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Dismembering gender: Noun borrowing between Garrwa and Yanyuwa

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Introduction

Globally, high rates of lexical borrowing are often seen when speech communities of disparate power come into contact, such as during colonisation. In these situations, the direction of borrowing is predominantly from the dominant group's language, which is motivated by the power disparity coupled with the need for establishing words for new concepts, foods and artefacts (Haspelmath and Tadmor 2009). Previous research on pre-colonial Australia has shown that high levels of borrowing have resulted from migration, and borrowing also tends to be unidirectional in nature as the migrating group adopted new words from languages of the newly inhabited region (Harvey 2011). But Australia also presents a more unusual situation where balanced bidirectional borrowing has occurred as a result of ongoing contact between groups with minimal disparity in power or language prestige (Heath 1981b; Meakins and Pensalfini 2020).

This chapter examines lexical borrowing arising from contact between two languages in the Northern Territory. Garrwa (Garrwan) and Yanyuwa (Ngarna, Pama-Nyungan) are neighbouring languages in the Gulf Coast region located to the south-west of the Gulf of Carpentaria. Using two databases of 2,558 Garrwa words and 4,102 Yanyuwa words, we find that

Garrwa and Yanyuwa share 35 per cent (n=739) of their words. Using lexical databases from related and unrelated neighbouring languages, we also provide evidence that 12.2 per cent (n=90) of the shared lexicon appears to have been borrowed from Garrwa into Yanyuwa and 14.2 per cent (n=105) appears to have been borrowed from Yanyuwa into Garrwa. Higher rates of borrowing occur for nominals (70 per cent) than for verbs (38 per cent). The respectful speech register of Yanyuwa is highly represented in the shared lexicon, with 50 per cent (n=161) of this lexical subset shared with Garrwa. These respectful register terms make up 22 per cent of the shared lexicon. We will show that this picture is in line with previous observations of borrowing in northern Australia, where the percentage of shared lexicon is high, and the direction of borrowing is bidirectional and relatively even.

One difference between the two languages that is particularly relevant to noun borrowing is gender. Garrwa does not have a gender system (Mushin 2012, 5). Yanyuwa, in contrast, has a gender system[1] where membership is morphologically marked by prefixes on the nouns and adjectives take the appropriate prefix in agreement with their noun (Bradley et al. 2017, 14; Kirton 1971a, 15). Borrowing from a language with morphologically marked gender into a language without such a system often leads to the gender marking remaining in place on the borrowed word as a frozen morpheme. This contrasts with the Garrwa and Yanyuwa situation, where Yanyuwa gender markers are removed prior to borrowing, a process which we coin 'dismembering gender'. There are only two previously documented instances in Australia where gender marking is removed on borrowing. Both cases come from northern Australia. In Arnhem Land, the majority of borrowings between Ngandi and Ritharrngu had their gender morphology removed, as did a very few borrowings from Jingulu to Mudburra in the Barkly region (Heath 1981b, 348; Pensalfini and Meakins 2019, 472). Like Garrwa and Yanyuwa contact, both of these contact situations involved high levels of bilingualism and bidirectional borrowing.

1 This gender system is called a noun-class system in the literature on Yanyuwa. We adopt the term 'gender' because the system shows agreement in the noun phrase (Corbett and Fedden 2017, 498). The class-marking morphology are not classifiers, as they are a part of the word and have no existence as independent words, although they may have arisen from independent words (Aikhenvald 2017, 362). Corbett (2007, 241) notes that the term 'noun-class' rather than 'gender' is common in Australian contexts, particularly referring to multi-class systems.

Previous work on lexical borrowing in pre-colonial Australia

Within Australia, levels of borrowing vary widely. Bowern and Atkinson's (2012) survey of borrowing of basic vocabulary in 49 Australian language pairs found an average level of borrowing of 8.7 per cent. Higher rates of borrowing occur in Arnhem Land (NT), the Pilbara Region (WA), the Victoria River District (NT) and the Barkly Tableland (NT) (Bowern and Atkinson 2012, 833; Bowern et al. 2011, 4; Harvey 2011, 346). We discuss some of these cases in this section.

The first in-depth investigation of linguistic borrowing between unrelated languages in Australia was Heath's (1978, 1981b) study of Arnhem Land in the Northern Territory. Heath (1978, 139) observed that many neighbouring, yet unrelated, languages had undergone very high levels of borrowing. For example, Ritharrngu, a Pama-Nyungan language of the Yolngu group, and Ngandi, a non-Pama-Nyungan language of the East Arnhem group, share 50 per cent of their core lexicon (Heath 1981b, 335–38). This language pair has a higher proportion of shared lexicon than either language has with their closely related neighbours. The high degree of shared lexicon was attributed to a close social connection between the two groups (Heath 1978, 16; 1981b, 358).

Heath (1981b, 366) speculated at the time that intense lexical transfer may have been unique to Arnhem Land; however, later studies revealed similarly high levels of borrowing in other regions of Australia. For example, high levels of diffusion of linguistic features between languages have been documented in the Pilbara region, such that it is difficult to distinguish which words are attributable to shared inheritance and which are attributable to borrowing (Dench 2001, 130). For example, Martuthunira (Ngayarta, Pama-Nyungan) shares between 54 per cent and 68 per cent of its core vocabulary with nearby languages, and other languages in the immediate region have similarly high levels of lexical similarity (O'Grady, Voegelin and Voegelin 1966, 80–103).

In the Victoria River District, Gurindji (Ngumpin-Yapa, Pama-Nyungan) also shows high levels of borrowing from its neighbours. Similar to the languages of the Pilbara, Gurindji does not borrow heavily from a single language. Instead, borrowings are taken from several nearby languages, in varying proportions. The most immediate northern neighbours of

Ngumpin-Yapa languages are non-Pama-Nyungan languages, including Jarragan and Mirndi languages and Wardaman (McConvell 2009, 793). Approximately 45 per cent of the Gurindji lexicon has been borrowed from these neighbours. Only 7 per cent of borrowings in Gurindji are derived from closely related Pama-Nyungan languages (McConvell 2009, 800–801). In Gurindji, there is a disparity in borrowing between word classes, with nouns and adverbs at 50 per cent and function words at 15 per cent. Although 50 per cent of verbs are borrowed, only 5 per cent of inflecting verbs have been borrowed, whereas 70 per cent of coverbs have been borrowed (McConvell 2009, 795).

Languages of the Barkly Tableland also show high levels of lexical borrowing. Jingulu is in the West Barkly group of the Mirndi language family, which is non-Pama-Nyungan. It is in close contact with Mudburra, a Ngumpin-Yapa language of the Pama-Nyungan family. Intense borrowing has taken place between Jingulu and Mudburra, with 65 per cent of nouns shared (Meakins and Pensalfini 2020; Pensalfini and Meakins 2019) and 40 per cent of verbs (Meakins et al. 2020). In addition to the very high levels of borrowing, the borrowing has been shown to be bidirectional and balanced, with each language borrowing at a similar rate from the other (Meakins and Pensalfini 2020, 24).

Garrwa and Yanyuwa in contact

Socio-historical background

Garrwa and Yanyuwa are neighbouring languages spoken in the south-west of the Gulf of Carpentaria in the Northern Territory. Yanyuwa Country is centred on the Sir Edward Pellew Islands and adjacent coastal country around the McArthur River (Tindale 1974, 227). Yanyuwa Country includes the areas surrounding the tidal portions of the Wearyan, Foelsche and Robinson Rivers. Yanyuwa people identify as saltwater people (Bradley et al. 2016, 1, 17). Garrwa Country is located further inland, centred on the Robinson River and extending to the headwaters of the Wearyan and Foelsche Rivers. It also extends to the coast to the north-east (Tindale 1974, 228). Garrwa people identify as freshwater people (Mushin 2012, 1). Garrwa and Yanyuwa Country is shown on the map in Figure 21.1.

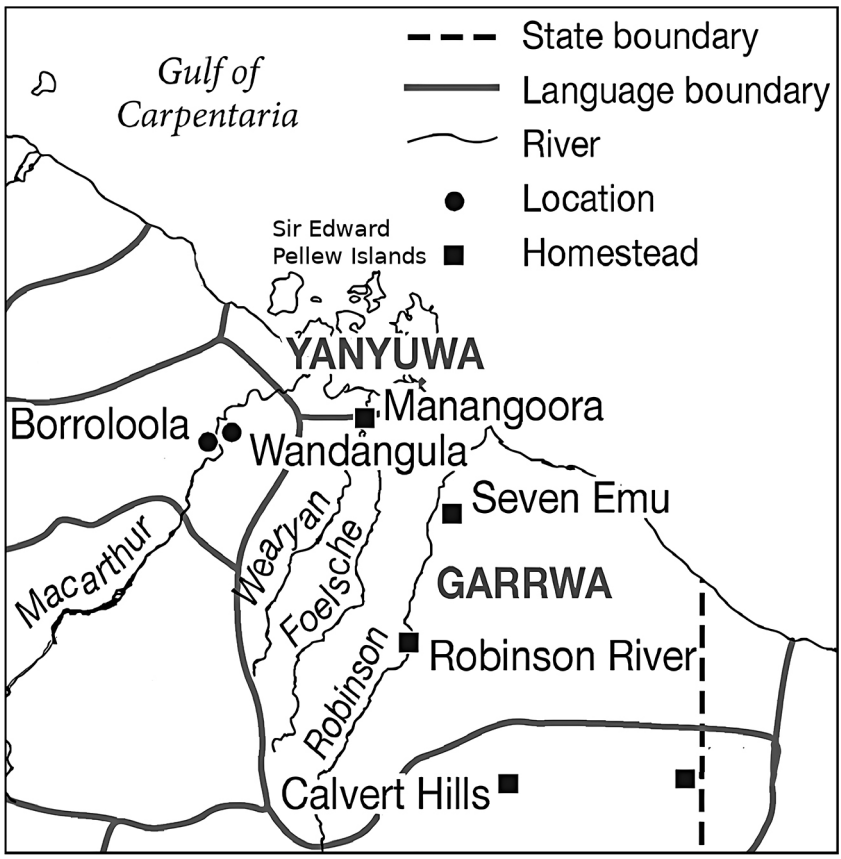

Figure 21.1: Map of the Gulf Coast showing Garrwa and Yanyuwa Country.
Source: Mushin (2012, xviii).

The strong and longstanding connections between Garrwa and Yanyuwa people and other neighbouring groups are recorded in their oral histories. Historically, Garrwa and Yanyuwa intermarried with the Marra and Wilingura peoples to the west of Yanyuwa Country (Baker 1999, 54) and with Nyangga people to the east of Yanyuwa Country and north of Garrwa territory (Furby and Furby 1977, 1). Strong networks of trade and ceremony also existed throughout the region, operating between Garrwa, Marra, Gudanji and Yanyuwa (Baker 1999, 55), reflected in these being the four main language groups associated with the town of Borroloola.

Nowadays, Garrwa and Yanyuwa people mostly live in and around Borroloola (Baker 1990, 10; Mushin 2012, 1). Borroloola is located on land that is close to the intersection of Garrwa, Yanyuwa and Wilingura territory

at a well-established meeting place at a ford over the Macarthur River (Baker 1999, 55). The Yanyuwa and Garrwa communities were traditionally multilingual. This was a result of high levels of exogamy, where Yanyuwa men and women would marry into other groups. The easternmost Yanyuwa clans were more likely to marry Garrwa people, while the westernmost Yanyuwa clans tended to intermarry with Marra and Wilingura. Yanyuwa men were generally bilingual in at least one of these languages, and women were bilingual in their first language and later Yanyuwa after marrying into the Yanyuwa community (Kirton 1988, 2, 4).

By the late 1990s, when Mushin began working with Garrwa Elders on language documentation, the established customs of wife bestowal had changed. Nonetheless, many families included people who spoke both Yanyuwa and Garrwa because of their shared ancestry. Yanyuwa Elders tended to be proficient in Garrwa and would switch to Garrwa when conversing with other Garrwa speakers. Garrwa people tended not to be proficient in Yanyuwa. At the time of writing this chapter, both Yanyuwa and Garrwa were spoken regularly by very few people. Most community members speak a local variety of Kriol, or Aboriginal English, as their main language (Mushin 2010, 460).

Genetic relatedness

Garrwa and Yanyuwa are not closely related – either typologically or genetically – evident in significant morpho-syntactic differences (e.g. Yanyuwa is prefixing, Garrwa is suffixing). Both languages were initially considered to be non-Pama-Nyungan; however, the genetic status of these languages and others of the region have been re-analysed, with Yanyuwa now classified as a Ngarnic (Pama-Nyungan) language (e.g. Blake 1990, 51) and Garrwa as Garrwan. The genetic status of Garrwan has yet to be fully settled: Evans (2005) claims that it is a sister of proto-Pama-Nyungan (i.e. non-Pama-Nyungan), while Harvey (2009, 241) argues that it is Pama-Nyungan. The map in Figure 21.2 shows the geographic position of the languages of this region.

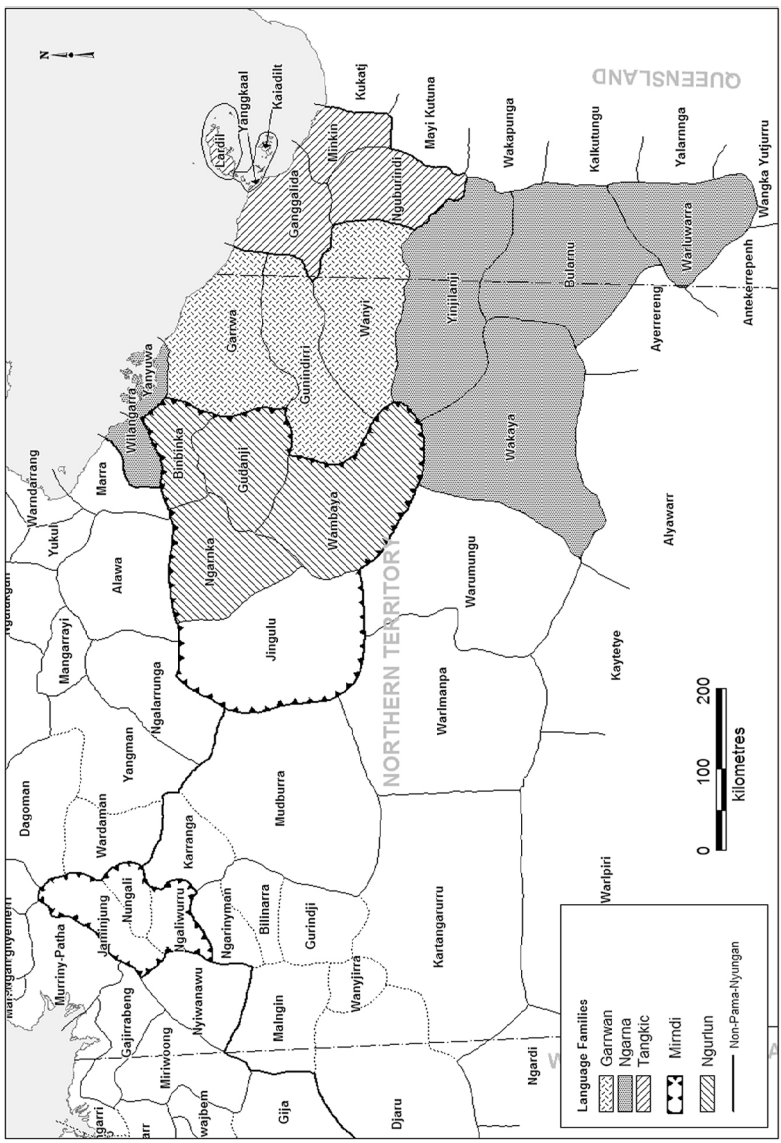

Figure 21.2: Map showing the location of Garrwan and Ngarna languages in relation to other languages.
Source: Harvey (2009, 196).

As indicated on the map in Figure 21.2, the Garrwan family consists of the Garrwa (including Gunindirri Garrwa) and Waanyi. Garrwa and Gunindirri Garrwa are mutually intelligible dialects. Garrwa and Waanyi are not mutually intelligible, but they share many lexical and grammatical features, including most free pronouns, modal clitics in second position and word order patterns (Mushin 2012, 5). The Ngarna language family is geographically discontiguous. Wakaya, Bularnu, Warluwarra and Indjilandji form the Southern Ngarna subgroup, which is located well to the south-east of Yanyuwa (Dixon 2002, 663–64). The Garrwan languages intervene between Yanyuwa and the Southern Ngarna group. Warluwarra, the southernmost Ngarna language, is situated over 600 kilometres away from Yanyuwa (Breen 2003, 426; Harvey 2009, 196).

The remainder of the languages found within the immediate vicinity are non-Pama-Nyungan. Ganggalidda (Tangkic) is located immediately east of Garrwa territory (Evans 1995, 10). To the south-west of Garrwa and Waanyi are the Mirndi languages, Gudanji and Wambaya. Along the coast to the north-west of Yanyuwa is Marra (Marran), which was in direct contact with Yanyuwa (Heath 1981b, 2), and further north is Wubuy, which has a noun-class prefix system very similar to that of Yanyuwa (Heath 1984, 159). Wubuy is a coastal non-Pama-Nyungan language and a member of the Gunwinyguan macro-family (van Egmond and Baker 2020, 522).

Some languages of this region were not documented before colonisers decimated their speakers (Roberts 2005, 66, 184): Binbinka is understood to have been a Mirndi language from the same branch as Gudanji and Wambaya (Nordlinger 1998b, 2–3). The Country of Wilingura speakers was located between Yanyuwa and Marra, and in contact with both (Bradley, Kirton and Families 1992, 7). Descriptions of Wilingura by Yanyuwa speakers suggest that it was likely either a dialect of Yanyuwa or a very closely related language (Baker 1990, 27; Bradley et al. 2016, 6). The Tangkic languages Nyangga and Nguburinji, also no longer spoken, were likely sister languages of Ganggalidda and were in contact with Yanyuwa and Garrwa (Keen 1983, 192). Evidence suggests that Nyangga ceased to be spoken prior to colonisation due to climactic events and severe flooding, causing a large loss of life (Memmott et al. 2016, 10). Garrwa oral history tells of the group disappearing prior to expansion into their former territory (Furby and Furby 1977, 1). The most recent documentation of Nguburinji was a 1896 word list by Roth (Keen 1983, 192). Although the loss of life is unknown, the Nguburinji people presumably suffered a similar fate to Wilingura and Binbinka at the hands of colonists.

Previous work on lexical similarity

Previous studies have found comparatively high rates of lexical similarity between Yanyuwa and Garrwa. Blake (1990, 61) compared 70 words in Garrwa and Yanyuwa and found 23 per cent similarity, and Garrwa and Waanyi to have 15 per cent similarity. Words in Blake's 70-item word list did not include function words beyond pronouns and covered a range of semantic domains. In a subsequent study of general vocabulary of an unspecified sample size, Dixon (2002, 663, 664) found 30 per cent lexical similarity between Yanyuwa and Garrwa. He also noted a similar level of cognancy between Yanyuwa and the languages of the Southern Ngarna subgroup.

In Breen's (2003) study of Garrwa and Waanyi, lexical comparisons were also made with other nearby languages. The number of words available for comparison between language pairs at the time varied between 100 and 160, with 66 per cent cognancy observed between Garrwa and Waanyi (Breen 2003, 429). Breen also found 28 per cent cognates between Garrwa and Yanyuwa, which was much higher than any of the other unrelated pairs considered, as shown in Table 21.1. No direct comparison was made between Garrwa and any of the Southern Ngarna languages.

Table 21.1: Cognate percentages between Garrwan languages and unrelated neighbouring languages.

Family pair	Language pair	Percentage (%)
Garrwan/Ngarna	Garrwa/Yanyuwa	28
	Waanyi/Yanyuwa	13
	Waanyi/Wakaya	12
	Waanyi/Bularnu	11
	Waanyi/Warluwa	6
Garrwan/Mirndi	Garrwa/Wambaya	17
Garrwan/Ganggalidda	Garrwa/Ganggalidda	4

Source: Adapted from Breen (2003, 430).

Breen (2003, 430) concluded that borrowing was responsible for the higher levels of similarity observed between Garrwa and Yanyuwa than those in the other Garrwan/Ngarna pairs considered.

These surveys considered subsets of the lexicon, with each differing in size and content, and each producing slightly different cognate percentages. It was unknown at the time whether the identified level of lexical similarity could

extend beyond the portion of the lexicon investigated. This is something this study aims to address with its much larger comparable lexicon afforded by subsequent language documentation of Garrwa, Yanyuwa and – to some extent – Waanyi.

Respectful speech registers

Garrwa and Yanyuwa each have a respectful speech register, which is used when communication is essential between people in taboo relationships. The documented portion of the Yanyuwa respectful speech register contains 322 words. This respectful speech register is used when speaking to siblings, cross cousins and the parents or siblings of spouses (Kirton and Timothy 1982, 2). Approximately half of the documented words of the Yanyuwa respectful register are found within the shared lexicon. The respectful register in Garrwa is primarily used between opposite sex siblings and has not been well documented (Mushin 2012, 9). Yanyuwa also has a speech register used on the islands and when hunting in adjacent waters (Bradley et al. 2017, 17; Bradley, Kirton and Families 1992, 44).

Respectful speech registers are common among Australian languages (Dixon 1980, 58), and it has been shown that they can serve as a pathway for borrowed lexicon, with words being borrowed first into them and ultimately transferring from the restricted register into the regular lexicon (Heath 1981b, 361). This is an example of socially driven borrowing, where a word is required by a speech community in certain social circumstances to replace an already existing word. The words of these registers may originate as borrowings from the everyday lexicon or the respectful speech register of a neighbouring language (Dixon 1980, 52).

Yanyuwa gender system

Yanyuwa has an extensive gender system, containing 16 semantically and formally established classes (Kirton 1971b), although see footnotes 2 to 5 where we analyse gender prefixes as pronominal proclitics, reducing the system to 12 genders. This contrasts with Garrwa, which does not have a gender system (Mushin 2012, 44). Most Yanyuwa nouns take both prefixes and suffixes indicating gender; however, masculine gender, proper nouns and some kinship terms are not marked. Gender prefixes are portmanteaus which also encode case, number and possession. Yanyuwa genders and their associated morphology are detailed in Table 21.2.

Table 21.2: Yanyuwa genders with their prefixes.

GENDER	NOM / ABS	DAT / LOC	ERG / ALL / ABL
1 – Female	*rra-/ a-*	*rru-*	
2 – Male	*nja-*♀ / *Ø-*♂	*nju-*	
3 – Feminine	*rra-/ a-*	*rru-*	
4 – Masculine	*Ø-*	*dji-*	
5 – Food	*ma-*	*mu-*	*munggu-*
6 – Arboreal	*na-*	*nu-*	*nunggu-*
7 – Abstract	*narnu-*	*nuwarnu-*	*nugngarnu-*
8 – Body parts	Possessive (set 1) – varies by person and number[2]		
9 – Kinship (Familiar)	*Ø-*		
10 – Kinship (Formal)[a]	Possessive (set 2) – varies by person and number[3]		
11 – Kinship (Formal)[a]	Possessive (set 3) – varies by person and number[4]		
12 – Kinship (Formal)[a]	Possessive suffix (set 4) – varies by person and number[5]		
13 – Kinship (Group)[b]	*Ø-/ rri-/ li-*		
14 – Personal Names[c]	*rra-/ a-/ nja-/ Ø-*		
15 – Ceremony Names	*rra-/ Ø-*		
16 – Place Names	*Ø-*		

Notes: [a] These are used when formally referring to relatives, not as terms of address. Class 10 is used by anybody. Class 11 is used only by selected senior relatives. Class 12 contains only one stem, which is altered by suffixing.

[b] Can sometimes include familiar high animate entities such as dogs, horses and dugongs.

[c] This gender contains nouns which refer to two or more people related to each other in a specific way. Dual or plural marking is indicated, with null prefix an option for dual number.

Source: Based on Bradley, Kirton and Families (1992, 50); Kirton (1971b, 20, 38).

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2 This gender could be instead analysed as inalienable possession with pronominal proclitics: 1PL.INC *ngambala-*; 1PL.EXC *nganu*; 1DU.INC *ngali-*; 1DU.EXC *ngadharra-*; 1SG *ngarna-*; 2PL *nirru-*; 2DU *nimbala-*; 2SG *nda-*; 3PL *nalu-*; 3DU *nawula-*; 3SGF *nanda-*; 3SGM *niwa-*; 3FEM *nanda-*; 3MASC ni-; 3FOOD *nu-*; 3ARB *nanu-*.

3 These lists of prefixes are from Kirton (1971, 33). They could be analysed as belonging to Classes 1 to 6 but with bound possessive pronouns when referring to inalienable body parts or kin. Similarly with the kinship nouns, which are similar to the Class 8 prefixes, but with mostly regular additional morphology such as *-nga* in Class 10, #ng → #g in Class 11, and for some reason using almost the same prefix (addition of -lu) as a suffix in Class 12. These observations are presumably why Rose instead treats Yanyuwa as having only seven genders.

4 Again, these really look like pronominal proclitics: 1PL.INC *gambalanga-*; 1PL.EXC *ganu-*; 1DU.INC *gali-*; 1DU.EXC *gadharra-*; 1SG *garna-*; 2PL *yirrunga-*; 2DU *gimbala-*; 2SG *ga-*; 3PL *galu-*; 3DU *gawula-; 3*SG.F *ganda-*; 3SG.M *gilu-*.

5 Again, these really look like pronominal proclitics: 1PL.INC *-ngambalalu*; 1PL.EXC *-nganuwalu*; 1DU.INC *ngalilalu*; 1DU.EXC *-ngadharul*u; 1SG *-ngardha* / *-dja*; 2PL *-yirruwalu*; 2DU *-yimbalalu*; 2SG *-yindalu*; 3PL *-aluwalu*; 3DU *-wulal*; 3SG.F *-andalu*; 3SG.M *-yilalu*.

Yanyuwa gender membership varies greatly in size. Masculine (4) is by far the largest class, accounting for 60 per cent of all common nouns, containing most inanimates, animals, artefacts and natural events. Masculine is not prefixed when in the nominative case, analysed by Kirton (1971a, 26) as being marked by a null prefix. Of the other classes of common nouns, Abstract (Class 7) is the smallest, containing only 37 items (Kirton 1971a, 29).

Establishing shared lexicon between Yanyuwa and Garrwa

This section details the methods used to determine shared lexicon between the Garrwa and Yanyuwa languages. We then turn our attention to the direction from which the words have been borrowed. We have modelled our analysis on Pensalfini and Meakins's (2019) study of Mudburra-Jingulu borrowing, which compares word lists from the study languages and surrounding related and unrelated languages. For this chapter, we use the most recent versions of word lists for Garrwa, Yanyuwa and nearby languages. The Garrwa draft dictionary and Yanyuwa dictionary provided the basis for establishing the extent of the shared lexicon, and the dictionaries of neighbouring and related languages were used to establish the direction of borrowing.

The Garrwa draft dictionary builds on documentation by Summer Institute of Linguistics (SIL) linguists Ted and Christine Furby in the late 1960s, which was later collated and added to by Hugh Belfrage in 1997. Ilana Mushin updated the word list with Garrwa speakers between 2006 and 2012. The version used for this study has 2,679 entries. The Yanyuwa dictionary forms the second volume of the Yanyuwa Encyclopaedia. It is based on work by Jean Kirton from the 1960s to the 1980s, Yasuko Nagai in the early 1980s and John Bradley in the 1980s. Bradley combined these dictionaries and revised them under the guidance of Yanyuwa Elders to create a resource for the Yanyuwa community (Bradley et al. 2016, xvii; 2017, xi). It currently has 4,183 entries.

A database of the Garrwa and Yanyuwa shared lexicon was generated from the entries in the Garrwa and Yanyuwa dictionaries.[6] Words with the same gloss that took the same or similar form were then deemed part of the

6 Note that we excluded proper nouns including place names and names of people and pets from the analysis since they are unique to their respective languages.

shared lexicon.[7] Table 21.3 is an excerpt of the larger list of shared words in Garrwa and Yanyuwa. Recent borrowings refer to Macassan and Kriol/English borrowings.

Table 21.3: Examples of shared words between Garrwa and Yanyuwa.

Gloss	Garrwa	Yanyuwa	Recent borrowing
CUT FOOTHOLD.V	*bakindaba*	*bakindamantharra*[R]	–
HOUSE	*barrawu*	*barrawu*	Macassan
GRASS SEED	*buja*	*ma-buja*	–
ANT (GENERIC)	*kirringi*	*kirringi*[R]	–
CATCH	*lawakaba*	*lawaka*[R]	–

Note: [R] – respect register.

As shown in Table 21.3, for each language, it is noted if they are present in a register other than the regular speech register. Sources of recent borrowings from Kriol were noted but excluded from analysis.[8] Words from Arnhem Land or Macassan trade were included in the analysis.[9]

The portions of the Garrwa and Yanyuwa lexicons examined after exclusions contain 2,558 and 4,102 words, respectively. There are 2,017 forms in Garrwa and 2,090 forms in Yanyuwa that have the same meaning as a word found in the other language.[10] Of the lexical dataset, 35 per cent

7 Where there were obvious semantic shifts, these items were also included.

8 We also excluded words known to have been borrowed post-invasion, mostly from Kriol or English, e.g. *bulijimanyji* 'policeman'. We also excluded post-invasion Wanderwörter. For example, *yarraman* 'horse' spread to many Aboriginal groups prior to their direct contact with invaders as word of introduced animals spread (Walsh 1992, 509).

9 Borrowings from trade with groups from Arnhem Land and contact with Macassan traders are known to have entered the region, particularly Yanyuwa given its coastal locale (Evans 1992; Harris 1985; Si 2019). This contact was of a greater time-depth and consisted of continuation of Aboriginal patterns of peaceable trade, in stark contrast to the deep disruption caused by invading colonists (Urry and Walsh 2011). As such, these words are not excluded from analysis, but their sources are recorded.

10 There are many words in each language where there is no word with a comparable meaning in the other language. This is particularly evident in terms related to all types of marine and coastal species and related practices. For example, Garrwa contains a generic term for 'dugong' and a collective word for 'dugong herd', along with an additional two words each for particular varieties of spears used in their hunting and for dugong body parts. All six of these words are present in the shared lexicon. Yanyuwa, by comparison, contains at least 63 words related to 'dugong', including specific words to describe their life-stages, sex, behavioural characteristics, body-parts, dugong hunting practices and butchering techniques. A reverse of this specificity is seen in some terrestrial species. For example, Yanyuwa contains a single term for 'echidna' compared to Garrwa which has six words that distinguish between the life-stages of 'echidna', along with a term for their spines. This imbalance between terminology for coastal and terrestrial species is consistent with the distinct identities maintained by Garrwa and Yanyuwa as saltwater and freshwater people.

(n=739) is shared in Garrwa and Yanyuwa. Overall, 82.4 per cent (n=609) of the shared lexicon are nominals and 17.6 per cent (n=130) are verbs. This skewing according to word class is expected, given the levels of borrowing seen for different word classes worldwide (Matras 2009; Thomason and Kaufman 1988).

The rate of shared lexicon observed between Garrwa and Yanyuwa is high by Australian standards. In their comparison of Mudburra (Pama-Nyungan) and Jingulu (non-Pama-Nyungan) shared lexicon, Meakins and Pensalfini (2020) find 65 per cent of nouns are shared between Mudburra and Jingulu, and Meakins et al. (2020) find 40 per cent of verbs are similarly the same forms in both languages. Heath (1981b, 355) describes similarly high levels of shared vocabulary between Ngandi (non-Pama-Nyungan) and Ritharrngu (Pama-Nyungan) in Arnhem Land, which share 47 per cent of their nouns and 50.5 per cent of their verbs. Meakins and Pensalfini (2020) refer to languages with high rates of shared vocabulary as cases of 'lexical convergence'.

The rate of shared lexicon observed between Garrwa and Yanyuwa is also high by global norms. We examined shared lexicon using the Leipzig-Jakarta list, which is a list of 100 words that are rarely borrowed between languages (Tadmor 2009, 68). The larger number of shared words from this list is thus an indication of more extensive borrowing patterns. According to our study, 48 words in the list were present in the Garrwa and Yanyuwa shared lexicon, as shown in Table 21.4 in bold type. Glosses in parentheses indicate no equivalent word in Garrwa or Yanyuwa.

This indicates that 48 per cent of the cross-linguistically least-borrowable portion of the lexicon is shared between Garrwa and Yanyuwa. This may seem paradoxically high compared with the earlier investigations of this language pair, considering that, by design, the Leipzig-Jakarta list contains vocabulary more resistant to borrowing than the earlier Swadesh lists. Indeed, it is suggestive of shared inheritance and relatedness, although the morpho-syntaxes of Garrwa and Yanyuwa are strikingly different.

The Yanyuwa respectful speech register is heavily represented within the shared lexicon, with 161 (50 per cent) of the 322 documented terms in this Yanyuwa speech register shared with Garrwa. This is not only a large portion of the respectful speech register, but also a significant portion (22 per cent) of the shared lexicon.

Table 21.4: Comparison of the Garrwa and Yanyuwa common lexicon with the Leipzig-Jakarta list.

ANT	HEAVY	SALT	TO GIVE
ARM/HAND	**HORN**	**SAND**	TO GO
ASH	**HOUSE**	**SHADE/SHADOW**	TO HEAR
BACK	**I/ME**	**SKIN/HIDE**	TO HIDE
BIG	IN	**SMALL**	**TO HIT/TO BEAT**
BIRD	**KNEE**	**SMOKE**	TO KNOW
BITTER	**LEAF**	SOIL	**TO LAUGH**
BLACK	LEG/FOOT	**STAR**	TO RUN
BLOOD	LIVER	STONE/ROCK	TO SAY
BONE	LONG	SWEET	TO SEE
BREAST	**LOUSE**	**TAIL**	**TO STAND**
CHILD	MOUTH	(THICK)	TO SUCK
DOG	NAME	THIGH	TO TAKE
EAR	**NAVEL**	THIS	TO TIE
EGG	NECK	TO BITE	TONGUE
EYE	NEW	**TO BLOW**	**TOOTH**
FAR	NIGHT	TO BURN	**WATER**
FIRE	**NOSE**	**TO CARRY**	WHAT?
FISH	NOT	**TO COME**	WHO?
FLESH/MEAT	OLD	TO CRUSH/TO GRIND	WIDE
FLY	**ONE**	TO CRY/TO WEEP	WIND
GOOD	RAIN	**TO DO/TO MAKE**	WING
HAIR	RED	TO DRINK	WOOD
HARD	ROOT	TO EAT	YESTERDAY
HE/SHE/IT/HIM/HER	ROPE	**TO FALL**	YOU-SG

Table 21.5: Examples of the Yanyuwa respectful speech register also found in Garrwa.

Gloss	Garrwa	Yanyuwa
later	baku	baku[R]
nearly	jinda	jinda[R]
wave (gesture)	kawanyba	kawanymantharra[R]
soar	wiringkirrmba	wirringkirrmantharra[R]
fire	wumayangka[R]	wumayangka[R]

Note: [R]-respect register

Registers other than those of regular speech and respectful speech in Yanyuwa contribute comparatively minimally towards the shared lexicon. There are 25 words from Garrwa's respectful speech register, but none from the Yanyuwa Island register. Heath (1981) noted that the presence of additional speech registers may serve as drivers of borrowing, and that may be the case here.

Comparison of the semantic domains represented within the shared lexicon shows that each is similarly distributed across Garrwa, Yanyuwa and their shared lexicon, as shown in Figure 21.3.[11]

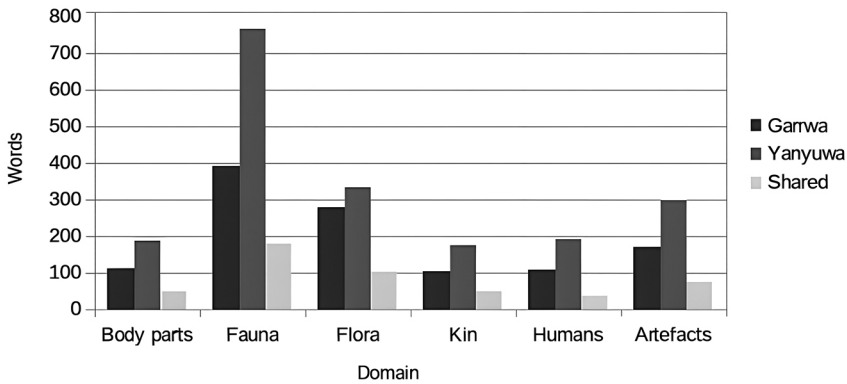

Figure 21.3: Semantic domain sizes in Garrwa, Yanyuwa and the shared lexicon.

Source: Authors.

None of the broad semantic domains is especially over-represented or conspicuously absent, although there is a notable disparity in the relative size of the fauna domain in Yanyuwa when compared against the other domains, even accounting for the larger documented vocabulary of Yanyuwa. Chi-squared tests showed no significant difference in borrowing between semantic domains, except for the fauna domain, and only when compared to the entire Yanyuwa lexicon ($p<0.05$). When comparing just the portion of the lexicon with shared meanings, the difference again becomes insignificant.

11 Note that we have used semantic domains rather than gender because Garrwa does not have gender and the figure represents words which have gone between Garrwa and Yanyuwa as well as Yanyuwa and Garrwa.

Establishing direction of noun borrowings between Yanyuwa and Garrwa

In this section, we identify the direction of borrowing between Garrwa and Yanyuwa following Pensalfini and Meakins (2019), who, similar to our study, used a comparative dataset of nouns and verbs in Jingulu and Mudburra, along with a number of neighbouring and related languages (Meakins and Pensalfini 2020, 308; Meakins et al. 2020, 304; Pensalfini and Meakins 2019, 6). Borrowing direction was inferred from specific patterns of distribution; for example, Mudburra and Jingulu words shared with Gurindji were coded as Mudburra origin, and Mudburra and Jingulu words shared with Wambaya were coded as Jingulu origin. However, not all words were found in patterns that indicated a clear direction of borrowing, and some were exclusive to Jingulu and Mudburra; that is, cognates were not found in geographically and phylogenetically close languages. This approach was applied to the Garrwa and Yanyuwa contact situation. In this section, we discuss how we constructed the comparative lexical database and then the patterns of borrowing.

Comparative lexical database

Dictionaries of related and unrelated neighbouring languages were examined in relation to the Garrwa and Yanyuwa shared lexicon to determine the direction of borrowing. Table 21.6 gives the sources of the nine extra languages in the comparative database.

Table 21.6: Sources of lexical data, dictionaries and wordlists.

	Source	Size (words)
Garrwa (Garrwan)	Mushin, MS	2,558
Yanyuwa (Ngarna)	Bradley et al. 2017	4,102
Related languages		
Waanyi (Garrwan)	Laughren 2015	1,389
Bularnu (Ngarna)	Breen 1980	795
Indjilandji (Ngarna)	Breen 1979	241
Wakaya (Ngarna)	Breen 1985	1,370
Warluwarra (Ngarna)	Zúñiga and Kittilä 2010	1,514

	Source	Size (words)
Unrelated languages		
Ganggalidda (Tangkic)	Keen 1983	1,250
Marra (Marran)	Heath 1981a	1,800
Wambaya (Mirndi)	Nordlinger 1998a	1,546
Wubuy (Gunwinyguan)	Heath 1982	4,245

Source: Authors.

To simplify analysis and presentation, two groups of languages were considered together when determining direction, although they are coded separately in the database, 'South Ngarna' (comprising Bularnu, Wakaya, Warluwarra and Indjilandji) and 'North Coastal' (comprising Marra and Wubuy). Identified distributions and their presumed directions of borrowing are shown in Table 21.7.

Table 21.7: Hypothetical direction of borrowing between Garrwa and Yanyuwa based on distribution of Garrwa and Yanyuwa shared forms in related and nearby languages.

South Ngarna	Waanyi	North Coastal	Ganggalidda	Wambaya	Direction
✗	✓	✗	✗	✗	From Garrwa
✗	✓	✗	✗	✓	From Garrwa
✗	✓	✗	✓	✗	From Garrwa
✓	✗	✗	✗	✗	From Yanyuwa
✓	✗	✗	✓	✗	From Yanyuwa
✗	✗	✓	✗	✓	From Yanyuwa
✗	✗	✓	✗	✗	From Yanyuwa
✗	✗	✗	✗	✗	Unknown
✓	✓	✗	✗	✗	Unknown
✓	✓	(any)			Unassigned

The approach assumes that, as Garrwa and Waanyi are closely related languages and in direct contact with each other, words appearing only in Waanyi, Garrwa and Yanyuwa will have been borrowed from Garrwa to Yanyuwa. Words which are found in Garrwa, Yanyuwa and also in one or more South Ngarna languages are presumed likely to have been borrowed from Yanyuwa to Garrwa. The directional determination can be improved by also considering languages beyond the related languages, as per Pensalfini and Meakins (2019). Unrelated languages to the north of Yanyuwa were in

contact with Yanyuwa and have words in common with the Garrwa and Yanyuwa shared lexicon. Words of the shared lexicon appearing in these coastal Arnhem languages but no other nearby languages are presumed to have been borrowed from Yanyuwa into Garrwa.

Direction of borrowing based on comparative database

Garrwa to Yanyuwa

Words shared between Garrwa and Waanyi are assumed to have arisen by shared inheritance; thus, words shared between Garrwa, Yanyuwa and Waanyi are assumed to have been borrowed from Garrwa into Yanyuwa (but note that one of Mary Laughren's Waanyi consultants lived in Borroloola and may have used Garrwa). This pattern is followed by 6.9 per cent (n=51) of the shared lexicon. They are given in Table 21.8.

Table 21.8: Words of the shared lexicon also found in Waanyi.

Gloss	Garrwa	Yanyuwa	Waanyi
OLD WOMAN	*badibadi*	*a-bardibardi*	*badibadi*
RIFLE FISH	*badubadu*	*badubadu*	*badubadu*
MULTIPAROUS WOMAN	*bindajarran*	*a-birndjarra*	*binajarra*
SILVER PAPERBARK	*binjirri*	*a-binjirri*	*binyjirri*
GRASS SEEDS	*buja*	*ma-buja*	*buja*
BLACK KITE	*bukaji*	*bukaji*	*bukaji*
LEICHHARDT TREE	*buyarra*	*ma-buyarra*	*buyarra*
BULL ANT	*dinmanja*	*a-dinmanja*	*dinmanja*
SHAKE	*jalajalaba*	*jarlajarlamantharra*[R]	*jayajaya-j-ba*
LEAD	*jarlulu*	*jarlulu*[R]	*jalu-yalu*
SMALL INTESTINES	*jililinjilili*	*majililinyjilili*	*jililinjilili*
SPEAR BLADE	*jimindi*	*jimirndi*[R]	*jimirndi*
MEDICINE GRASS	*jingkal*	*jinkarr*	*jingkal*
MAN'S SISTER'S CHILD	*kadikadi*	*kardirdikija*	*kadikadi*
LANCEWOOD	*kananyi*	*karnanyi*	*kanakyi*
ALCOHOL	*kamukamu*	*kamukamu*	*kamukamu*
SPOUSE	*kayikayi*	*kayikayi*	*kayikayi*
HEADPIECE CYLINDRICAL	*kudarri*	*ma-kurdari*	*kudari*
SHORT NECKED DIAMOND TURTLE	*kulkul*	*kurlkurl*	*kulkul*

Gloss	Garrwa	Yanyuwa	Waanyi
YELLOW TREE SNAKE	*kululu*	*a-kululu*	*kululu*
EMU CHICK, OLDER	*malala*	*malala*	*malala*
OLD MAN	*malbu*	*malbu*	*malbu*
ARMBAND	*malilkarra*	*ma-rilkarra*	*marlilkarra*
TOMAHAWK	*maraki*	*maraki*	*marraki*
TOGETHER	*mardamarda*	*mardamarda*[R]	*mada-mada*
TOOTH	*mayin*	*nda-mayi*	*mayi*
KNEE JOINT	*muji*	*nda-muju*	*muji*
BLUNT	*mujin*	*murdji*	*muji*
CARRY BABY	*mulamula*	*mulaR*	*mula-mula*
NOSE, BOW	*mulu*	*nda-mulu*	*mulu*
SHOULDER	*ngaba*	*nda-ngabarla*[R]	*ngaba*
CARRY	*ngabangabala*	*ngabarla*[R]	*ngaba*
CYCAD NUT GEN	*ngakuya*	*ma-ngakuya*	*ngakuya*
RED CLUSTER FIG	*ngalanyi*	*ma-ngalany*	*ngalanyi*
RED OCHRE	*nganmarra*	*a-marra*	*nganmarra*
CROCODILE, SALT WATER	*ngarrawa*	*ngarrawa*	*ngarrawa*
BONE	*nguli*	*nda-ngulyanda*	*ngurli*
BARRAMUNDI	*ngulumirri*	*ngulumiri*	*ngulumirri*
FULL	*wadaji*	*wardaji*	*wada-j-ba*
ARMPIT	*wajimbangu*	*nda-wajimbangu*	*wajimbangu*
MICROBAT	*wakalakala*	*a-wakalakala*	*wakalakala*
FIND	*wakaramba*	*wakaramantharra*[R]	*wakara-mba*
BROWN SNAKE	*wanangkalaji*	*balankali*[R]	*balangkali*
GOANNA MALE SAND	*warrnguna*	*warrnguna*	*warrnguna*
OLD MEN	*wululuka*	*li-wulukurlu*	*wululuku*
GREEN TURTLE, GENERIC	*wundunyuka*	*wundunyuka*	*wundunyuka*
EYE	*yami*	*nda-mi*	*yami*

Note: [R]-respect register.

Table 21.9: Words of the shared lexicon found in Waanyi, along with Wambaya or Ganggalidda.

Gloss	Garrwa	Yanyuwa	Waanyi	Wambaya	Ganggalidda
ALL NIGHT	*baralala*	*baralala*[R]	*barralaala*	*baralala*	–
COCKATOO, WHITE	*barral*	*a-barral*	*barrawal*	*barrala*	–
HOUSE	*barrawu*	*barrawu*	*barrawu*	*barrawu*	–
OLDER BROTHER	*bawa*	*ja-baba*	*bawa*	*baba*	–
SIBLINGS TOGETHER	*bawakula*	*li-babakurla*	*bawakula*	*babawula*	–
BEESWAX	*binyi*	*a-birnnyi*	*binnyi*	*binyirda*	–
RED ANT	*biraki*	*biraki*	*biraki*	–	*parakura*
BLACK HEADED PYTHON	*bubuna*	*a-buburna*	*bubina*	*bubuyirna*	–
SAND GOANNA	*budunguji*	*bududu*	*budunguji*	–	*purrurturtu*
ORPHAN	*bujiji*	*wujiji*	*bujiji*	–	*putyityi*
RAINBOW	*bujimala*	*bujimala*	*bujimala*	–	*purtyimarla*
SKINGROUP B4	*burralangi*	*burrulangi*	*burralangi*	–	*purralangi*
BLUE WIND KOOKABURRA	*dalmurra*	*a-ralmurr*	*danmurra*	*danmurrana*	–
CLOTHES	*danyan*	*danya*	*danya*	*danya*	–
GROUND SPIRIT	*jamba*	*jambajambanyi*	*jamba*	*jamba*	–
BIRD, PLANE	*julaki*	*julaki*	*julaki*	*julaji*	–
MAN'S CHILD	*kajakaja*	*kajakaja*	*kajakaja*	*gajagaja*	–
SKIN GROUP A1	*kamarrangi*	*kamarrangi*	*kamarrangi*	–	*kamarangi*
SUN	*kamba*	*a-kamba*	*kamba*	*gambada*	–
BRING	*kawanumba*	*kawa*[R]	*kawa*	–	*kawa*
IRONWOOD	*lamurra*	*lamurra*	*lamurru*	*lamurra*	–

Gloss	Garrwa	Yanyuwa	Waanyi	Wambaya	Ganggalidda
WHITE OCHRE	*makirra*	*a-makirra*[R]	*makirra*	*magirra*	–
EGG	*makulu*	*makuliji*	*makurlu*	*marrgulu*	–
RIVER	*manangka*	*na-manangka*[R]	*manangka*	*marnangga*	–
MOTHER'S FATHER	*mimi*	*mimi*	*mimi*	*mimi*	–
DECEASED PERSON	*mudinyi*	*mudinyi*[R]	*mudinyi*	*mudinymudinji*	–
LUNCHTIME	*mukunjana*	*mukunjarna*[R]	*mukunjana*	*mugunjana*	–
KNEE	*murrungku*	*murruru*	*murrungku*	*mururru*	–
DUGOUT CANOE	*muwarda*	*a-muwarda*	*muwarda*[12]	*muwadana*	–
FATHER'S MOTHER	*ngabuji*	*ngabuji*	*ngabuji*	*ngabuji*	–
AFTERNOON	*ngabungabu*	*ngabungabu*	*ngabu-ngabu*	*ngabungabuni*	–
SKIN GROUP A4	*ngarrijbalangi*	*ngarrijbalangi*	*ngarrijbalangi*	–	*ngarritypalangi*
NORTHERN TAILED WALLABY	*nguluku*	*ngurluku*	*nguluku*	*ngulungulu*	–
SPINIFEX GRASS	*nguyarr*	*ma-nguyarr*	*nguyarr*	*nguyarra*	–
HAIR	*nyungka*	*nda-nyungka*	*nyungka*	*nyungga*	–
DUGONG, GENERIC	*walya*	*walya*	*walya*	*walyayi*	–
TOBACCO	*wanu*	*warnu*	*wanu*	*warnu*	–
ISLAND TEA TREE	*wararru*	*ma-wararru*	*wararru*	*wararru*	–
KIDNEY	*yidarangka*	*nda-yirdarangka*	*yidarangka*	*idarangga*	–

Note: [R] -respect register.

12 John Bradley (pers. comm.) suggests two possible etymologies for *muwarda* 'dugout canoe': either a form derived from the Garrwa word *muwa* 'stomach', or possibly from Marra via Yanyuwa retaining an mV- gender prefix.

Due to their geographical contact with Waanyi, words found in Waanyi which also appear in either Wambaya or Ganggalidda are hypothesised to have been borrowed from Garrwa into Yanyuwa. These constitute 5.2 per cent (n=39) of the shared lexicon and are given in Table 21.9.

Thus, using the comparative database, we find that 12.2 per cent (n=90) of words in the shared lexicon of Garrwa and Yanyuwa originate in Garrwa. We turn now to Yanyuwa to Garrwa borrowings.

Yanyuwa to Garrwa

The South Ngarna languages are related to Yanyuwa, thus words shared between Garrwa, Yanyuwa and the South Ngarna languages are assumed to have been borrowed from Yanyuwa into Garrwa. These are given in Table 21.10. Some words are also shared in Wambaya or Ganggalidda. These words are given in Table 21.11. Altogether, these words constitute 2.6 per cent (n=19) of the shared lexicon.

Yanyuwa was also in contact with the coastal Arnhem languages, Marra and Wubuy, located to the north-west. Words appearing in these languages are hypothesised to have been borrowed into Yanyuwa and then into Garrwa. They are shown in Table 21.12. These constitute 11.0 per cent (n=81) of the shared lexicon.

Finally, a small number of words, <1 per cent (n=5) of the shared lexicon, present in South Ngarna languages, are also found in the coastal Arnhem languages, see Table 21.13. This distribution is suggestive of borrowing from Yanyuwa into Garrwa.

In summary, 14.2 per cent (n=105) of words in the Garrwa and Yanyuwa shared lexicon are borrowed from Yanyuwa.

Table 21.10: Words of the shared lexicon found only within South Ngarna languages.

Gloss	Garrwa	Yanyuwa	Indjilandji	Bularnu	Wakaya	Warluwarra
FOOT HOLE, STEPS	*bakinda*	*na-bakinda*	–	–	–	*matjalibakinda*
WHITE	*bunalkarra*	*burnalkarra*	*bunangkarr*	–	–	*burna*
DROOL	*dalalarr*	*darlarlarr*	–	–	–	*dala*
STAND	*dinkarrarrijba*	*dankarra*	–	*garri*	*kerr*	*kerr*
QUIET	*kulukulumba*	*kulukulumantharra*[R]	–	*guluwarri*	*kuluwirr*	*kuluwirr*
CICADA	*lirrngindi*	*lirrngindi*	–	–	–	*lirrghindi*
HUNTING DOGS	*maranja*	*maranja*[R]	–	*midji*	*mirinju*	*mirinju*
CLEVER, SKILFUL	*mingkin*	*minkin*	–	–	–	*mindji*
WALKING	*mudimudi*	*mududu*[R]	–	*murdi*	*muruk*	*muruk*
MANGROVE SPIRIT	*ngarrimi*	*ngarrimi*	–	–	*ngarru*	–
BLUE TONGUE LIZARD YOUNG	*rankarda*	*a-rangkarangka*	–	*wankarda*	–	*wankarda*
LONG HAIR	*walanganja*	*warlanganja*	–	–	–	*warlarli*
CROSSWAYS	*wandungurru*	*wandungurru*[R]	–	–	*wiringinj*	*wiringinj*
THIRSTY	*warrinjijba*	*warringku*[R]	*warringkarri*	*waringkarri*	*wirringku*	*wirringku*

Note: [R] -respect register.

Table 21.11: Words of the shared lexicon found in a South Ngarna language and Wambaya or Ganggalidda.

Gloss	Garrwa	Yanyuwa	South Ngarna	Wambaya	Ganggalidda
DESERT	*mangkuru*	*mangkuru*	*mandhungu*	*mangguru*	–
EAR	*mankawurru*	*nda-mankawurru*[R]	*marnkarru*	*manka*	–
WRIST	*marnangal*	*nda-marnangal*	*marrkana*	*marna*	–
GALAH	*dingkili*	*a-rdinkili*	*dingkili*	–	*rtinkili*
DOVE SPECIES	*kulakuku*	*kulakuku*	*kulukuku*	–	*kurrukuku*

Note: [R] -respect register.

Table 21.12: Words of the shared lexicon found in a northern coastal language.

Gloss	Garrwa	Yanyuwa	Wubuy	Marra
FORKED BRANCH	*balabala*	*na-walawala*		*barlbarla*
HAT	*balmanan*	*ma-balmarna*	*wubalama*	*balmarna*
PELICAN	*balubalu*	*balubalu*	*balhu*	*balubalu*
PONYTAIL	*bijibiji*	*bijibiji*	–	*bijibiji*
PLAIT	*bijibijimba*	*bijibijimantharra*[R]	–	*bijibiji*
FLAT DISH	*birrikala*	*birribirri*	–	*biribiri*
RED-COLLARED LORIKEET	*birrililyi(n)*	*birrililyi*	–	*birirlilyi*
SMASH	*bujalmba*	*bujal*[R]	*wadja*	–
BOIL	*bulbulmba*	*bulbulmantharra*[R]	*bulbayi*	–
LIGHTWEIGHT	*bululu*	*burlurlu*	–	*bulbuldu*

Gloss	Garrwa	Yanyuwa	Wubuy	Marra
PREGNANT	*bundubundu*	*a-burnduburndu*	–	*burnduburndu*
LOLLYBUSH	*bunkurri*	*ma-bunkurri*	–	*bunguri*
LIGHTWEIGHT	*bunundun*	*burnthuburnthu*^{R}	–	*bulbuldu*
BROAD-LEAVED WATTLE	*burrakala*	*ma-burrakalambangu*	–	*burrugala*
SWAMP WATTLE	*burrwanji*	*ma-burrwunji*	–	*buruwarnji*
GRUB (GENERIC)	*buyuyu*	*buyuyu*	–	*buyuyu*
SLIPPERY LIZARD	*dabulu(n)*	*a-rdaburlu*	–	*rdabulun*
GRASSHOPPER SWARM	*dajbidajbi*	*rdajbirdajbi*	–	*rdajbirdajbi*
OLIVE PYTHON	*didikurru*	*dirdikurru*	–	*rdirdgurru*
SANDALWOOD	*dumbuyumbu*	*ma-rdumbuyumbu*	*rdumburrumbu*	–
EAGLE (GENERIC)	*jalbarramba*	*a-jalbarramba*	–	*jardbaramba*
BUTCHERBIRD	*jalburrurru*	*jalburrurru*	–	*jardburrurru*
SPEAR BLADE	*jangani*	*jangani*	–	*jangani*
NECKLACE – PEARL	*jaramarra*	*jaramarra*	–	*jaramarra*
NEARLY	*jinda*	*jindaR*	*yingka*	–
RITUAL MANAGER, BOSS	*jungkayi*	*jungkayi*	*junggayi*	–
COME	*kabukiyi*	*kabu*^{R}	–	*gabu*
LEFT HAND LIZARD	*kaburi*	*kaburiwalala*	–	*gabarla*
CAT,QUOLL	*karnbulanyi*	*karnbulanyi*	–	*garnbulanyi*
PYGMY MULGA SNAKE	*karrimala*	*karrimala*	–	*garimarla*
WILD RICE GRASS	*kingkirra*	*ma-kingkirra*	–	*ginggira*

Gloss	Garrwa	Yanyuwa	Wubuy	Marra
BROLGA	*kudarrku*	*kurdarrku*	*gurdargu*	*gudargu*
TICKLE	*kujukujumba*	*kujukujumantharra*[R]	*gujuguja*	*guju*
TEA TREE	*kulbanyi*	*wulban*	–	*gulban*
TRUE	*kululu*	*kululu*	*gululu*	–
HEADPIECE EMU FEATHER	*kumundungu*	*kumundungu*	–	*gumurndungu*
BUSH TURKEY	*kundabarra*	*a-kurndabarra*	–	*gurndama*
SPIRIT, FEMALE	*kurrinya*	*a-kurrinya*	–	*n-gurinya*
MOPOKE OWL	*kurrkurr*	*kurrkurr*	–	*gurrgurr*
DORSAL FIN	*lamarr*	*na-lamarr*	–	*lamarr*
CATCH	*lawakaba*	*lawaka*[R]	*waga*	*waga*
BROAD WOODEN SPEAR	*layi*	*layin*	–	*rlayin*
DECORATIVE MARKS	*mangarna*	*mangana*	–	*mangarna*
NUMBER 7 BOOMERANG	*mangkaburrana*	*a-mangkaburrurna*	*mangabururna*	*mankaburrurna*
WILD PASSIONFRUIT	*manja*	*manja*	–	*manja*
PEACEFUL DOVE	*maraba*	*marrababa*	–	*marrababa*
COLD/COOLING	*mardujba*	*mardu*[R]	–	*mardurn*
COLD	*mardumardujba*	*mardumardumantharra*[R]	–	*mardumardu*
WILD PLUM	*marlalyi*	*ma-marlalyi*	–	*marlayi*
TURKY BUSH	*marnamarna*	*ma-marnamarna*	–	*marnamarna*
FLOAT	*mawarl*	*mawarl*	–	*mawarl*
FIG, SANDPAPER	*mayarranja*	*ma-mayarranja*	–	*mayaranja*

Gloss	Garrwa	Yanyuwa	Wubuy	Marra
CANOE PADDLE	*mayawajawa*	*a-mayawajawa*	*miyaja*	*mayawajawa*
MANY	*miji*	*mijimbangu*	–	*mijimbangu*
LOUSE EGG	*mirndil*	*a-mirndil*	*mirnar*	–
LARGE INTESTINES	*mudumudu*	*ma-murdumurdu*	–	*murdumurdu*
AIR BUBBLE IN WATER	*munmunyi*	*munmun*	–	*murnymurny*
CRAZY	*murdujba*	*murdu*[R]	–	*murdu*
BARBED SPEAR	*ngarrkidikidi*	*ngarrkidikidi*	–	*ngargirdigirdi*
LITTLE CORELLA	*ngilili*	*a-ngulili*	–	*ngililili*
SNORING	*ngundurrba*	*ngundurrmantharra*[R]	*ngandarda*	–
SEA SCRUB TREE	*nguwa*	*nguwa*	–	*nguwa*
TAMARIND TREE	*nukunu*	*nukurnu*	–	*rnugurnu*
SALTWATER SNAKE	*ralyi*	*ralyi*	–	*ralyi*
WATTLE TREE	*rarrbi*	*rarrbi*	–	*rarrbi*
SAND DUNE	*rawu*	*rawu*	–	*rarudawu*
SPEAR SHAFT	*ridiridi*	*na-ridiridi*	–	*ridiridi*
CLOTHES, MATERIAL	*wabawaba*	*wabawaba*	–	*wabawaba*
WATER RAIN	*wabuda*	*wabuda*	–	*wabuda*
FUNERAL PLATFORM	*walakala*	*ma-alakala*	*galagala*	–
DUGONG HERD	*waliki*	*a-waliki*	–	*waligi*
GOANNA (GENERIC)	*wardaba*	*wardaba*	–	*wardabirr*
PRE-ADOLESCENT GIRL	*wardukarra*	*a-wardukarra*	–	*wardugura*

Gloss	Garrwa	Yanyuwa	Wubuy	Marra
WASP	*wi(r)nbi*	*a-wiyinbiyin*	*wunbun*	–
RIVER GRASS	*wirndawirnda*	*wirndawirnda*	–	*wirndawirnda*
FLAT WOOMERA	*wujula*	*wujula*	–	*wujula*
PANDANUS PALM	*wukarra*	*ma-wukarra*	–	*wugarru*
TIGER MULLET	*wuniwuni*	*wurniwurni*	–	*wurniwurni*
ONE	*yalkunyi*	*yalku*	–	*yalga*
NIGHTJAR	*yilayi*	*yilayi*	*yliayi*	*yilayi*
HAMMERHEAD SHARK	*yulmunji*	*yulmunji*	–	*yulmunji*

Note: [R]-respect register.

Table 21.13: Words of the shared lexicon found in a South Ngarna language and Arnhem languages.

Gloss	Garrwa	Yanyuwa	Indjilandji	Bularnu	Wakaya	Marra	Wambaya	Wubuy
WATER SPRING	*jiwil*	*jilili*	–	–	*juwerli*	*jilbi*	–	–
STONE AXE	*bangkulu*	*bangkulu*	*kulu*	–	–	–	–	*bardangu*
PARKINSONIA	*nyilanyila*	*nyilanyila*	–	–	*nyilenyil*	*nyirlanyirla*	*nyilanyila*	–
TADPOLE	*burruli*	*burruli*	–	*burrulu*	*bururl*	–	*burrulyi*	*wurlwurl*

Undetermined direction

We are unable to determine the direction of borrowing for some words in the shared lexicon because they are found in both Waanyi and South Ngarna languages. These constitute 1.9 per cent (n=14) of shared lexicon (see Table 21.14). Some words are widespread (i.e. beyond this region) such as 'emu', 'crow' and the skin names (subsection terms). Other words are regionally restricted, but they may have been borrowed serially between these languages. In either instance, there is no evidence within this dataset to attribute a direction of borrowing to them.

Table 21.14: Words of the shared lexicon found in both Waanyi and at least one South Ngarna language.

Gloss	Garrwa	Yanyuwa	South Ngarna	Waanyi
EMU	*karnanganja*	*a-rnangantha*	*ganangadha*	*karnanganyja*
TOGETHER	*marda*	*marda*[R]	*mard*	*mada*
DROWN	*ngurrunba*	*ngurrunmantharra*[R]	*ngurungund*	*ngurralyij-bi*
BOW, BONNET	*ngurru*	*na-ngurru*	*ngurru*	*ngurru*
TORRESIAN CROW	*wangkula*	*a-wangka*	*wagurla*	*wangkula*
LONG YAM	*jika*	*ma-yika*	*jika*	*jika*
BODY HAIR	*nganya*	*nda-nganhal*	*nganhi*	*nganya*
SKINGROUPB1	*balyarrinyi*	*balyarrinji*	*pilyirrintyu*	*balyarrinyi*
SKINGROUPB2	*bangarranyi*	*bangarrinji*	*poengoerintye*	*bangarranyi*
SKINGROUPA3	*bulanyi*	*bulanyi*	*poelangu*	*bulanyi*
SKINGROUPB3	*kangala*	*kangala*	*koengil*	*kangala*
SKINGROUPA2	*yakimarri*	*yakamarri*	*yikkamarru*	*yakimarri*
FIGHTING STICK	*barrku*	*barrku*	*barrkuna*	*barrku*
CHIN, BEARD	*jamuka*	*nda-jamuka*	*danhanku*	*jamanku*

Note: [R]-respect register.

Other patterns also make it difficult to determine direction of borrowing. For example, some words appear in Garrwa, Yanyuwa and Waanyi but are also observed as far away north as Marra and Wubuy, such as *(a-)bindawarra* 'bag', or in both Wambaya and Ganggalidda, such as *ngarrangarra* 'hot'. Recall that these are non-Pama-Nyungan languages from different families and shared inheritance is unlikely. These make up 4.9 per cent (n=36) of the shared lexicon and are shown in Table 21.15.

Table 21.15: Words of the shared lexicon found in Waanyi along with both Wambaya and Ganggalidda, or coastal Arnhem languages.

Gloss	Waanyi	Marra	Wambaya	Wubuy	Ganggalidda
HEADBAND	*banmarra*	–	*barnmarrarna*	–	*parnmarra*
SKINGROUPFA2	*naminyanma*	–	*yakamarrirna*	–	*naminyamma*
SKINGROUPFB3	*nangalama*	–	*nangalama*	–	*nangalama*
HOT	*ngarrangarra*	–	*ngarrangarra*	–	*ngarrangarra*
SKINGROUPFA1	*nimarrama*	–	*nyiyamarrana*	–	*nimarrama*
SKINGROUPFA4	*niwanama*	–	*nyinama*	–	*rniwanama*
SKINGROUPFA3	*nulanyma*	–	*nurlanyam*	–	*nulyanyama*
SKINGROUPFB1	*nulyarrima*	–	*palyarrinya*	–	*nulyarima*
SKINGROUPFB2	*nungarima*	–	*pangarginya*	–	*nungarima*
SKINGROUPFB4	*nurrulama*	–	*nurrulama*	–	*nurulama*
BABY	*badada*	*bardarda*	–	*ngadharda*	–
BAG	*bindawarra*	*birndawarra*	–	–	–
PHEASANT COUCAL	*bulbulkinya*	*bulbulgija*	–	–	–
LONG WAY	*jujuu*	*jujurnanba*	–	*jujuj*	–
CLOTHES, MATERIAL	*jumbala*	*jumbala*	–	–	–
MOTHER'S BROTHER	*kardirri*	*gardigardi*	–	–	–
HAT	*kulabajarra*	*gulabajara*	–	–	–
DIDGERIDOO	*kulurru*	*gurlurung*	–	–	–
PIPE	*larrwa*		–	*rlaruwa*	–

Gloss	Waanyi	Marra	Wambaya	Wubuy	Ganggalidda
FRESHWATER CRAYFISH	*majika*	*majiga*	–	–	–
CLAN	*mambaliya*	*mambali*	–	*mambali*	–
SNAPPER	*murrurrungku*	*murrurunggu*	–	–	–
LIGHTNING, RIFLE	*ngajarr*	*najarr*	–	–	–
BULLOCK	*wakadawakada*	*wagardawagarda*	–	–	–
CLAN	*wiyaliya*	*guyul*	–	*guyul*	–
CLAN	*wurdaliya*	*burdal*	–	*burdal*	–
FATHER'S OLDER BROTHER	*banana*	*barnarna*	*barnangila*	–	–
SHOOTING STAR	*baribari*	*baribari*	*baribari*	–	–
TATA DRAGON	*kankulukulu*	*garngulugulu*	*garngulugulu*	–	–
MOTHER'S MOTHER'S BROTHER	*kuku*	*gugu*	*gugu*	–	–
MOTHER'S MOTHER	*kukudi*	*n-gugu*	*gugurda*	–	–
NAVEL	*mabuluma*	*mabuluma*	*mabuluma*	–	–
BLOOD	*ngulya*		*ngulyayi*	*nguliji*	–
PADDLER	*wajanganja*	*mayawajawa*	*wajangarnja*	–	–
KANGAROO, MALE RED	*badakalinya*	*barlingama*	–	–	*partakalinya*
BLIND	*kabuji*	*gabuji*	–	–	*kaputyi*

Although there are multiple possible explanations for the words distributed in these patterns, including a mix of shared inheritance and widespread diffusion as Wanderwörter, there is no evidence within this dataset to identify a specific mechanism at play, nor any indication of direction.

Phonological clues for borrowing direction

Phonology also offers some clues for determining the direction of Yanyuwa/Garrwa borrowings. The phonological inventories of Garrwa and Yanyuwa are similar to each other but differ slightly within the consonantal inventories. There are four places of articulation for consonants in Garrwa: bilabial, apico-alveolar, lamino-palatal and velar. Yanyuwa shares these and also has an additional three places of articulation: interdental, retroflex/post-alveolar and front velar (Bradley et al. 2017, 3; Huttar and Kirton 1981, 109). Words in the shared lexicon containing an exclusively Yanyuwa phoneme were assumed likely to have been borrowed from Yanyuwa to Garrwa. Exclusively Yanyuwa phonemes are uncommon aside from the tense marking suffix *ntharra,* appearing in the citation form of many verbs, which was excluded from the analysis as only verb roots were considered. Exclusively Yanyuwa phonemes are found 18 times in the shared lexicon, for example *lakululu* 'wave/ripple' in Garrwa, but *na-lhakululu* in Yanyuwa. Fourteen of these words are unique to Garrwa and Yanyuwa and three words are distributed such that they are not assigned a direction in the analysis above. Only one, *burnthuburnthu* 'light', was assigned a direction by comparison with surrounding languages, and was determined to be a Yanyuwa to Garrwa borrowing due to it being found in Marra, suggesting that it has been borrowed from this geographical direction.

Summary

Evidence from the comparative lexical database and phonology suggests 90 words (12.1 per cent of the shared lexicon) are borrowed from Garrwa into Yanyuwa and 105 words (14.2 per cent of the shared lexicon) are borrowed from Yanyuwa into Garrwa. Although the words that have been assigned a direction make up a comparatively small portion of the total shared lexicon (195 words, 26.4 per cent of shared lexicon), they have been borrowed in both directions equally, which is evidence for another rare example of bidirectional borrowing.

Of interest, 58.3 per cent (n=431) of the shared lexicon contains words which were not observed beyond Garrwa and Yanyuwa. These words may be innovations originating within the language pair. They also might be words with a deeper historical relationship with related and surrounding languages, but we are not using the comparative method to reconstruct these. Meakins and Pensalfini's (2020, 12) study of Jingulu and Mudburra identified words with a similarly limited distribution. It was suggested that some of these may have appeared simultaneously in both languages as they arose within the community, rather than being borrowed from one to the other.

The distribution within other languages is unrevealing for an additional 126 words (17.1 per cent of the shared lexicon). These words typically have widespread distribution, including some that are found in languages related to both Garrwa and Yanyuwa. These words may be widely diffused Wanderwörter.

As can be seen in the tables above, there is no particular semantic pattern to the types of words borrowed in a particular direction. The situation is no different for words that could not be assigned a direction, which were found only in Garrwa and Yanyuwa, as these cover a similarly broad range of meanings. The only clear pattern is that the skin names (subsections) that were assigned no direction are diffused widely across the region, which is expected, given their known recent spread into the region. The expansion of the subsection system into regions which previously had only semi-moiety systems has been documented as occurring post-invasion (Dixon 2002, 16–18). The Yanyuwa and Garrwa of Borroloola were particularly late adopters of the subsection system, having previously used semi-moiety systems similar to those of other neighbouring groups (Baker 1999, 41–42; Raey 1962, 91–99). The subsection names are Wanderwörter and have diffused rapidly across the region after originating in the vicinity of western Arnhem Land (Harvey 2019, 113; McConvell 1985, 55).

Gender in noun borrowings

The final focus of this chapter is how Garrwa nouns borrowed into Yanyuwa are assigned a gender, and how the gender marking is handled where Yanyuwa nouns are borrowed into Garrwa.

The first scenario involves the transfer of nouns from a language that does not encode gender (Garrwa) into one that does (Yanyuwa). Many studies in the borrowing and code-switching literature show that nouns tend to be

assigned according to principles underlying the gender assignment system of the recipient language, usually semantic or formal (phonological or morphological) (cf. Corbett 1991). Other studies show a strong tendency for loanwords to be allocated to a single default gender which overrides native gender assignment principles (Deuchar et al. 2014; Jake, Myers-Scotton and Gross 2002; Liceras et al. 2008; Parafita Couto et al. 2015; Poplack, Pousada and Sankoff 1982). The default strategy does not seem to be at play in this scenario. Instead, borrowings from Garrwa to Yanyuwa are assigned gender membership to Genders 1 to 7 according to their semantics. Similarly, borrowings into Yanyuwa from Arnhem languages (Si 2019), Macassan languages (Evans 1992; Macknight 2008) and English or Kriol appear in Genders 1 to 7, particularly Gender 3 (feminine) and Gender 5 (food) (but note that Genders 2 and 4 are unmarked in Yanyuwa). This suggests that these genders containing common nouns are an open class, whereas the remainder of the genders, which contain body-part and kinship terms respectively, are a closed class.[13]

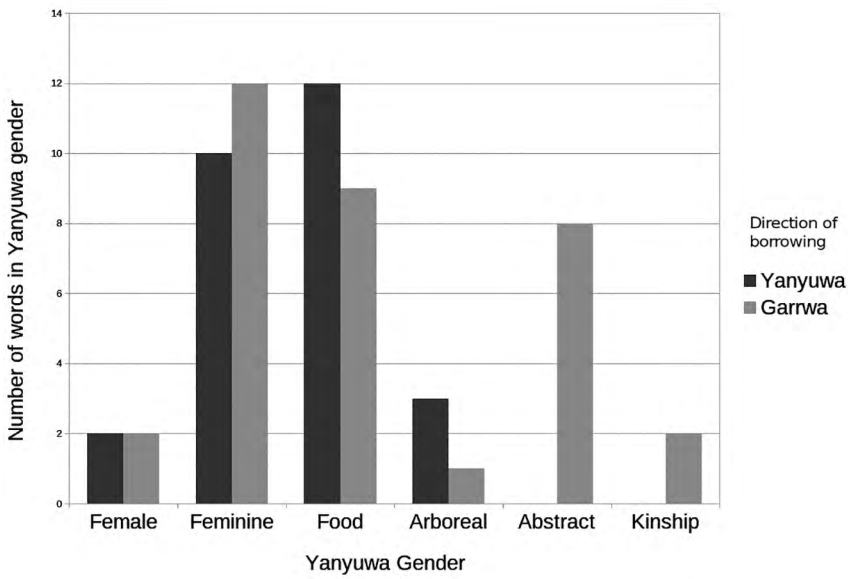

Figure 21.4: Gender distribution of nouns (including borrowed from Garrwa) present in Yanyuwa according to gender.

Source: Authors.

13 Note that earlier we suggested that these genders are probably misanalysed and are more like pronominal enclitics which would certainly make them closed classes.

The second question is what happens to gender-marked nouns from Yanyuwa that are borrowed into Garrwa. There are 226 words in the shared lexicon that are gender-marked in Yanyuwa. The majority of these words in the shared lexicon show no evidence of frozen morphology in Garrwa. Typically, the word in Garrwa is the same as the root of the noun in Yanyuwa, without its associated gender prefix (see Table 21.16), i.e. they are borrowed without gender marking in a process we call 'gender dismemberment'. Genders 2 and 4 are not presented in this table as they are unmarked in Yanyuwa.

Table 21.16: Representative examples of gender prefixes in Yanyuwa and their absence in Garrwa words of the shared lexicon.

Gloss	Garrwa	Yanyuwa	Gender
YOUNG GIRL	*wardukarra*	*a-wardukarra*	1
GALAH	*dingkili*	*a-rdinkili*	3
CYCAD NUT	*ngakuya*	*ma-ngakuya*	5
BARK DISH	*kulkarran*	*na-kulkarra*	6
LAW	*yuwa*	*narnu-yuwa*	7
BEARD	*jamuka*	*nda-jamuka*	8

Just two forms contain what may have been analysed as frozen morphemes, see Table 21.17.

Table 21.17: Potentially frozen gender prefixes in Garrwa borrowed from Yanyuwa.

Gloss	Garrwa	Yanyuwa	Gender
armband	malilkarra	ma-rilkarra	5
headpiece	makajakaja	ma-kajakaja	5

It is striking that so few words of the shared lexicon show frozen morphology, and that the vast majority have no element in Garrwa that could be interpreted as a frozen Yanyuwa class-marking prefix. Recall that, typically, words borrowed from a language that morphologically marked gender are not analysed on borrowing, and the marker becomes a frozen morpheme. Removing gender marking is rare, with only the two noted instances recorded in Australianist literature (Heath 1981b; Pensalfini and Meakins 2019).

This situation contrasts with the Mudburra-Jingulu noun borrowing scenario. Jingulu has four genders, unlike Mudburra, which has no grammatical gender. Each class has a characteristic ending: *-a* or *-ji* for masculine, *-(r)ni* or *-(r)di* for feminine, *-u* for neuter and *-mi* or *-bi* for vegetable (Pensalfini 2003). In cases where the Jingulu and Mudburra words differ only in their endings, Meakins and Pensalfini (2020) consider the words to be a part of the shared lexicon. For example, the word for a wattle species in Jingulu is *barlungbarlungmi*, but in Mudburra it is *barlungbarlung*. Pensalfini and Meakins (2019) examined 167 Jingulu nouns,[14] which are confirmed as having been borrowed from Mudburra, and 92 Mudburra nouns, which are established as Jingulu borrowings, to determine (i) how Mudburra nouns are allocated gender when they are borrowed into Jingulu and (ii) what happens to the gender of Jingulu nouns when they are borrowed in Mudburra. They find that Mudburra nouns are allocated to Jingulu genders largely on the basis of semantics, but also phonology; notably, not a default category. Where Mudburra nouns end in *-a* or *-u* and match the semantics of Jingulu masculine or neuter genders, they are allocated to these genders and do not change form. On the other hand, when Mudburra borrows Jingulu nouns, it generally borrows them with the gender marker frozen to the stem.

Discussion

The level and type of borrowing are suggestive of high levels of bilingualism. The exact nature of the bilingualism that existed within the Garrwa and Yanyuwa speakers prior to invasion is not fully understood. Intermarriage and bilingualism between Yanyuwa and Garrwa long predate colonisation, with women tending to reside with their husbands' families (Bradley 2010, 142). Indeed, the intermingling of these two groups – especially the eastern Yanyuwa clans with Western Garrwa – sometimes resulted in reconsideration of such mixed families as forming 'one mob', such as the people living in the coastal region of Manangoora, which sits at the boundary of Yanyuwa and Garrwa Countries (Baker 1990, 45). This coming together was an intensification of the pre-existing social ties between the groups rather than

14 Only nouns with gender independently determined by cross-referencing on adjectives or demonstratives were used to avoid circularity of argumentation, i.e. they do not use phonological sequences in a Mudburra noun which are interpretable as gender suffixes as evidence for the direction of transfer from Jingulu into Mudburra.

a completely new association, as the station was sited at the location where Yanyuwa and Garrwa had traditionally met for ceremony (Bradley and Kearney 2009, 466).

The findings regarding the high proportion of words from the Yanyuwa respectful speech register within the shared lexicon are suggestive of borrowing emerging via intermarriage between the two groups. Such registers are known to be routes of borrowing (Dixon 1990, 52). The exact nature of this mechanism remains open for research. Similarly, the reason for the loss of gender marking is also curious but might have been enabled by a number of genders, e.g. 2 and 4, which are largely unmarked.

There are also additional complications in this study compared to the Mudburra and Jingulu contact situation investigated by Meakins and Pensalfini. The most striking is the under-documentation of multiple languages within the region. Many of the directly neighbouring languages of Garrwa and Yanyuwa have been insufficiently documented and were not able to be included within this study. The high number of words from the shared lexicon, which are found in Wambaya but not present in Waanyi, is at least suggestive that there may have also been borrowing between Binbinka and Yanyuwa or Gudanji and Garrwa, or both.

There are some interesting features of the Yanyuwa and Garrwa lexicons that are particularly suggestive of borrowing from a Mirndi language other than Wambaya. The neighbouring languages Binbinka and Gudanji both make use of the suffix *ji* as the masculine gender marker, as does Wambaya and Jingulu to a certain extent. In Garrwa, 128 nouns end in *-ji*; Similarly, 69 Yanyuwa nouns end in *ji*. Few of those from the shared lexicon appear in related Garrwan or South Ngarna languages. With Garrwa and Yanyuwa in contact with the Mirndi languages Binbinka and Gudanji, there may be a ready source of these *ji* final nouns, if the words were borrowed with the gender marking suffix frozen in place. This would be interesting if true, because it would provide a contrast between analysis during borrowing from Yanyuwa to Garrwa with their high bilingualism, but transferring frozen morphemes from languages which were in contact but had more distant affiliation and likely lower levels of bilingualism. It would also provide evidence that the borrowing happened after the Eastern Mirndi languages shifted to a suffixing gender system from their original prefixing system (Harvey, Green and Nordlinger 2006).

Conclusion

Overall, language contact between Garrwa and Yanyuwa appears to have resulted in lexical borrowing, which is notable on several fronts. Garrwa and Yanyuwa share 739 words, which is 35 per cent of their respective lexicons. The level of borrowing is relatively high compared with many other pairs of Australian languages. The shared lexicon of Garrwa and Yanyuwa includes many core lexical items, which is indicative of an intense level of contact, rather than casual interaction between the two groups. The borrowing has been bidirectional between the two languages, and reasonably balanced between the two directions. Ninety words (12.1 per cent of the shared lexicon) are borrowed from Garrwa into Yanyuwa, and 105 words (14.2 per cent of the shared lexicon) are borrowed from Yanyuwa into Garrwa.

Acknowledgements

We are pleased to dedicate this chapter to Jane Simpson. Felicity: Jane was one of my PhD supervisors and supported my interest in colonial language contact in Australia at a time when these studies were quite marginal. Now, more and more work is being undertaken in this area, much of which is being done by Jane's past and present students. Understanding past speech community dynamics, which is the topic of this chapter, is becoming an important part of this research program. Jane was also an incredibly generous supervisor who valued the relationship between herself and her students and dedicated significant amounts of energy to supporting our career progression. I can only hope to continue her legacy, with co-authored papers with my students (for example, Rob Gill, co-supervised with Ilana) as one tangible outcome. Ilana: Jane's mentoring of linguists extends well beyond her PhD students. Although I had not worked with her before, it was Jane who suggested I apply for a postdoctoral fellowship at University of Sydney and my time working with her there during 2001 to 2006 developed me as a linguist, as a teacher, a mentor and as a white woman working with people who have been violently impacted by colonisation. Jane's example – one I try to emulate – is one of inclusivity, interest in new ideas and respect for others. Our publications on comparative word order and pronoun morphology in Australian languages are prime examples of this: how a formal linguist (Jane) and a functional linguist (me) can collaborate successfully and learn from each other. One legacy of this example is this co-authored chapter, which has emerged from Rob Gill's Honours thesis, co-supervised by Felicity and me.

Abbreviations

ABL	Ablative
ABS	Absolutive
ALL	Allative
DAT	Dative
ERG	Ergative
F	Female
KIN	Kinship
LOC	Locative
M	Macassan origin
NOM	Nominative
R	Respectful speech
SG	Singular
♀	Female speaker
♂	Male speaker

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