allows some consonants in word-final position while Bislama has no such constraint.

The features that differ between Bislama and Raga phonologies and which were surveyed for measuring phonological adaptation to Raga, are presented in Table 12.

**Table 12.** Areas of phonological differences surveyed for measuring adaptation from Bislama words into Raga

Phonological feature	Bislama	Raga
Word initial or medial consonant clusters	yes	no
Affricates	yes	no
Voiced velar stop, unvoiced bilabial stop	yes	no
Word-final consonant	no constraint	restricted to some consonants

Raga nouns and verbs present little morphological marking. Nouns are only marked morphologically for direct possession, and this concerns only some nouns. Transitive verbs can be suffixed with an object pronoun.

Syntactic adaptation is not surveyed since, as was mentioned in 1.1, all instances of words copied from Bislama that did not adhere to Raga syntax were analysed as code-switching, and therefore excluded from this survey. Aspects of semantic adaptation are covered in Section 6, which considers lexical insertion and replacement.

## 5.2 Phonetic assimilation

Table 12 above displays the phonological features that were surveyed for assessing the adaptation of the words copied from Bislama into Raga.

For those words appearing not to derive from an Oceanic proto-form, the word was coded for

- vowel epenthesis breaking consonant clusters,
- reduction of affricates to their homorganic consonants, whether plosives or fricatives,
- voicing/devoicing of the stops mentioned in Table 12 to adjust to Raga's consonant inventory, and
- the addition of a word final vowel, which harmonises in backness or frontness with the previous vowel.

In Raga *sikulu* 'school, attend school' we find an example of two such adaptations. The source word [skul] was assimilated to Raga phonology by inserting a front vowel to break the consonant cluster [sk], and by appending a final back vowel. The voiceless bilabial and the voiced velar plosives are not available phonemes in Raga, and Bislama /p/ is replaced by the voiced homorganic plosive, that is, [presin] 'prison' is nativised to [beresin], while Bislama /g/ is replaced by the voiceless homorganic plosives and the Bislama words [glas] 'glass' and [gavman] 'government' become [kilasi] and [kavman] in Raga. The Bislama [strɪŋ] 'string' becomes [sitiriŋ] in Raga, the velar nasal being one of the consonants that can occasionally be found word-finally in Raga. All these examples were coded as Bislama words assimilated into Raga.

Table 13 shows some of the loanwords from Bislama adapted to Raga which appeared in my corpus.

It is proposed that the transitive verbs *lusi* 'to lose' and *kuki* 'to cook' have gone through both phonological and morphological adaptation, and were stripped of their Bislama transitive suffix *-Vm* and appended with a final vowel *-i*

**Table 13.** Bislama words phonologically adapted to Raga

Bislama	Gloss	Nativised form	Nativisation
<i>stoa</i>	'shop'	<i>sitoa</i>	Epenthesis
<i>trak</i>	'truck'	<i>tarak</i>	Epenthesis
<i>bot</i>	'boat'	<i>botu</i>	Epenthesis
<i>skul</i>	'school, education'	<i>sikul(u), sekul(u)</i>	Epenthesis, (optional: final vowel addition)
<i>bred</i>	'bread'	<i>bereti</i>	Epenthesis, final vowel addition
<i>glas</i>	'glass'	<i>kilasi</i>	Initial consonant devoicing, epenthesis
<i>presin</i>	'prison'	<i>beresin</i>	Initial consonant voicing, epenthesis
<i>botel</i>	'bottle'	<i>botele</i>	Final vowel addition
<i>bol</i>	'ball'	<i>bolo</i>	Final vowel addition
<i>raes</i>	'rice'	<i>raisi</i>	Final vowel addition
<i>lusum</i>	'to lose'	<i>lusi</i>	Bislama transitive suffix suppression, final vowel addition
<i>kukum</i>	'to cook'	<i>kuki</i>	Bislama transitive suffix suppression, final vowel addition

which identifies verbal transitivity in a category of Raga verbs.<sup>5</sup> It is however possible that the two verbs were borrowed from the ancestor to Bislama (mentioned in 2.1) and before the Bislama transitive suffix *-Vm* became fixed.<sup>6</sup> Casting doubt on the Bislama origin and pattern of adaptation to Raga of these two loan verbs, all other transitive loan verbs in my data have kept the Bislama transitive suffix *-Vm*. Some transitive verbs were not phonologically adapted to Raga, example, *chusum* [tʃusum] 'to choose', *stretem* [**stret**em] 'to set straight' (in bold the consonant clusters not allowed in Raga). But all borrowed verbs adhered to Raga syntax or would have been excluded as code switches, as discussed earlier.

Other words fit the phonetic repertoire and syllable structure of both Bislama and Raga's phonology systems and do not require adaptation, example, *so* [so] 'so', *waia* [waia] 'wire', *saye* [saye] 'that's it', *mas* [mas] 'must', *komuniti* [komuniti] 'community', *kaliko* [kaliko] 'cloth'. Their phonemes all belong to Raga's inventory

5. Vari-Bogiri (2011, pp.156–160) distinguishes three categories of transitive verbs in Raga: (1) inherently transitive verbs with no overt transitiviser, (2) verbs suffixed with the *-i* transitiviser and (3) transitive verbs requiring the clitic =*ni*- to attach to the pronominal object.

6. My thanks to the anonymous reviewer who brought this point to my attention.

and /s/ is accepted word-finally (Vari-Bogiri, 2011, p.36). While it is not crucial to distinguish these words from the nativised form, they were coded separately since their adherence to Raga's phonetic system hampers separating them from instances of code-switching.

Table 14 shows the overall proportions of words found to have been (a) phonologically assimilated, (b) not assimilated, or (c) not needing to be assimilated. The high rate of borrowed words not blending into Raga's phonetic system (41%) may contribute to the perception that Raga speakers borrow heavily from Bislama words, despite an overall low borrowing frequency (1.6%).

**Table 14.** Phonological assimilation to Raga for this corpus: Overall proportions

Phonological assimilation strategy	Proportion of borrowed words
Non-Nativised	41%
Nativised	21%
No phonological assimilation required	38%

The breakdown by age group of phonologically nativised words is presented in Table 15. The total number of borrowings for each age group is roughly equal, but in the speech of the young speakers we observe a difference between the number of nativised and non-nativised words (in bold) that is larger than for the two other age groups. Table 15 and Table 16 exclude borrowings from Bislama that required no assimilation to Raga's phonetic system since the variation is neutralised in these contexts.

**Table 15.** Breakdown of nativised and non-nativised borrowings by speakers' age group

Age group	Non-nativised	Nativised	Total
Elder	93	54	147
Middle-aged	78	45	123
Young	<b>100</b>	<b>36</b>	136
<b>Total</b>	<b>271</b>	<b>135</b>	<b>406</b>

Young speakers tend to use more non-nativised words and less nativised words than their elders, but a chi-square test based on the numbers displayed in Table 15 shows no significant correlation between speakers' age group and their incidence of nativisation:  $df=2$ ,  $N=406$ , chi-square = 4.237,  $p=.12$ .

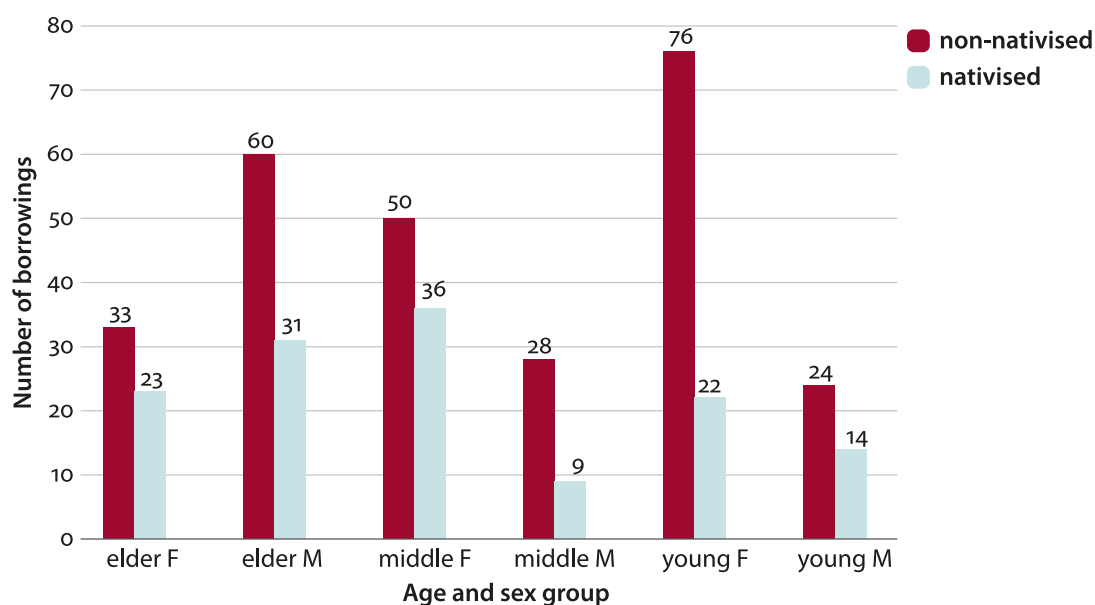
No association was revealed either between speakers' sex and their incidence of nativisation ( $df=1$ ,  $N=406$ , chi-square = 0.066,  $p=.797$ ), but a chi-square test

based on the numbers displayed in Table 16 revealed a significant correlation between speakers' age-sex category and their rate of nativisation:  $df=5$ ,  $N=406$ , chi-square = 11.144,  $p < .05$ .

**Table 16.** Breakdown of nativised and non-nativised borrowings by speakers' age and sex group

Age and sex group	Non-nativised	Nativised	Total
Older female	33	23	56
Older male	60	31	91
Middle-aged female	50	36	86
Middle-aged male	28	9	37
Young female	76	22	98
Young male	24	14	38
<b>Total</b>	<b>271</b>	<b>135</b>	<b>406</b>

The difference within speakers of the young group lies mostly in the low rate of nativisation and high rate of non-nativisation observed in the group of young women. The overall picture of this pattern of phonological nativisation is displayed in Figure 4.



**Figure 4.** Pattern of phonological nativisation by age and sex group

Table 17 presents, for each age and sex group of speakers, the proportion of Bislama words phonologically adapted to Raga, and in brackets the proportion of words not nativised.

**Table 17.** Proportion of words phonologically nativised, and non-nativised (in brackets), by sex and age group

Sex	Elder(>50)	Middle(25 to 50)	Young(<25)
Female	30% (43%)	25% (34%)	<b>13% (47%)</b>
Male	23% (44%)	12% (39%)	22% (37%)

It is noteworthy that young women (in bold) display a low rate of nativisation; only 13% of the words borrowed from Bislama found in their speech are phonologically nativised. Combined with their rate of non-nativised borrowing, which at 47% is the highest of all sex by age group, this suggests that young women are more likely to switch to Bislama than the other speakers.

Men between the age of 25 and 50 also show a low rate of phonological nativisation (12%), but an under average rate of non-nativised words (39%).

Older women show the highest rate of nativised words (30%) but they also use many non-nativised words (43%).

### 5.3 Morphological assimilation

Raga displays scant verbal and nominal morphology. I will not consider here the adaptation with the transitivity marker reported in 5.2, since it possibly does not apply to borrowings from Bislama. No loanwords were observed to show derivational morphology (Vari-Bogiri had noticed that nominalisation and adjectivisation did not apply to borrowed words, 2011, pp.103, 129), and I will therefore only report on inflectional affixation. Morphological adaptation comes in two types:

- nominal suffixation for direct possession, with a pronominal suffix referring to the possessor or a construct suffix marking the possessive relation,
- verbal suffixation of a pronoun referring to the object of the verb.

These morphological markings on a noun or on a verb borrowed from Bislama constitute evidence of morphological integration into Raga of the borrowed lexical term. The texts surveyed contained few tokens of nominal morphological adaptation and only one token of verbal object affixation.

Nominal morphological adaptation was observed on several Bislama loanwords marked for direct possession. This was the case for the loanwords *kava*

‘roof’ from the Bislama *kapa*, *veranda* ‘verandah’ and *waia* ‘wire’. This morphological adaptation was however restricted to tokens marking a part-whole relation.

- (3) *Ra-m boha mulei kava-na.*  
 3PL.S-PROG strike back **roof-3SG.POSS**  
 ‘They nail back its roof.’ [MFD1-003-M08 2:16], 82 y.o. male

*Note.* y.o refers to ‘years old’

- (4) *Ga-m garere la veranda-n sito no-n Darol.*<sup>7</sup>  
 1PL.EXCL.S-PROG look.for LOC **verandah-CST** shop GENL.POSS-CST Darol  
 ‘We look in the verandah of Darol’s shop.’ [MFD1-003-F16 2:27], 35 y.o. female
- (5) *Ra-m bahoi wasi imwatataro gea gin waia-n ara-n buluki.*  
 3PL.S-PROG tie hard church DEM with **wire-CST** fence-CST cattle  
 ‘They strongly fasten the church with cattle fence wire.’  
 [MFD1-003-M18 19:40], 60 y.o. male

However restricted the number of these examples in this corpus, they constitute evidence that direct possession is a productive grammatical process in Raga and that this language accepts words copied from other languages to be directly possessed. This feature sets Raga apart from other Oceanic languages whose bound nouns have been reported to form a closed class of indigenous lexical terms (Crowley, 1996, p.403; 2004, p.49; Franjeh, 2012, p.73; Geraghty, 2004, p.77; Henri, 2011, p.137).

This adaptation strategy is met in the speech of male and female speakers of the three age groups. *Kava* ‘roof’ provides the most tokens, *waia* ‘wire’ and *veranda* ‘veranda’ appear only once. Similarly, in a possessive construction involving two borrowed words, *kilasi* ‘glass’ and *lait* ‘lamp’, the part-whole relation is directly marked with the construct marker on the borrowed word referring to the part: *kilasi-n lait* ‘glass of the lamp’. In this example, phonological integration and morphological adaptation strategies appear simultaneously.

When it is not overt, the object of a transitive verb is referenced by a pronoun suffixed to the verb or to the adverb modifying the verb. The object suffix is restricted to the singular and third person pronouns, while all other non-overt object arguments are marked by the independent pronoun postposed to the verb. Table 18 displays the paradigm of Raga independent and (in bold) object pronouns.

7. In addition to the Leipzig glosses, this document uses: CST:construct marker, GENL:general, o:object, s:subject.

**Table 18.** Raga independent and object pronouns

Number	Singular		Dual		Plural	
Person	Independent	Object	Independent	Object	Independent	Object
1 INCL.			<i>gidaru</i>		<i>gida</i>	
EXCL.	<i>inau</i>	<i>-au</i>	<i>kamaru</i>		<i>kamai</i>	
2	<i>hi̯go</i>	<i>-go</i>	<i>kimiru</i>		<i>kimiu</i>	
3	<i>kea</i>	<i>-a,-e</i>	<i>kera</i>	<i>-ra</i>	<i>kera</i>	<i>-ra</i>

To illustrate this paradigm, the third person plural object pronoun is suffixed to the Raga verb *dau* ‘put’, in Example (6), and in (7) the 1DU.EXCL object is referenced by the independent pronoun postposed to the Raga verb *ulo* ‘call’:

- (6) *Ga<mu>ru        dau-ra    lol    skul.*  
 1.EXCL.S<PROG>DU **put-3PL.O** LOC school  
 ‘We put them in school.’ [MFD2-005-M26 8:26], 80 y.o. male
- (7) *Tua    Nadi mwa        ulo kamaru    be    ga-men        van.*  
 Sister Nadi 3SG.PROG call 1DU.EXCL REL 1PL.EXCL.S-IRR come  
 ‘Nadi calls the two of us, for us to come.’ [MFD1-004-F21 0:23], 16 y.o. female

Only one token of morphological marking of the object was observed on a loan verb (8), and this involved the phonologically nativised verb *kuki* ‘to cook’, mentioned in Table 13. In this utterance from a young female speaker, the pronoun object *-a* is suffixed to the transitiviser =*ni-* cliticised to the loan verb *kuki* (see note 5 on Raga transitive verbs).

- (8) *Ga-m                do    bulmae tasala-na        mwa        do    mwa        kuki*  
 1PL.EXCL.S-PROG stay with    wife-3SG.POSS 3SG.PROG stay 3SG.PROG cook  
*bereti, kadogaha ga-m                kuki=ni-a.*  
 bread then        1PL.EXCL.S-PROG **cook=TR-3SG.O**  
 ‘We stay with his wife who is baking bread, then we bake it.’  
 [MFD1-003-F13 2:01], 18 y.o. female

For all other transitive loan verbs, the pronominal object was referenced by the full pronoun, in places where the suffix pronoun was expected. This is illustrated in (9) taken from the interview of a 60 years old male, where the object of the transitive verb *kwalifaim* ‘to train someone’ is referenced by the 1sg independent pronoun *inau* postposed to the verb.



- (9) *Ra-m kwalifaim inau be na-m lol dum rovoga.*  
 3PL.S-PROG train 1SG PURP 1SG.S-PROG make can work  
 ‘They trained me so that I can handle the job.’

[MFD1-005-M18 12:59], 60 y.o. male

Listed below are several occurrences of transitive verbs borrowed from Bislama whose object was referenced by the independent pronoun, rather than by the pronominal object. These tokens extracted from my corpus appeared in the speech of male and female speakers of diverse ages:

- *ran adoptem inau* ‘they adopted **me**’, female 36 y.o.
- *mwa banisim kera* ‘he banished **them**’, female 77 y.o.
- *nam helpem kera* ‘I help **them**’, female 24 y.o.
- *gam winim kera* ‘we won (against) **them**’, female 16 y.o.
- *mwa panishim inau* ‘she punished **me**’, male 54 y.o.
- *kimiru men intavium inau* ‘you two interview **me**’, male 52 y.o.

This variant of object marking also appeared with Raga verbs in our corpus. In five utterances, the independent pronoun marking the object was postposed to a Raga verb, or the adverb modifying it, and this non-standard marking of Raga verbal object may be construed as evidence of morphological adaptation when used with verbs copied from Bislama. When occurring with Raga verbs, this non-standard variant appeared in the speech of five speakers, four of them under the age of 25.

In summary to this section on the morphological adaptation of nouns and verbs copied from Bislama into Raga, a number of tokens of adaption were observed in our corpus. Given Raga’s limited verbal and nominal morphology these occurrences of adaptation were restricted to the nominal morphology of direct possession, and to one token of verbal morphology. It is however noteworthy that Raga differs from an array of Oceanic languages in its accepting foreign words into its lexical category of directly possessed nouns.

We now explore how some of the adaptation strategies surveyed above pattern differently across speakers’ sex and age.

#### 5.4 Nativisation across age groups

We have observed that young speakers tend to use more non-nativised words and fewer nativised words than their elders (Figure 4). Another area of intergenerational difference appears in the most frequently occurring loanwords (Table 19). These words make up 24% of all borrowings.

**Table 19.** Most frequently occurring loanwords, by age group

Loan word	Gloss	Elder	Middle	Young	Total
<i>famili</i>	'family'	2	3	2	7
<i>fren</i>	'friend'	0	3	8	11
<i>haidro</i>	'hydro-station'	0	4	3	7
<i>komuniti</i>	'community'	9	9	5	23
<i>kuki</i>	'to cook'	5	7	3	15
<i>oke</i>	'OK'	0	1	4	5
<i>olfala</i>	'old person'	2	11	0	13
<i>sekul(u), sikul(u)</i>	'school, education'	9	7	9	25
<i>skul</i>	'school, education'	17	5	0	22
<i>so</i>	'so'	1	12	11	24
<i>windo</i>	'window'	3	3	3	9
<b>Total</b>		<b>48</b>	<b>65</b>	<b>48</b>	<b>161</b>

Some of these frequently used words pattern differently across age groups and this allows for an apparent-time examination of the lexical variation in this panel of Raga speakers.

Apparent-time studies allow for the comparison of speech in different age groups at a single point in time. This approach makes the assumption that individuals do not drastically change the way they talk in their lifetime, and therefore any difference between the young and older speakers may be pointing to a change in progress.

Some of the words listed in Table 19 are more frequently used by one group of speakers due to the activities they reported in their interviews. The speakers over 50 years of age did not use the term *haidro* 'hydrostation' because the community project of building a hydro-station mostly involves the labour of middle-aged and young workers.

*Olfala* 'old person' is used as a title, or to address an older person, and the reason for *olfala* not appearing in the speech of young speakers may be that this group is less likely to refer to their elders by their title. A possible explanation is that referring to people by their title is an age-graded variable and that the young speakers use titles more frequently as they enter adulthood.

The discourse markers *so* 'so' and *oke* 'OK' display some tokens for the young and middle group and very few for the older group, however a data-wide extraction of these discourse markers showed that the tokens for *oke* were well distributed across the three age groups.

The two terms in bold in Table 19 are of particular interest to this study since they provide a snapshot of lexical variation in speakers of different ages, at a single moment: *fren* ‘friend’, and *skul* and the nativised *sikul(u)/sekul(u)* ‘school, education’. For a more robust analysis, the examination of these two terms was extended to all the recordings and tokens extracted from 137 texts and 58 speakers. This data-wide inspection revealed that the pattern across age groups held for all the data.

Raga colexifies the senses of ‘friend’ and ‘same sex sibling’ with the bound noun *tua-*. The need for disambiguation between the two senses may explain the introduction into Raga of the Bislama *fren* to distinctly convey the sense of ‘friend’. The borrowed term *fren* did not appear with the sense of ‘same sex sibling’. There exists a Raga bound noun, *vwaliiu-*, to convey the meaning of ‘friend, fellow’, but this term may be considered old-fashioned and in this corpus it has only appeared in the telling of two traditional stories.

The loanword *fren* is not nativised, the consonant cluster does not observe Raga’s phonotactics. The borrowed term does not appear in the speech of the older speakers and it appears in the speech of women only, two middle aged women and three young women. One middle aged woman uses *fren* only once and as a component of *boifren* ‘boyfriend, lover’. It could be argued that she was not using the word *fren* but borrowing *boifren* as a unity. The four other women use *fren* in the sense of ‘friend’, but not ‘lover’.

*Hiḡehiḡe* ‘research, study’, the reduplicated form of *hiḡe* ‘to look for’, sometimes takes the meaning of ‘school, education’, but most commonly these meanings are conveyed by the loanword *skul*, or its nativised forms *sekul(u)* or *sikul(u)*, used as a noun ‘school (institution and building), education’, or as a verb ‘to attend school’. In our data (Table 19), the older group produced the largest number of the non-nativised borrowing *skul*, younger speakers were found to only use the nativised forms, whereas middle-aged speakers used both nativised and non-nativised terms. The assumption underlying the apparent time perspective, that speakers tend to keep to the language they acquired in their youth, offers a likely explanation to the generational difference observed here.

While a *lingua franca*, Bislama is not a language of education, its acquisition by young Raga speakers is tied to schooling. Young Raga speakers tend to start speaking Bislama only when they attend secondary school and come in regular contact with non-Raga speaking students and teachers. They are therefore not acquainted with the Bislama sound system in their first years. I propose that the Bislama term *skul* was borrowed by older generations, probably in the nineteenth century when Christianity and western education were introduced, with the meaning of ‘mission, mission-school’. The term became increasingly used by speakers with little Bislama as its use spread throughout the speech com-

munity, with the meanings of ‘school, schooling, education, attending school’. Consequently, the borrowed form was phonologically adapted to Raga and most commonly used by the younger generations under its nativised forms, while the older speakers mainly kept to using the non-nativised form. This would result in the pattern observed in this panel, with the older speakers showing a tendency to use the non-nativised *skul* and the younger speakers the nativised *sikul(u)* and *sekul(u)*.

It is intriguing that this pattern for *skul* and *si/ekul(u)* does not match the overall pattern for younger speakers to non-nativised forms. Young speakers tend to use more non-nativised forms (Figure 4). They also associate with a significantly higher rate of borrowings (Table 10). It may be that young speakers are more likely to use Bislama forms that have been borrowed recently, and that *sikulu* ‘school, schooling, education, attending school’ is an exception to this trend.

To conclude this section on nativisation, our exploration of the phonological and morphological adaptation of words borrowed from Bislama was informative and revealed

- a difference in the patterns of phonological nativisation across age groups, with young speakers, and young women in particular, showing the lowest rate of phonological nativisation,
- a difference in patterns by age groups for some words, exemplified by the exclusive use of a phonetically nativised form by the younger group (for ‘school’), a lexical addition in young females’ speech (for ‘friend’), and what may be interpreted as an age-graded variation (for the title *olfala*),
- occurrences in the speech of speakers of all age groups and both sexes of the morphological adaptation of borrowed nouns, demonstrating an integration of these nouns in Raga lexical category of directly possessed nouns,
- and, for loan verbs, also occurring in all speakers, a non-standard marking of their object argument.

## 6. Lexical replacement and insertion

This last facet of the study explores the nature of the words borrowed from Bislama. It surveys the borrowings which add to the Raga lexicon (insertion), those which were found to convey, at least in part, the meanings designated by a Raga word (replacement), and it examines whether we can find differences between groups of speakers in their use of words of different natures. In his discussion on the reasons for borrowing, Clark (2004) distinguished lexical insertion as ‘necessary’ borrowings and lexical replacement as ‘unnecessary’ borrowings.

Many words were borrowed to fill a lexical gap, for example to name non-native flora and fauna, or to designate concepts and objects in the domains of religion, education and modern technology. Raga speakers seem to have adopted the western calendar system a long time ago and they borrow from Bislama many numerals (especially the numerals above ten). These borrowings were coded as additions to the Raga lexicon.

Native words were spontaneously offered by the Raga transcribers when encountering a loanword for which there existed a Raga equivalent. This suggests that these Raga words were easily accessible to the transcribers and in use in the community. Some of these replacement words are displayed in Table 20, with, in parentheses, the number of tokens for the frequently occurring words: ‘community’, ‘family’, ‘cyclone’, ‘roof’. For some words, the meanings conveyed by the Raga word and its borrowed substitute fully coincide, as was the case for the indigenous *siritano* and borrowing *saiklon*, ‘cyclone’. But most often the two terms conveyed slightly different senses: *famili* appears to be most often used in the sense of ‘immediate family’, whereas the bound noun *havwa* designated the immediate or the broad family, depending on the context; *komuniti* was used to designate a community of people, whereas *bulbuluana* covers a broad range of senses: ‘togetherness, unity, cooperation, community’.

**Table 20.** Replacement: Examples of borrowed words in competition with Raga original words

Gloss	Indigenous word	Borrowed word
‘family’	<i>havwa</i> (32)	<i>famili, famle</i> (11)
‘roof’	<i>ibwiri</i> (9)	<i>kava</i> (20)
‘community’	<i>bulbuluana</i> (34)	<i>komuniti</i> (9)
‘cyclone’	<i>siritano</i> (21)	<i>saiklon</i> (21)
‘so’	<i>kadogaha</i> (542)	<i>so</i> (86)
‘so, then, well’		<i>ale</i> (10)

It was often the case that the term borrowed from Bislama has occupied a restricted range of senses conveyed by the Raga word and thus it is not the native word that is replaced but some of its senses which are conveyed by a word copied from Bislama. A case in point is *fren* ‘friend’, mentioned earlier, which appears in the speech of some young speakers instead of the Raga bound noun *tua* ‘same sex sibling, friend’, and occupies a slot where specificity was needed. Conversely, some borrowings provide a lexical term whose meaning encompasses those of several specialised native terms, and thus occupy a vacant generic slot, for exam-

ple, *kuki* ‘to cook’ ( $N=25$ ), which appears to be displacing the native verbs that convey the different ways of cooking traditionally (e.g., *vwavwaligi* ‘cook in an earth oven’ ( $N=2$ ), *tunu* ‘roast’, *sagai* ‘cook in bamboo’, *rarañi* ‘cook on embers’, *gavu* ‘cook in wrapper’). Clark has observed the same patterns in the borrowings of ‘cook’ for the Mele language (Vanuatu) (Clark, 2004, p. 37).

Whether the borrowed words filled a specific or generic vacant slot, the approach taken in this survey was to consider that, as they were used in Raga speech, these borrowings replaced native words which could have conveyed this meaning, though perhaps more broadly, or, on the contrary, too specifically. In this investigation, I adopted a narrow definition of lexical insertion and a broad definition of lexical replacement. I acknowledge that I could have considered that we had an insertion whenever a vacant semantic slot was being filled, whether generic or specific.

The borrowed discourse markers *so* ‘so, then’ (86 tokens, data-wide) and *ale* ‘alright, then’ ( $N=10$ ) are weak contenders with Raga *kadogaha* ‘then’ ( $N=542$ ) and its many reduced variants (e.g., [kada], [kado], [kadoha]). Previous studies of borrowing into Vanuatu languages have reported the frequent use of borrowed discourse markers (Budd, 2011, p. 180; Clark, 2004, p. 38; Crowley, 2004, p. 51; Meyerhoff, 2016, pp. 87–92) with frequent mentions of *ale* ‘then, well, so’, *oke* ‘OK’ and *mo* ‘and’. These studies make no mention of the connector *so* ‘so, then’ whose borrowing is common in Raga, whereas *ale* is rarely used in this Raga corpus, whether as a conjunction ‘then’, or an interjection ‘alright’. In contrast with Sye, where the borrowed discourse connectives occur mostly alongside Sye connectors (Crowley, 2004, p. 51), *so* ‘so, then’ appears to replace Raga connectors since the borrowed variant occurs mostly on its own (in 93% of tokens).

Table 21 displays the distribution of the number of borrowings found to be replacing native terms or adding to Raga vocabulary. The older group of speakers displays the largest gap between the two types of borrowings (in bold) and shows a larger number of insertions. In the speech of those under 50 years, the borrowings nearly equally replace, or add to, the words denoting Raga semantic area.

**Table 21.** Nature of borrowings: Distribution by age group

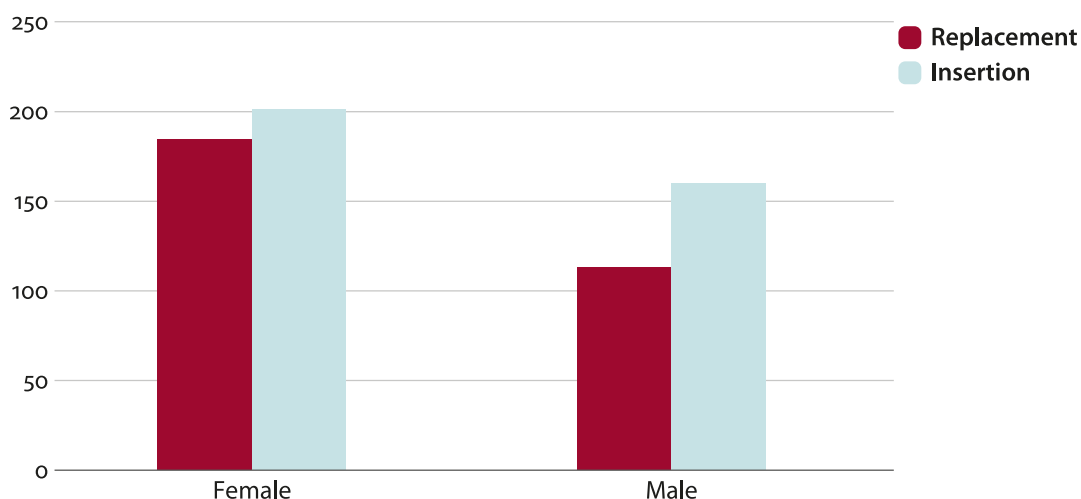
Age group	Replacement	Insertion	Total
Elder	<b>81</b>	<b>131</b>	212
Middle-aged	101	118	219
Young	115	112	227
Total	<b>297</b>	<b>361</b>	658

A chi-square test was run to assess the correlation between the age group that speakers fall into and their incidence of lexical insertion/replacement, as presented in Table 21. This test compares the number of observed incidences with the number of expected incidences and it has revealed a significant correlation between a speaker's age group and their incidence of lexical insertion/replacement:  $df=2$ ,  $N=658$ , chi-square = 6.993,  $p < .05$ .

The other features of borrowing, frequency and nativisation, have revealed pattern differences in the young group and across sexes (frequency), and in the young female group (phonological nativisation).

We observe more cases of insertion than replacement for both sex groups, though the amplitude is more pronounced for the males (Figure 5). The distribution of the nature of borrowing by sex and age group (Figure 6) completes the information in Table 21 and reveals that

- young speakers, and middle-aged women, borrow from Bislama in equal measure to replace or add to their Raga inventory,
- in men over the age of 25 and women over 50 it appears that their borrowings tend to add to their vocabulary, rather than replace indigenous words.



**Figure 5.** Type of lexical borrowing by sex group

Figure 6 reveals that the older group of speakers and mature men are more prone to extending their lexical inventory with foreign words than to replacing indigenous words with borrowed terms. The reason may be that these speakers have a richer Raga lexicon and are therefore less likely to need to borrow words from Bislama. However, we need to consider this pattern in connection with the position of these individuals in the community. The elders are shown respect and are taken as models, while mature men provide the pool of emerging leaders of

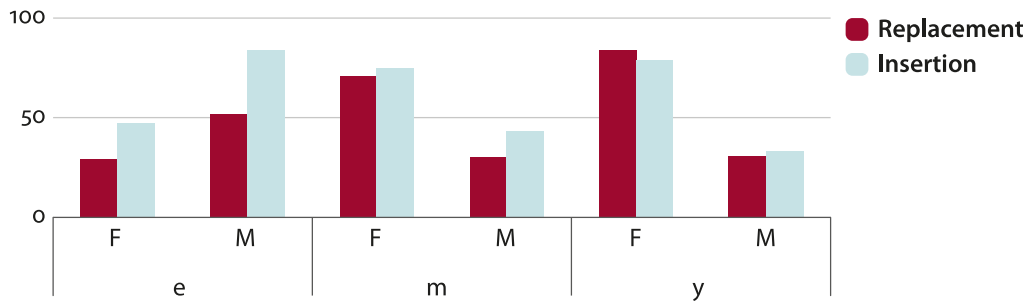


Figure 6. Type of lexical borrowing by sex and age group

the community. Because of their status, older speakers may be perceived as indicating that, when using foreign words, it is preferable to add to the native lexicon than to replace native words.

## 7. Discussion and conclusion

This study of a corpus of 86 narratives and 50 speakers has revealed an overall low incidence of borrowing. With an average borrowing rate of 1.6%, Raga speakers tend to borrow less than the speakers of the four Vanuatu languages previously studied, whose reported rates ranged from 2.6% to 5.2%.

Some participants commented that Raga speakers use too many Bislama words. At 41%, the proportion of Bislama words not phonetically nativised into Raga may contribute to an overestimation of the actual borrowing frequency. The statistical tests have revealed that the frequency and duration of speakers' movements outside north Pentecost has less effect on speakers' incidence of borrowing than factors such as their age and sex, and the type of narrative.

The overall low frequency of borrowing displayed in this corpus is explained by Raga's cohesive community. Even when away from north Pentecost, Raga speakers tend to be surrounded by fellow Raga speakers. In the main urban centres, workers from North Pentecost often end up working for and with other Raga speakers, and they tend to live in the same areas. This reduces the need for Raga speakers to use a language other than their native language.

The survey of the different facets of borrowing also uncovered how Raga speakers of diverse age and sex display different patterns in several aspects of their borrowing from Bislama. In particular it revealed:

- the significant effect of speakers' age and sex on their incidence of borrowing,
- a higher incidence of borrowing in the speakers under the age of 25, and in female speakers,



- a difference in the patterns of phonological nativisation across the age groups, with young speakers, especially young women, showing the lowest rate of phonological nativisation,
- a tendency in males over the age of 25, and in women over the age of 50, for their borrowing from Bislama to add to their vocabulary, rather than replace Raga words.

I propose that the higher borrowing incidence that was observed in young speakers is tied to an increase in bilingualism in this young generation, their longer education resulting in more opportunities of contact with speakers of other languages.

It appeared from conversations with females, some of them still at school, that they heavily invest in education: two of them were teachers, and many young women wanted to train as teachers. They valued their community, but many found the urban lifestyle very attractive, with the promises it held of an easier life in which they had more control over many aspects of their life and general well-being. There are some elements that parallel Susan Gal's study (1978) on the bilingual Hungarian women living in Austria who choose German over their own native language, more frequently than their male peers and older bilinguals do, a language choice that reflects these women's evaluation of the Hungarian peasant lifestyle. Raga young women cherish their community and social network, but their language choice conveys their wish for a lifestyle that better meets their needs.

In cultivating the kava crop, men see the potential of making a good income without leaving their community and, unlike women, men have the option of becoming influential members of the community by gaining rank in the local leadership hierarchy. Ambitious men who want to contribute to the communal well-being have good prospects in the community.

Finally, older speakers show less insertion of Bislama borrowings than their younger counterparts. This may be due to the extent of the older speakers' vocabulary. In this community where Raga is the prime language, it is conceivable that the older speakers feel less need to borrow words from Bislama when a Raga synonym is accessible to them.

In summary, some differences in patterns were noticed between age groups and sex groups:

- the young group and the female speakers display a higher than average incidence of borrowing, and a lower rate of nativisation to Raga. It is proposed that an increased contact with Bislama in the young group explains young speakers' higher incidence of Bislama in Raga. For women, education (in the

- young group) and their aspiration for an urban lifestyle, in a context where Bislama is the common language, may explain this variation.
- members of the older group display more lexical insertion than replacement, and the gap between insertion and replacement decreases with age, which may be explained by the larger Raga lexicon of the older speakers.

## Acknowledgements

I thank the Wellsprings of Linguistic Diversity Laureate project awarded by The Australian Research Council to Professor Nicholas Evans of the Australian National University for giving me the opportunity to carry out extensive fieldwork on Pentecost island, Vanuatu, in the years 2015–2017. I am also grateful to the two anonymous reviewers of this paper for their helpful comments.

## References

- Blust, Robert (2013). *The Austronesian languages* (Revised ed.). Canberra: Pacific Linguistics.
- Budd, Peter (2011). On borrowed time? The increase of Bislama loanwords in Bierebo. In Jullia Sallabank (Ed.), *Language documentation and description, volume 9* (pp. 169–198). London: SOAS.
- Clark, Ross (1979–1980). In search of Beach-la-mar: Towards a history of Pacific pidgin English. *Te Reo*, 22–23, 3–64.
- Clark, Ross (2004). ‘Necessary’ and ‘unnecessary’ borrowing. In Jan Tent & Paul Geraghty (Eds.), *Borrowing: A Pacific perspective* (Vol. 548, pp. 33–39). Canberra: Pacific Linguistics.
- Crowley, Terry (1996). Inalienable possession in Paamese grammar. In Hilary Chappell & William McGregor (Eds.), *The grammar of inalienability: A typological perspective on body part terms and the part-whole relation* (pp. 383–432). Berlin: Mouton de Gruyter. <https://doi.org/10.1515/9783110822137.383>
- Crowley, Terry (2004). Borrowing into Pacific languages: Language enrichment or language threat? In Jan Tent & Paul Geraghty (Eds.), *Borrowing: A Pacific perspective, volume 548* (pp. 41–53). Canberra: Pacific Linguistics.
- François, Alexandre, Franjeh, Michael, Lacrampe, Sébastien, & Schnell, Stefan (2015). The exceptional linguistic density of Vanuatu. In Alexandre François, Michael Franjeh, Sébastien Lacrampe, & Stefan Schnell (Eds.), *The languages of Vanuatu: Unity and diversity* (pp. 1–21). Canberra: Asia-Pacific Linguistics.
- Franjeh, Michael James (2012). *Possessive classifiers in North Ambrym, a language of Vanuatu: Explorations in Semantic classification*. Unpublished doctoral thesis, SOAS, University of London.
- Gal, Susan (1978). Peasant men can’t get wives: Language change and sex roles in a bilingual community. *Language in Society*, 7(1), 1–16. <https://doi.org/10.1017/S0047404500005303>

- Geraghty, Paul (2004). Borrowed plants in Fiji and Polynesia: Some linguistic evidence. In Jan Tent & Paul Geraghty (Eds.), *Borrowing: A Pacific perspective, volume 584* (pp. 65–98). Canberra: Pacific Linguistics.
- Hardacre, Miss (1924). *Dictionary of Raga (North Pentecost) language*. Unpublished manuscript.
- Henri, Agnès (2011). *Le Suñwadia: Éléments de description d'une langue du Vanuatu* [Suñwadia: Units of description of a Vanuatu language]. Leuven: Peeters.
- Lindstrom, Lamont (2007). Bislama into Kwamera: Code-mixing and language change on Tanna (Vanuatu). *Language Documentation and Conservation*, 1(2), 216–239.
- Meyerhoff, Miriam (2016). Borrowing from Bislama into Nkep (East Santo, Vanuatu): Quantitative and qualitative perspectives. *Language and Linguistics in Melanesia*, 34(1), 77–94.
- Pawley, Andrew (2006). Explaining the aberrant Austronesian languages of Southeast Melanesia: 150 years of debate. *Journal of the Polynesian Society*, 116(3), 215–258.
- Poplack, Shana, & Meechan, Marjory (1995). Patterns of language mixture: Nominal structure in Wolof-French and Fongbe-French bilingual discourse. In Pieter Muysken & Lesley Milroy (Eds.), *One speaker, two languages* (pp. 199–232). Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511620867.010>
- R Core Team. (2013). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing, Vienna, Austria. Retrieved from <https://www.r-project.org/>
- Takau, Lana (2010). *English-based tongue with Oceanic flavour: A comparison of pronouns and agreement marking in Bislama and Raga*. Unpublished master's thesis, University of Canterbury.
- Thomason, Sarah G. (2001). *Language contact*. Washington, DC: Georgetown University Press.
- Vari-Bogiri, Hannah (2011). *Phonology and morpho-syntax of Raga, Vanuatu*. Unpublished doctoral dissertation, The University of the South Pacific, Port-Vila.
- Yoshioka, Masanori (1987). The story of Raga, a man's ethnography on his own society. Retrieved from <http://web.cla.kobe-u.ac.jp/staff/yoshioka/english-ragastory.htm>
- Yoshioka, Masanori, & Leona, Richard (1992). A vocabulary of the North Raga language – Olgeta tok long lanwis blong not Pentekos. *Kindai*. Retrieved from <http://web.cla.kobe-u.ac.jp/staff/yoshioka/english-ragadic.htm>

## Abstract (French)

Cet article rend compte des variations entre les locuteurs du raga, une langue océanienne de l'île de Pentecôte, Vanuatu, dans leur utilisation des emprunts au bislama, une langue de contact à base lexicale anglaise et la langue nationale du Vanuatu. Cette étude porte sur un corpus d'enregistrements de 50 locuteurs. On y mesure la fréquence des emprunts du bislama auprès des locuteurs, examine leurs stratégies d'assimilation au raga et quantifie leurs taux de remplacement et d'insertion lexicale. Ce corpus de discours naturel révèle une faible incidence globale d'emprunt au bislama, à raison de 1,6 emprunts pour 100 mots enregistrés. On observe chez les femmes et les jeunes locuteurs une plus grande fréquence d'emprunts au bislama que chez les autres locuteurs. Les jeunes locuteurs, et en particulier les jeunes femmes, présentent le taux d'assimilation phonologique le plus faible. Les jeunes locuteurs empruntent au bislama

à mesure égale pour ajouter à leur vocabulaire et remplacer les mots raga, alors que leurs aînés ont tendance à ajouter à leur vocabulaire, plutôt qu'à remplacer les mots raga, avec leurs emprunts au bislama.

### **Address for correspondence**

Marie-France Duhamel  
College of Asia & the Pacific  
Australian National University  
49 Church Bay Rd  
Oneroa  
Auckland, 1081  
New Zealand  
mfduhamel@gmail.com