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Children's language input: A study of a remote multilingual Indigenous Australian community

Abstract: Indigenous children growing up in the remote regions of Australia live in multilingual communities which are often undergoing rapid language shift. In these communities, children are exposed to a range of language input, including the traditional language of the area, a local creole and Standard Australian English. The extent to which the different languages are used may vary by age of interlocutor as well as other factors. In this paper we examine the input to five children between the ages of two and four living in a small remote community. Recordings were made of each child interacting with caregivers of different ages to identify the range of language the children are exposed to. The majority of the input was in the local creole. This represents a rapid shift from the traditional language, Walmajarri, which was widely spoken when the community was established in the late 1980s. The majority of input in the traditional language came from the older interlocutors, suggesting that the language is severely endangered. Standard Australian English was used only minimally, although once they enter the formal school system, SAE will be the only language used for their education.

Keywords: child language acquisition, language input, language choice, language shift, Walmajarri, Fitzroy Valley Kriol

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1 Introduction and background

This article reports on a study conducted at Yakanarra, a remote, multilingual, Indigenous Australian community in the Kimberley area of Western Australia. The study focuses on language input to young children aged from 2;5 to 4;7, by four different age groups (older children aged 7–12, and three adult groups), as well as on language used by the focus children to these interlocutors. The study is largely a response to the fact that while language acquisition in large monolingual societies is well understood (especially for English-speaking communities), language acquisition in small-scale multilingual societies as in Indigenous Australia are relatively understudied (Wigglesworth & Simpson 2008: 14).

1.1 The context

In Indigenous Australian communities, children are brought into a 'world [which] is highly social, interactive and verbal' (Kral & Marrkilyi Ellis 2008: 156) and where they have frequent contact with a large extended family and community members. When focusing on input, then, input from this range of interlocutors must be examined together with the input from the primary caregiver(s). This is especially pertinent since, as Lieven (1994: 58) notes, most research into child-directed speech continues to focus on the dyadic mother–child interaction, despite the fact that '... most of the children in the world grow up in polyadic situations'.

Many children in Indigenous Australian communities are growing up with rapid and uncompromising language shift, loss and change in the linguistic landscape. McConvell & Thieberger (2001) suggest that of the 200–300 languages spoken in Australia before European settlement in 1788, 50 percent were lost by the year 2000. They argue that unless the current trend plateaus there will be no Indigenous languages left in Australia by 2050. Thus understanding the language children are hearing, and thus learning, is crucial. Our study is a snapshot focusing on young children growing up in a single multilingual community. Focusing on the type of language input children are exposed to by interlocutors across different ages and generations contributes to our understanding of language shift, loss and change, as well as to how children acquire language.

Since European settlement, the majority of Indigenous Australians have been multilingual, speaking their traditional language/s as well as Kriol[1] or Aboriginal English,[2] and often also some level of Standard Australian English (Mühlhäusler 1991). Australian Kriol is not considered to be a dialect of English, but a language in its own right. While this was debated in the 1980s in Australia, there is no longer any argument about Kriol's status as a language given structural differences across English and Kriol and substantial substrate influences from Australian Indigenous languages. There are also the more practical issues surrounding the lack of mutual comprehensibility between Kriol and English, as recognised by the Australian government, who invest in Kriol interpreters (see, e.g., Munro 2000 for greater discussion about Kriol as a language, and its history).

Today, particularly in remote communities, Indigenous children grow up in a complex language environment in which they are exposed to different codes to varying degrees (see, for example, the range of papers in Simpson & Wigglesworth 2008). However, multilingualism in many communities is in decline as a result of 'poor living standards and lack of opportunities in these communities, and the pressure to learn the dominant language' (Simpson *et al.* 2009: 8), as well as the relatively youthful population (which we address further below).

Three main patterns reflect changes in the use of traditional languages in Australia (cf. McConvell 2008): they may be maintained with minor changes and loss of dialect diversity (e.g. Dhuwaya [Amery 1993]); 'Teenagers' Pitjantjatjara' (Langlois 2004); a radical change may take place in which mixing of the traditional language and the more recently-introduced language (English or an English-based creole) form a new hybrid language (e.g. Young People's Dyirbal [Schmidt 1985], Modern (or 'Ultra-Modern') Tiwi [Lee 1987], or Gurindji Kriol [Meakins 2011], and Light Warlpiri [O'Shannessy 2005]). These hybrid languages are known as mixed languages (see also Bakker 1996). There may also be a shift from the traditional language to an English-based creole or a variety of English, with some retention of words and phrases from the traditional language.

Today, Indigenous Australians are far less likely to speak traditional languages, and far more likely to speak a variety of the English-lexified 'Kriol', or

1 Kriol is the specific name of an English-based creole spoken at Ngukurr in the Northern Territory, but is also used more generally for the related English-based creole spoken widely across the north of Australia with variants according to geographic location.

2 Aboriginal English is mutually intelligible with standard Australian English, and differs only in minor ways from the standard, usually in pronunciation, distinctive words or grammatical patterns (see, e.g., McGregor 2004). 'Aboriginal English' is actually an umbrella term – it varies according to the region that speakers are from.

one of the new mixed languages that have arisen in recent decades. In such cases speakers usually command a range of varieties from acrolectal (more like standard English) to basilectal (less like standard English). The rapidly-occurring shift towards these varieties may be influenced by the widespread use of code-switching as a resource in Indigenous communities. McConvell (2008: 246) argues that while code-switching can be used for social or discourse purposes, through extensive use it can become unmarked and characteristic of a group of speakers, and '[p]ervasive and relatively indiscriminate code-switching or "code-mixing" can contribute significantly to language shift when it is the only model that young children have as input when learning language'. For this reason it is important to understand both the type and quantity of input children receive in different languages.

1.2 Input to children in multilingual situations

1.2.1 Culturally-specific input practices

Research on child-directed speech has tended to focus on children from socially dominant groups, typically English-speaking participants in dyadic mother–child interactions. As a consequence, many of the assumptions about universalities relating to language input were informed largely by data from a relatively narrow group. As noted by Ochs & Schieffelin (1994: 476), '... the general patterns of white middle-class caregiving that have been described in the psychological literature are characteristic neither of all societies nor of all social groups ...'. However, increasingly there are studies which attempt to develop a more representative picture of language input to children. Some studies, while still based on English-speaking Western societies, have investigated the relationship between social class and caregiver input and behaviour, and found that children from socioeconomically advantaged backgrounds develop larger vocabularies more rapidly (Hart & Risley 1995; Hoff-Ginsberg 1991; Hoff, Laursen & Tardif 2002; Lawrence & Shipley 1996) and that there is a correlation between vocabulary development and the properties of child-directed speech produced by parents from different socioeconomic backgrounds (Hart & Risley 1995; Hoff 2003; Pan *et al.* 2005; Rowe 2008). These studies show that children from lower socioeconomic backgrounds hear fewer utterances from their caregivers, are thus exposed to less language in general and consequently have lower levels of language development compared to children from higher socioeconomic backgrounds. These differences across groups illustrate how input differs and the consequent effects on children's language. For example, Hart &

Risley (1995) showed that low SES children had comparatively lower vocabularies at age three, and this was a predictor of low performance in various areas of language in later childhood (vocabulary, and also related language skills such as reading comprehension and knowledge of syntax). With respect to caregiver language, Pan *et al.* (2005) showed that the *amount* of speech (e.g. maternal 'talkativeness') did not impact on child vocabulary knowledge, but maternal literacy skills and language aptitude did. Pan *et al.* are also careful to point out that communication with young children involves a host of factors, not just spoken language, suggesting it is 'a total package of verbal and nonverbal, linguistic and emotional interaction' (2005: 778). This is similar to Hoff-Ginsberg (1991), who showed that total interaction time in various contexts also assisted child language development. Nevertheless, it is important to understand exactly how input differs, and Hoff (2003) also found a difference in the amount of speech used across socioeconomic groups, specifically showing that the number of words and word types used, as well as MLU, were lower for caregivers from low socioeconomic backgrounds.

Rowe (2008) investigated *why* there are input differences between parents of different socioeconomic backgrounds, and found parental beliefs about child language development to be a significant predictor of child-directed speech. Rowe also notes (2008: 186–187) that the link between parents' beliefs about child language development and their communicative behaviour with children is supported by cross-cultural research on language socialisation.

The role of cultural beliefs and practices in determining language input was apparent from Heath's (1983) observations that within a low socioeconomic sample from the same region of the United States, African-American parents expressed beliefs that children would talk of their own accord and did not view them as communicative partners, while Caucasian parents perceived themselves as having an active role in their children's language development and consequently tended towards more verbal engagement. Differing 'impact beliefs' (De Houwer 1999, 2009) are also found amongst Gusii mothers in Kenya (Richman, Miller & LeVine 1992; LeVine 2004), whose communicative behaviour with infants is minimal because they believe that infants are too young to understand speech, and the Gapun in Papua New Guinea (Kulick 1992), who believe that children learn through their own will. Ochs & Schieffelin (1994) have also compared interaction in three different societies from an ethnographic perspective. They analysed the way white middle-class Americans tended to engage in child-directed speech (and how children tend to respond), compared with Kaluli (from Papua New Guinea) and Samoan caregivers. Beyond the observed cultural differences in input styles, they note that white middle-class child–caregiver interactions are typically dyadic, whereas in Kaluli and Samoan societies inter-

actions tend to be 'tryadic or multiparty' (Ochs & Schieffelin 1994: 93). The analysis of the three cultures revealed that simplified speech to children was not universal, and they concluded that interaction between children and caregivers was patterned by culture, and 'constrained by local expectations and the values and beliefs that underlie them' (Ochs & Schieffelin 1994: 501).

Similarly, Lieven's (1994) review of cross-linguistic and cross-cultural studies of language input to children and aspects of language socialisation shows the polyadic nature of interaction in many cultures, supporting the view that child-directed speech from adults to young children is far from universally uniform. Despite the vast differences in environmental factors reported across different cultures, Lieven finds that the (relatively minimal) research from other cultures supports large-scale findings for primarily English-speaking societies that children tend to learn language at around the same time, and in 'routinized situations' where adults typically teach them what to say. Recent research by Bornstein & Hendricks (2011) has also shown that language comprehension and production correlates with socioeconomic status. This research investigated parent reports about their child's language using a sample of over 100,000 children from 16 developing nations. These findings are based on numerous groups/languages from Western Europe, Africa, the Middle East and Asia, and the findings support the research based on English-speaking Western societies discussed further above, which shows that lower standards of living in general mean slower language development.

1.2.2 The 'kid mob'

While adult input is crucial, it is certainly not the only model that children hear when learning to speak. For most children, siblings, kin and other youngsters in their community also provide models although their degree of exposure to other children varies across cultures.

In Indigenous Australian communities, older children not only play with and interact with younger children, but are also expected to take on some responsibility with respect to looking after them in the community. This means that for many older children, a large proportion of their daily interactions are likely to take place with other children. Hamilton (1981) explored child-rearing practices in Arnhem Land and observed that while children are generally kept close to adult caregivers in the first 18–24 months of life, from the age of 2 they are absorbed into a peer group of related children and 'expected to adapt rapidly to new circumstances, to accept the peer group as the most significant force in its daily life, and to look to other children rather than mother or father

for support and learning experiences' (Hamilton 1981: 100). These early-childhood peer groups become the more structured 'kid mobs' common for children aged 5–9. Kid mob activities tend to take place further away from communal areas and from adult social activities (Hamilton 1981: 112), meaning that interactions with adults become less frequent. While the children play with various classmates at school regardless of affiliations, their after-school and weekend activities take place in kid mob groupings, determined by common language and kinship ties (1981: 103). These groups remain important for older children and adolescents, and Schmidt (1985) observed that in North Queensland, these types of affiliations correlated with different stylistic preferences for ways of speaking Young People's Dyirbal. Because kid mobs are a focal part of everyday experience for Indigenous children, and likely involve communicative behaviour that differs from that taking place with adults or in the school-ground, language input amongst children is an important consideration in the Australian context.

1.3 The community and the languages spoken

Yakanarra consists of about 30 houses in the far north of Western Australia, 110 kilometres south-east of Fitzroy Crossing in the Kimberley region. The community is typical of a remote rural community, with the majority of residents being Indigenous, and the few non-Indigenous residents working in the school, community centre, or shop. Yakanarra was established in 1989 by Walmajarri people, the oldest of whom had left their traditional country and hunter-gatherer way of life in the 1950s. At the time the community was established, Walmajarri was the language of the people. By 2006,[3] less than 20 years later, Kriol had displaced Walmajarri as the main language of everyday talk. However, Walmajarri is still spoken to some degree, mainly by the older members of the community (see, e.g., Moses 2009). We know that children here have some limited receptive knowledge of the language (Loakes, Moses, Wigglesworth & Simpson 2012). To a lesser degree, Standard Australian English[4] is also spoken in the area, typically in formal contexts, and with non-Indigenous people (see, e.g., Wigglesworth & Simpson 2008: 20). Similarly to many Indigenous Australian communities, in Yakanarra, Standard Australian English is heard in a num-

3 When the third author was carrying out fieldwork.

4 We use the term 'standard Australian English' to distinguish this from Aboriginal English, which is spoken in many regions of Indigenous Australia (see, e.g., Eades 1996; Butcher 2008 – also see footnote 2 above).

ber of contexts. As in many Aboriginal communities, some Indigenous people are able to use Standard Australian English more or less fluently, and do so when it is required, for example, in their vocational context or when shifting code to suit their interlocutor (when dealing with government departments or other non-Aboriginal organisations, for instance). Additionally, Aboriginal people are exposed to media where Standard Australian English is the norm – television, films and speech and music on the radio. In addition, school is conducted entirely in standard Australian English (see Wigglesworth, Simpson & Loakes 2011 for a discussion of the issues surrounding this).

The language situation in Yakanarra is thus complex. Both Standard Australian English and Aboriginal English will be encountered in some contexts, and these have relatively minor differences between them. Kriol, however, while sharing much of the lexicon (although there are phonological differences) is structurally distinct from both Englishes and Walmajarri is different from all of these.

Walmajarri is a south-west non-Pama-Nyungan, case-inflecting language (with four cases), and freely variable word order with semantic relations distinguished through the suffixing system. Its phonemic inventory is very different from English with five stops and nasals, three laterals and approximants and a single rhotic.

As mentioned, the creole spoken in the region is referred to as *Kriol*, and the specific variety in Yakanarra as *Fitzroy Valley Kriol*. It is an English-lexifier creole, and like English has SVO word order. However, some of its key features are very different from English – for example, there is no verbal auxiliary, no past tense marker (instead *i bin*) and there are no gendered pronouns. Meakins (2008: 293) describes Kriol as being similar to English in its 'paucity of morphology' by comparison with traditional Australian languages – nouns and verbs take only a small number of suffixes.

In Yakanarra, the youthful population is a contributing factor in the rapidity of language shift from Walmajarri to Kriol. In Indigenous Australia generally, older people are more likely to speak a traditional language than young people (see, e.g., ABS 1999), and table 1 shows census figures which indicate just how youthful the Yakanarra population is. In 2001, at the time of this census, 65 percent of the population was under 24, with only just over 10 percent over 45. Although the current population is now larger, at around 180, these proportions have generally been maintained.

In sum, what is currently known about language use across generations in Indigenous Australia is that young people tend to speak Kriol and that older people tend to speak the traditional language. There are also comparatively few older people in Indigenous communities generally due to the high birth rate

	Indigenous			Non-Indigenous		
	Males	Females	Persons	Males	Females	Persons
Total persons	53	54	107	7	7	14
0–4 years	10	5	15	0	0	0
5–14 years	13	10	23	0	0	0
15–24 years	10	22	32	3	0	3
25–44 years	16	9	25	3	3	6
45–64 years	3	7	10	3	3	6
65 years and over	3	0	3	0	0	0

Table 1: Census figures for Yakanarra, 2001 (Western Australian Planning Commission).

and premature deaths in these communities (ABS 2011). Fewer older people means less traditional language input to children, and less traditional language input hastens the shift to Kriol. While we know that the use of the traditional language has declined rapidly in the Yakanarra community, that there is generational difference amongst speakers, that children hear (and can understand) various languages around them, we do not know what proportions of these languages children in Yakanarra are exposed to in their everyday lives.

2 Aims

The current study provides a snapshot of language use in Yakanarra through an analysis of the input children receive from a range of interlocutors. The data analysed are a subset of data collected in the first phase of a longitudinal study, The Australian Child Language Acquisition project (ACLA),[5] now in its second phase. The first phase of the project focused on caregiver input to young Indigenous children, and the children's language development. The children were between 18 months and two-and-a-half years at the beginning of the project and data were collected over a four-year period. The project was motivated by our poor understanding of the language situation in remote Australia, and particularly in relation to children's language acquisition (Wigglesworth & Simpson 2008: 14).

5 The first phase of this project is described in greater detail in Wigglesworth & Simpson (2008, see esp. pp. 19–27). The second phase of the project, currently underway, is another four-year study investigating the issues faced by Indigenous children as they enter the formal school system where they encounter Standard Australian English, of which they often have little knowledge, as well as significant cultural differences.

As suggested by Tomasello & Mannle (1985: 916), 'research should investigate more thoroughly the nature and the effects of the total range of language models available to beginning language learners'. This is all the more pertinent in bilingual and multilingual societies and those where children have a social upbringing with a wide range of caregivers, such as in Indigenous Australia.

The aim of this study was to identify the language(s) young children in Yakanarra are exposed to from different aged interlocutors, and in turn the languages they use with different aged interlocutors. We included children in the interlocutor group because in Yakanarra young children regularly spend time in the company of older children, and as mentioned, the 'kid mob' is an influential group.

The type of language spoken by children and adults in Indigenous Australia is of key concern for many reasons. Multilingualism is in decline, and we have a general sense of the fact that young children in Yakanarra are rarely hearing or using the traditional language, Walmajarri. We know, though, that they are able to recognise Walmajarri lexical items (Loakes, Moses, Wigglesworth & Simpson 2012). Additionally, we know that preschool-aged children rarely hear or use standard Australian English (aside from in very specific social situations), except in the formal school environment (see, for example, the discussion in Wigglesworth, Simpson & Loakes 2011).

So what languages *do* children in Yakanarra hear and use in their everyday life with their close networks? In the current paper, we quantify the extent to which speakers of different ages interact using the three languages spoken in Yakanarra (Kriol, Walmajarri and standard Australian English) to gain a more complete understanding of the language situation in the region.

We acknowledge from the outset that deciding whether a speaker is using one language over another is fraught with issues. However, this is identical to that found in the Ebonics debate in the US (e.g. Green 2002), and we have used both an informed and consistent method for separating out the three languages used by participants (see section 3.3).

3 Method

3.1 The corpus, recordings and sociolinguistic setting

Recordings were made of children every six months for a period of four years between 2003 and 2007. At the beginning of the project the adult participants were told that the ACLA project was collecting recordings that captured their everyday speech with their children. Instructions were minimal, and partici-

pants were asked to speak to the children as they would normally. They were given no other instructions. Toys and textless books were used in order to stimulate talk in general, not to elicit any particular language feature, such as questions. This was not unusual for the participants in the study, who all engaged with the materials with interest. Most of the toys and textless books were provided by the researchers were new to the children. The books contained images of the actual community, with pictures of both Indigenous children and adults engaged in everyday activities. Toys are not unfamiliar in this community, and the children's home environments all have books and toys scattered around. In this respect, we know that toys and books are indeed culturally appropriate tasks for the children. The choice of material for each session was largely based on the need to engage the child, to provide a variety of activities for each child across the sessions and to ensure that all children shared the same activities across the sessions. It was the children's interests which determined the choice of material. Those toys and textless books which were most successful in engaging the children were used in the sessions. Although the amount of time that participants spent with any one toy or book varied from child to child and from session to session, each child was exposed to each toy or book at least once.

The recordings for the current study were made in 2004, by the second author who was well known to the children and their mothers, as well as other participants, having previously lived and worked in the community. At the time of the research she was making regular visits to the community from the University of Melbourne where she was carrying out her doctoral research. Locations were selected by the participants, and included homes, community houses and spare rooms at the kindergarten and school (also see Moses & Wigglesworth 2008 for further information). It was the policy of our ACLA project to record Indigenous research assistants where possible, although this was not possible in Yakanarra due to the lack of a suitable candidate. Through necessity, the researcher usually spoke English in the community, but gained increasing knowledge of Kriol as the study progressed and had some minimal knowledge of Walmajarri.

As with any linguistic study, the observer's paradox (Labov 1972) is always an issue. However, we made attempts to mitigate this through the experimental design. The recording sessions were relatively long and regular (occurring as they did with mothers and children every six months over a four-year period). The fact that the sessions also included pre-school age children meant that sessions were more likely to reflect natural language choices. All sessions were dominated by the children – their moods, their attention spans, their responses and their physical needs. For example children would swear, would demand to be taken to the toilet, would throw objects and would, of course, also enjoy

interacting with their caregivers. There is no evidence that the language choices made by them or their caregivers differed in the recording sessions from choices that would have been made in a similar context without the researcher and the recording devices. This is borne out in the results, where standard Australian English is virtually never used by participants, despite the fact that the researcher was present in almost all cases and spoke standard Australian English, and despite the fact that many of the adult participants can speak standard Australian English. This is discussed in greater detail below.

While the ACLA study included adult–child interactants, we also recruited some older children so that we could analyse child–child interaction. The interlocutors for this study fell into one of four age groups: 7–12, 19–34, 35–50 and 50+. The child interactants were young enough to be categorised as children as opposed to adolescents/young adults, and old enough to understand what was happening. For the adult groups, we reasoned that sampling (relatively) young, middle-aged and 'older' adults would give a good representation of the various adult groups that children interact with.

The corpus used in this analysis comprises 5 children interacting with four different aged interlocutors, and thus there are twenty transcripts of 100 lines each in CHAT format (MacWhinney 2007) (see section 3.3). Transcripts were produced from video and audio-recorded interactions between five focus children interacting with one interlocutor from each age group, as in figure 1:

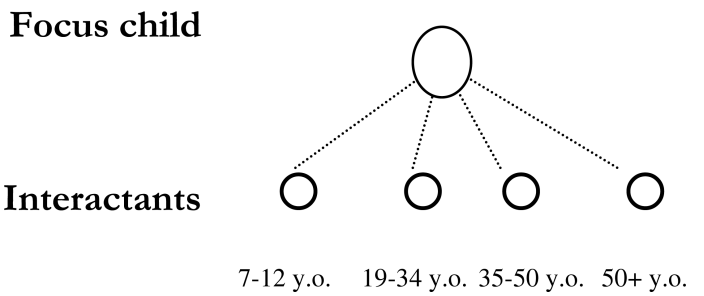

Figure 1: Participants' age groups.

3.2 Participants

The five focus children range from 2;5 (Evan) to 4;7 (Olivia), three are female and two are male. There are 19 interactional partners in total, sixteen females and three males. One interactant (O35) participated twice because she was the mother of two of the focus children (Olivia and Michael). Coincidentally, all interactional partners of the female focus children are female, and the three male participants are interactional partners of the two male focus children. In this community, both men and women interact with children regularly, but the most common interactional situation for children is within the 'kid mob'. For each focus child, one interactant is their mother, four of whom are in the 35–50 year old age group, while the mother of one child (Emily) is in the 19–34 year old age group. The participants are often engaged in a range of similar activities – playing with toys or plasticine, interacting with stories, or both. However, while the tasks are similar, the time spent on each is not, and not all participants interact with the same toys or books.

Details are provided in table 2. Columns one, two and three indicate the child's pseudonym, age and sex. The remaining four columns indicate the interactants' code, age, sex and relationship to the focus child in each of the four age groups. Interactant codes relate to both their age group, and the focus child. So, for example, Olivia's sister who is seven years old, has the code O7, her cousin, who is 19 years old, has the code O19, and so on. While attempts were made to record the focus children with only one other interactant exclusively, this was often not possible. In the end, eleven of the twenty transcripts analysed involved only the caregiver and focus child. Other community members who were present during the other sessions are also indicated in table 2. For example, when the first focus child in the cohort, Olivia, is interacting with her mother, two other people are present; this is indicated by '+2' in column 6 of the table. The remaining sessions consisted of the interactional pair and other community members (often other children or babies). The researcher was present at all recordings except one, but did not interact verbally.

In the interests of a balanced data set, we made the decision not to analyse the interaction of additional community members present. Often the other interactants were young babies, or interested parties watching the proceedings, who rarely interacted with the child during the sessions and who were generally not present for the entire recording.

3.3 Analysis

All data were entered and coded in CHAT (MacWhinney 2007), and each morpheme was coded as Walmajarri, Kriol or English. This was done by the second

Column 1	2	3	4	5	6	7
Focus child			Participants			
Pseudonym	Age	Sex	7–12	19–34	35–50	50+
Olivia	4;7	F	code: O7 age: 9 sex: F r/ship: sister activity: playing with toys others: none	code: O19 age: 20 sex: F r/ship: cousin activity: reading others: none	code: O35 age: 38 sex: F r/ship: mother activity: playing wth toys others: +2	code: O50 age: 61 sex: F r/ship: grandmother activity: playing with toys others: +2
Emily	4;6	F	code: EM7 age: 12 sex: F r/ship: cousin activity: reading others: none	code: EM19 age: 30 sex: F r/ship: mother activity: reading others: none	code: EM35 age: 37 sex: F r/ship: family friend activity: reading others: none	code: EM50 age: 55 sex: F r/ship: grandmother activity: reading others: none
Katy	3;7	F	code: K7 age: 10 sex: F r/ship: cousin activity: playing with toys others: none	code: K19 age: 21 sex: F r/ship: cousin activity: playing with toys others: none	code: K35 age: 43 sex: F r/ship: mother activity: general talk others: none	code: K50 age: 58 sex: F r/ship: grandmother activity: general talk others: +3
Michael	3;0	M	code: M7 age: 7 sex: F r/ship: playmate activity: playing with toys others: +1	code: M19 age: 22 sex: M r/ship: family friend activity: playing with toys others: +4	code: O35 age: 38 sex: F r/ship: mother activity: playing with toys others: +1	code: M50 age: 63 sex: M r/ship: uncle activity: reading others: +2
Evan	2;5	M	code: KEL age: 9 sex: M r/ship: brother activity: reading, playing with toys others: +1	code: EV19 age: 19 sex: F r/ship: sister activity: playing with toys others: +1	code: EV35 age: 46 sex: F r/ship: mother activity: reading others: none	code: EV50 age: 70+ sex: F r/ship: grandmother activity: playing with toys others: +2

Table 2: Interaction details.

author immediately after the field trip, and was subsequently analysed again by the first author, a trained phonetician. As will be seen throughout the analysis, a consistent orthography was used to reflect each language spoken.

As noted above, Kriol speakers utilise forms along a continuum, and they may alternate between these in different contexts. The situation is similar to that of African American Vernacular English (AAVE) in that the vernacular and the standard exist on a continuum, with AAVE sharing progressively more features with standard English as the variety used becomes more acrolectal (Green 2002). DeBose (1992) found this feature-sharing to be a methodological obstacle to assessing patterns of code-switching between AAVE and SE (Standard English), noting the 'the practical difficulty of establishing that one code or the other is the matrix system for a given instance' (1992: 166), and similar difficulties existed for the present study. DeBose (1992) chose to categorise utterances as AAVE when they were compatible with descriptions of grammatical, lexical and phonological characteristics of the variety, contained markers or elements that would be ethnically-marked in SE usage and did not contain any marked SE features, and noted that this approach to code identification matched speakers' intuitions about which code they were using.

Descriptions of a variety are clearly useful tools for code identification, but it is also important to have a general familiarity with the language varieties being used, and how they tend to be used by speakers. Green (2011) and Rickford (1999), for example, caution against complete reliance on feature lists for AAVE code identification, because these tend to incorporate features that are maximally different from standard English, leading to erroneous analyses where features that overlap are coded as part of the standard. While researchers might not then rely on feature lists, AAVE research is nonetheless fortunate in being able to be able to draw on the large amount of descriptive work that exists for the variety, much of it comprehensive and recent (Green 2002, 2011; Rickford 1999), and also incorporating descriptions of developmental AAVE used by children aged 3–5 (Green 2011). Unfortunately, the same cannot be said for the situation in Australia. There is no comprehensive descriptive work on Kriol, let alone its varieties, but the work that does exist, coupled with familiarity with the languages in the region,[6] allowed us to confidently separate the languages used.

For Kriol, the orthography used in the transcription is a standardised system developed by Sandefur (1979) and later expanded for use by Lee (2004) in a *Kriol–Ingglish Dikshenri* (Kriol–English Dictionary). As illustrated by its name,

6 As mentioned, the second author had lived in the community and was a regular visitor to the region. She collected the data and coded and analysed it in the first instance.

the dictionary's orthography uses phonemic principles (for example, 'ng' is /ŋ/ and 'ngg' is /ŋg/), giving a general representation of the sound system. The Kriol orthography used can be considered a shallow orthography (see, e.g., Lüpke 2011). However, as mentioned, Kriol varies along an acrolectal–basilectal continuum, so the amount of variation used by speakers is not reflected.

For Walmajarri, we used the standardised orthography developed by Hudson & Richards (1978), which, along with Kukatja, is said to be the best-developed orthography in the Kimberley region (McGregor 2004: 22).

Example (1) exemplifies our coding for both Kriol and Walmajarri. In this case, two distinct languages are used by two different speakers in interaction (there is no code-switching within each speaker's turn). This is an aside in the interaction between Katy and her grandmother K50 (where Katy's mother K35 is present). Prompted by concern about what she should be doing for the recording, K50 asks K35 which language to use. K50 uses Walmajarri, while K35 answers in Kriol:

(1) *Katy's mother K35 and grandmother K50*
*K50: *nyapartukarra parlipa wangki marnu ngu nyapartukarra?*
('which way should we speak, which way?')
*K35: *yu garra tok eni kain.*
('you can talk any way')

As seen in example (1), and mentioned earlier, it is possible for conversational partners in Yakanarra to use two distinct languages. As mentioned, code-switching also occurs regularly (as will be seen in some examples throughout the results section). Varying language use was dealt with in our analysis by using a different code for each language on a separate line within the CHAT program. As noted in the CHAT manual (MacWhinney 2007: 89):

> The exact identity of the second language can be coded as needed. For example, words in French could be noted as @f and words in German as @g. In the limiting case, it would be possible to mark every single word in a French–German bilingual transcript as either @f or @g. Of course, doing this would be tedious, but it would provide a complete key for eventual retrieval and study.

Use of this method allowed us to adequately account for code-switching.

Due to the variability in Kriol, some caveats on our method for language coding are required. Apart from preliminary work by Hudson (1985) no definitive description of the Fitzroy Valley Kriol lexicon exists, so that it is not always straightforward to determine which Walmajarri and English words have been incorporated into Kriol as loan words (and so would be coded as Kriol), and which are simply the product of code-switching (and so would be coded as

Walmajarri). For this analysis, therefore, words with a Walmajarri phonological structure are counted as Walmajarri words, and words which are spoken with standard English pronunciation (evidenced by style shift in a very few instances) are counted as English words. There are also a number of cases in which Kriol grammatical structure clearly demarcates the forms used as Kriol, a feature of the acrolectal–basilectal continuum. We have collapsed all Kriol forms into one category, despite the fact that speakers vary along the acrolectal–basilectal continuum with respect to this. We acknowledge that the analysis requires further exemplification, and we provide further examples of how we dealt with coding issues early in the results section.

With respect to coding, in general, what is coded as Walmajarri is unequivocally Walmajarri, what is coded as SAE is also unequivocally SAE. While it was generally easy to distinguish English and Kriol forms, the coding for Kriol is less absolute given the lexical overlap between the varieties. This means that SAE may be slightly under-represented in the analysis.

4 Results

The table below shows the average proportion of Walmajarri, Kriol and English morphemes used by the focus children in interaction with the varying age groups.

	Walmajarri	Kriol	English
interloc. child (7–12)	0	99.7	0.3
19–34	2	95.7	2.3
35–50	1.5	96.6	1.9
50+	16.1	82.8	1.1
average	4.9	93.7	1.4

Table 3: Average proportion of morphemes per language (focus children).

It is clear that the primary language of these children is Kriol. English is used only minimally, and Walmajarri only slightly more, and almost exclusively with the 50+ interlocutors who have a marked decrease in the amount of Kriol they use, at an average rate of 82.8 percent. Conversely, use of the traditional language is markedly higher, at 16.1 percent.

In this dataset, the small amount of English used is typically at the start of the recordings, around the time that participants had been talking to the

researcher before the recordings began. This suggests some very minimal influence by the researcher. When Walmajarri is used, it is very commonly used for labelling nouns (as will be seen in the data extracts).

Table 4 shows the average proportion of Walmajarri, Kriol and English morphemes used by the interactants from each age group in their communication with the focus children:

	Walmajarri	Kriol	English
interloc child (7–12)	1.5	97	1.5
19–34	2.1	97.2	0.7
35–50	8.1	89.5	2.4
50+	33.2	66.1	0.7
average	11.3	87.5	1.2

Table 4: Average proportion of morphemes per language (interactants).

Kriol is clearly the primary language of the interactants and is used almost exclusively by the younger groups. There is an increase in Walmajarri in the 35–50 year age group, with a very marked increase to almost a third by the 50+ group. Standard Australian English is used minimally by all groups, and again similarly to situations described above.

The language use by the focus children reflects the language used by their interlocutors and is proportionally similar to that of their interlocutors. Thus, where Walmajarri is spoken to the focus children, a greater proportion of Walmajarri is elicited from the children. However, children still often reply in Kriol to Walmajarri speech from interlocutors, which explains the lower rates of Walmajarri usage amongst the focus children.

Example (2) shows how this occurs. Similar to example (1) shown earlier and the situation described by Meakins (2008), Katy speaks entirely in Kriol to her grandmother, yet the response from her grandmother is entirely Walmajarri:

(2) *Katy 3;7 and grandmother K50*
Katy: *ai dis dis ting iya.*
I this, this thing here
('what's this thing here?')
*K50: *wara minynarti na nguniny yarr pa lampilampilu xxx.*
('oh boy this one exists only bush medicine [final word unintelligible]')

Without hearing Katy's utterance, it might be argued that *dis* and *ting* could be the result of normal phonological processes that could occur in English first

language acquisition.[7] However, what is represented orthographically as 'd' for the initial consonant of 'this' and 't' in 'thing' are not actually typical phonemes found in standard English acquisition. The Kriol words *dis* and *ting* are written as such due to standard procedures (cf. Lee 2004), but are both actually pronounced variably, between a voiced dental stop or a voiceless unaspirated dental stop (see, e.g., Butcher 2008: 628). The variation in Kriol voicing occurs because Australian languages do not have a voicing contrast (having many place of articulation contrasts instead, especially for plosives and nasals).

In Yakanarra, Walmajarri use clearly increases with age. However while these trends are evident, there is wide variation in the actual proportions of usage as can be seen in table 5:

	Child	Partner 7–12	Child	Partner 19–34	Child	Partner 35–50	Child	Partner 50+
Olivia 4;7	0	1.8	2.3	0.8	4.5	8.5	0	6.7
Emily 4;6	0	1.5	5.2	1	1.5	3.9	1.7	5.3
Katy 3;7	0	3.9	2.7	3.7	0	2.2	0	17.2
Michael 3;0	0	0	0	2.4	1.3	4.3	70.8	45.7
Evan 2;5	0	0.4	0	2.8	0	21.2	8.2	30.9
average	0	1.5	2.0	2.1	1.5	8.0	16.1	21.1

Table 5: Individual values – Walmajarri.

Walmajarri is not used at all by the focus children when they interact with other children. However, most of the interlocutor children use a small amount of Walmajarri in speaking to the focus children. In their interaction with the 19–34 year olds, three of the five focus children use some Walmajarri, but again this is very limited.

Amongst the 34–50 year olds, all speakers use some Walmajarri, but there is considerable variation. For example, Katy's mother uses minimal Walmajarri (2.2 percent) while Evan's mother incorporates more than 20 percent. Olivia's mother uses the second highest proportion at only 8.5 percent. This is where individual factors come into play – Evan's mother is the Walmajarri teacher at the school. However, despite the high proportion of Walmajarri used by his mother, Evan uses no Walmajarri at all. Participants in the oldest age group consistently use more traditional language ranging from 5.3 percent up to 67 percent.

7 We thank an anonymous reviewer for drawing this to our attention.

For the focus children, there is a wide range in traditional language usage when interacting with these older speakers. Olivia and Katy use no Walmajarri at all, Emily uses only 1.7 percent, Evan uses 8.2 percent and Michael uses 70.8 percent. Michael's proportions are high because he and his caregiver M50 are labelling items in a book. M50 first names them in Walmajarri, which is in turn repeated by Michael (typically verbatim). Additionally, Michael uses relatively low numbers of words overall. Comparison of table 2, which shows the activities participants were engaged in, and table 5, which shows the proportions of language use according to each pair, suggests that there is no correlation between activity and the language participants use.

Further examples of the way participants of different age groups tend to use language follows. In extract (3), Katy and her 7-year-old cousin are talking while playing with toys. Katy's language is entirely Kriol, and her cousin's is almost entirely Kriol except for the Walmajarri tag question *payi* 'is that OK?' shown in the last line of the extract:

(3) *Katy 3;7 and cousin K7*
Katy: *ai m meik im wan lil wan tedibeya.*
('I'm making a little teddy bear')
K7: *mami wan dedi wan en beibi wan.*
('a mummy one, daddy one and baby one')
K7: *wat mi en yu meik im wan moa taim?*
('what will me and you make one more time?')
K7: *mi en yu meik im butifel badaflai payi?*
('me and you will make a beautiful butterfly, is that OK?')

A starkly different example is given below in (4). This is an extract from the interaction between M50 and Michael, and is reflective of most of their communication throughout the session. M50 has an instructive style, naming items in a book as Walmajarri and waiting for Michael or the other child present (Katy) to respond. All nouns used by M50 are in Walmajarri, while the phrases *yuno wat* 'you know what' and *lil wan* 'little one' are Kriol:

(4) *Michael 3;0 and uncle M50*
*M50: *parnany.*
('old woman')
*Michael: *parnany.*
('old woman')
*Katy: *parnany.*
('old woman')
*M50: *parri.*
('boy')
*Michael: *parri.*
('boy')

*Katy: *parri.*
('boy')
*M50: mm
*M50: *yuno wat parri?*
('do you know what "parri" is?')
*M50: *lil wan parri.*
('little boy')

Another example of how older speakers interact with the focus children in Walmajarri can be seen in (5) below with Olivia and her grandmother, O50 (who are playing with dolls/figurines). Olivia speaks solely in Kriol, while her grandmother code-switches. In contrast to other examples shown so far, O50 uses Kriol nouns, *pigpig* 'pig' and *tarrki* 'turkey' but frames her question to Olivia in Walmajarri:

(5) *Olivia 4;7 and grandmother O50*
*Olivia: *hold -im iya.*
('hold [trans] here')
*O50: *pigpig.*
('pig')
*Olivia: *iya hold -im dedi wan.*
('here hold [trans] the Daddy one')
*O50: *ngana minyarti tarrgi?*
('what's this a turkey?')

In extract (6), there is an example from one of the younger adults, whose speech is mostly Kriol, with one item, again a noun, in Walmajarri. This example also has clear Kriol grammatical structure in the first line (and incidentally, mimicry from Emily):

(6) *Emily 4;6 and mother EM19*
*EM19: *i bin get trip.*
('he got tripped')
*Emily: *i bin get trip.*
('he got tripped')
*EM19: *from det mana.*
('from that stick')
*Emily: *from det mana.*
('from that stick')
*EM19: *en tu tjeis im ap bat.*
('and those two were chasing [trans] him/her')
*Emily: *ye.*
('yeah')

5 Discussion

We set out to provide a snapshot of language input to, and use by, young children in Yakanarra, a remote community in the north west of Australia. While there is certainly some individual speaker variation, we have seen clear trends in the languages that interlocutors use with young children. With respect to language choice, the findings were in line with our initial observations about language use in Yakanarra, and also what has been observed in Australia more generally. That is, the use of the traditional language declines according to speaker age. Kriol was used overwhelmingly by the younger participants and was also relatively common amongst the older participants. Code-switching between Walmajarri and Kriol was most common amongst the older age groups, particularly by the participants aged over 50. On average, Walmajarri usage increased with the age of the interactants. The oldest age group used one-third Walmajarri in their interactions with the focus children and two-thirds Kriol, while the other groups all used less than 10 percent Walmajarri. That older speakers use less Walmajarri is unsurprising, given that older people (of whom there are relatively small numbers in Yakanarra) have acquired Kriol as a second or subsequent language.

English was rarely used, either by the interactants or the focus children. Where English was used, this was most likely a methodological effect, occurring close to the beginning of the sessions after interaction with the researcher. The lack of standard Australian English usage is unsurprising because, as mentioned, English tends to be reserved for formal situations or for use with non-Indigenous people. Kriol is, thus, the language of the community.

At the beginning of this study, we flagged the importance of intergenerational transmission in maintaining languages (e.g. Fishman 1999, 2001; King, Fogle & Logan-Terry 2008). Our research has contributed to knowledge in linguistic behaviour amongst people in Yakanarra, showing that language shift towards Kriol is indeed extremely rapid. While there are efforts towards maintenance of Walmajarri in the community, and mainly in the school (e.g. Loakes, Moses, Wigglesworth & Simpson 2012), this is inconsistent with actual language practices, at least amongst the majority of participants we sampled. Before embarking on the study, we already knew that when the community was formed in 1989, community members spoke Walmajarri as the main language, and that now Kriol is the main language used. However, we did not know how this played out quantitatively. In the data presented here, we have seen that Kriol is the primary language that children hear, even from older people who did not learn Kriol from birth. Following arguments by Gafaranga (2010) and Luykx (2005), this suggests that the younger people (including very young children)

in the community may be successfully socialising the older people in language choices, another contributor in language shift.

Still, Walmajarri *is* used in Yakanarra in interaction with children. Our results support the idea that children's acquisition of social knowledge contributes to their decisions about appropriate language choice, and that children know when it is appropriate to mix codes, based on their interlocutors' codes and expectations, as discussed by Lanza (1997). This was seen in the way that young children used the traditional language. When they used Walmajarri, it was almost exclusively with the older interactants. They rarely used Walmajarri with younger adults, and never with the older children (despite the fact that the older children used occasional Walmajarri words and phrases). This makes it easy to see how language shift will continue to occur, given that children's social lives revolve around the kid mob, where adults who may speak some Walmajarri are not present.

Another factor not yet mentioned is the belief by some researchers that a child's *own* output acts as a source of input (e.g. Elbers 1987). In this case, the focus children's use of Kriol over Walmajarri (whether conscious or not) may be viewed as another reinforcement of Kriol and another contributor to language shift.

With respect to English, children hear and use just over 1 percent English across their interactions. This will be problematic for their future educational experience, which will be conducted primarily in standard Australian English, a policy which leaves little prospect of success for any language maintenance programme and which has negative implications for those children who enter school speaking only a traditional/mixed language or Kriol (such as the Yakanarra participants) (Wigglesworth & Simpson 2008). Much more research is required to understand Yakanarra children's level of English, in both formal and non-formal situations, and on the relationship between Kriol and English. It is equally clear that these children need to be recognised as second language learners, with teachers trained in second language learning. This is largely not the case at present (see, for example, Moses & Wigglesworth 2008).

With respect to language ideologies, the data suggest that there may be conflicting beliefs amongst community members, as reported in past research on Indigenous communities (i.e. King 2000 for Indigenous people in the Ecuadorian Andes; House 2002 for Navajo people in the US). There are examples in our data, similar to the situation reported by Meakins (2008) for Gurindji, where a child will be spoken to in Walmajarri yet answer entirely in Kriol (e.g. Katy and her grandmother in extract [2]), or where the child speaks entirely in Kriol and gets a response in both languages (seen for Olivia and her grandmother in extract [5]). The comments by K50 (seen in extract [1]), where she asks which

language to use (and ultimately uses approximately 20 percent Walmajarri over the course of the interaction), show that there is indeed some level of consciousness to the process, at least for some people. However, we cannot yet be certain whether we are seeing conflicts in ideologies or merely differences in language *experience*. The next stage of our research focuses on this issue. We are currently designing a questionnaire which will specifically ask parents and other community members, including children, about their language choices and beliefs about language. This will allow us to investigate the extent to which family language policy may be conscious or unconscious and how it plays out in Yakanarra, as well as the role the child takes in this (cf. De Houwer 1999; King, Fogle & Logan-Terry 2008).

6 Conclusion

This is the first study of its kind in Australia and illustrates some of the complexities surrounding language use in this region, as well as giving an insight into actual language usage amongst interlocutors of different ages. Now that we have more information on the proportions of languages spoken to and by young children in the region, results can be used to inform relevant services. Examples include the languages used in information distributed by health groups, information needed for educational policy making, as well as more generally the need to support efforts in Yakanarra for language maintenance and revival.

Bionotes

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