ALW2018

Camp Marysville
959 Buxton-Marysville Rd, Marysville

PROGRAM AND ABSTRACTS

FRIDAY 2nd March 2017

Time	Presenter(s)	Title	Page
12:40		Depart Melbourne Airport for Marysville	
13:00		Depart Melbourne University for Marysville	
15:00		Arrive at Camp Marysville (room allocation etc.)	
15:30	Forrest Panther, Mark Harvey, Michael Proctor, Myfany Turpin, Harold Koch	Toward an analysis of word-final position in Kaytetye	4
16:00	Katie Jepson	Vowel duration and consonant lengthening in Djambarrpuyŋu: A perception study	5
16:30	Nay San	An acoustic analysis of pre-stopping in Arabana	6
18:00		Dinner	

SATURDAY 3rd March 2017

9:00	Cassandra Algy, Jennifer Green, Gabrielle Hodge, Felicity Meakins	Alternate for some and primary for others: using sign language in a Gurindji community	7
9:30	Elizabeth Ellis, Jennifer Green, Lauren Reed, Jane Simpson, Inge Kral	An exploration of the handshapes and phonology of Western Desert alternate sign languages	8
10:00	Margaret Carew, Jennifer Green, Murray Garde	Action! Kinship, respect and multimodal communication in Maningrida	9
10:30	Tea break		
11:00	Alice Gaby	The expression of 'apprehension' in Australian languages	10
11:30	Clair Hill	Topic launches in Umpila and Kuuku Ya'u collaborative storytelling	11
12:00	Caroline Hendy, Cathy Bow, Celeste Humphris, Angelina Joshua, Grant Thompson, Jackie van den Bos	Attitudes in Ngukurr to Kriol Acquisition by Non-Locals	12
12:30	Lunch		
13:30	Mary-Anne Gale, Jane Simpson, Rob Amery, David Wilkins	WHAT WOMEN WANT: Understanding the functions of pronouns in Ngarrindjeri in the world as it was, and as it will be	13
14:00	Amy Parncutt, Emma Murphy, Andrew Tanner	RNLD moving forward: the DRIL training program now and into the future	14
14:30	Grant Mathumba Thompson, Angelina Barda Joshua, Jackie van den Bos, Celeste Humphris, Gautier Durantin, Jonathon Taufatofua, Greg Dickson, Scott Heath, Ben Foley, Carlos Ramirez Briñez, Janet Wiles	Opie la Ngukurr: the integration of a social robot into Indigenous language teaching	15
15:00	Tea break and free time		
18:00	Dinner		
19:00	Book launches		

SUNDAY 4th March 2017

9:00	Ruth Singer	40 years on: speech communities in Indigenous Australia since Sutton (1978)	16
9:30	Makinti Minutjukur, Katrina Tjitayi, Rebecca Defina	Pitjantjatjara language change	17
10:00	Jill Vaughan	Convergence vs. differentiation: competing pressures in variation and change in north-central Arnhem Land	18
10:30	Tea break		
11:00	Vivien Dunn, Felicity Meakins, Cassandra Algy	Gurindji children's expression of spatial relations	19
11:30	Amanda Hamilton-Hollaway	The verbal system of Kriol-Mudburra Bilinguals	20
12:00	Brett Baker, Rikke Bundgaard-Nielsen	Reduplication and lexical access	21
12:30	Lunch and vacate cabins		
13:30	Margit Bowler, Vanya Kapitonov	Towards a typology of quantification in Australian languages	22
14:00	Siva Kalyan, Mark Donohue	Linguistic areas and typological diversity in Australia	23
14:30	Robert Mailhammer, Mark Harvey	A preliminary reconstruction of Proto Australian	24
15:00	Tidy up presentation/dining hall and vacate by 15:30		

IMPORTANT:
We have a number of abstracts on a waitlist for ALW this year
Be aware that this program will change if a presenter's availability changes
Presenters: please let us know ASAP if you cannot attend, so that we can provide someone else the opportunity to present

PLEASE NOTE:
If travelling directly to airport on Sunday we recommend that you book your flights departing no earlier than 7:15pm

FOR UPDATES:
http://arts.unimelb.edu.au/indiglang/ruil-in-action/ALW2018

Toward an Analysis of Word-Final Position in Kaytetye

There are varying analyses of the phonological status of final vowels in the Arandic Languages, including Kaytetye. Phonetically, forms vary between having a final schwa, and appearing without this vowel, as shown in (1).

1. a. [aləkə ~ alək] 'dog'   b. [t̪aŋkənə ~ t̪aŋkən] 'bird'

Breen and Pensalfini (1999) have analyzed phonetic final vowels in Arrernte, a related Arandic language, as phonologically epenthetic:

2. a. /alək/ → [aləkə ~ alək]   b. /t̪aŋkən/ → [t̪aŋkənə ~ t̪aŋkən]

Given that the Arandic languages have near-identical phonotactics, this epenthesis analysis of Arrernte could potentially be applied to Kaytetye. However, Panther et al. (2017) have proposed that the final vowel in Kaytetye is phonemic, but prone to lenition or deletion in some realizations:

3. a. /aləkə/ → [aləkə ~ alək]   b. /t̪aŋkənə/ → [t̪aŋkənə ~ t̪aŋkən]

There has been very limited quantitative phonetic analysis of the variation in word-final realizations in Kaytetye (although c.f. San & Turpin, 2014). We are currently addressing this deficit with a systematic phonetic analysis of variation at the final word boundary in Kaytetye, in order to better inform phonological analyses of word structure.

We describe and illustrate an initial semi-automatic method for analysis of word final phonetic structure, with the aim of making this generally applicable to Australian languages (c.f. Ennever, Meakins, & Round, 2017). We demonstrate the applicability of the method by comparing phonetic tokens in Kaytetye clearly distinguished by the presence (Fig. 1) and absence (Fig. 2) of final voiced vocoids. Figures 1 and 2 are two of the possible realizations of 'hard spinifex'. We discuss the generalizability of our approach to tokens with devoiced vowels and salient consonant releases:
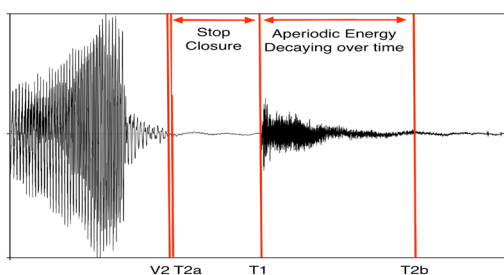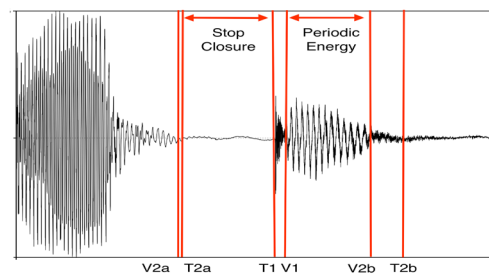

Figure 1: Ending of [ajwʊt]

Figure 2: Ending of [ajwʊt̪ə]

Key landmarks are indicated in the example waveforms: V1 and V2 mark the onset and offset of voicing, and T1 and T2 mark energy onset and offset thresholds respectively.

Data from exploratory analyses of prototypical realizations will inform algorithms that automatically determine these landmarks, to facilitate semi-automatic classification of indeterminate phonetic forms. A database of Kaytetye words will be assembled to quantify several dimensions of phonetic variability in word endings, including intensity, cues to voicing, band-limited energy distribution and formant tracking. These data will inform analyses of cues to word-final formant structure. If there is evidence that formant targeting is not explainable from the phonetic context, this would require a phonological explanation.

Breen, G., & Pensalfini, R. (1999). Arrernte: A Language with no Syllable Onsets. *Linguistic Inquiry, 30*(1), 1-25.

Ennever, T., Meakins, F., & Round, E. R. (2017). A replicable acoustic measure of lenition and the nature of variability in Gurindji stops. *Laboratory Phonology: Journal of the Association for Laboratory Phonology, 8*(1).

Panther, F., Harvey, M., Demuth, K., Turpin, M., San, N., Proctor, M., & Koch, H. (2017). *Syllable and Word Structure in Kaytetye*. Paper presented at the 25th Manchester Phonology Meeting, University of Manchester.

San, N., & Turpin, M. (2014). *Acoustic correlates of stress in Kaytetye words*. Paper presented at the Workshop on Word Stress and Accent, Leiden University Centre for Linguistics.

Vowel duration and consonant lengthening in Djambarrpuyŋu: A perception study

It is uncontroversial that there is a vowel length contrast in Djambarrpuyŋu, and it has been demonstrated that consonants after short vowels have greater duration than consonants after long vowels (see e.g. Jepson & Stoakes 2015). However, it remains to be seen how these durational differences interact and affect listeners' perception of the vowel length contrast. This talk will explore the results of a perception study investigating the relationship between vowel duration and consonant duration in Djambarrpuyŋu.

The primary question that is addressed is: does consonant duration affect the perception of vowel length for speakers of Djambarrpuyŋu? To investigate this, a perception task was constructed based around a minimal pair: *waŋa* /waŋa/ 'speak' and *wäŋa* /wa:ŋa/ 'home/place'. Lengthening of the nasal has been found to occur following the short vowel in the former. Seven step continua were created for V_1 and C_2 duration using the duration manipulation function in Praat (version 5.3, Boersma & Weenink 2013), capturing the range of duration values observed for *waŋa* and *wäŋa* in the existing corpus. The experiment was full factorial in its design, therefore participants heard all 49 possible duration combinations, in random order, a total of four times. Participants chose whether they heard *waŋa* or *wäŋa* by making a selection on a computer keyboard. OpenSesame (Mathôt 2012 et al.) was used to present the experimental stimuli. All participants lived in Milingimbi, were aged between 25 and 60 years of age. In total, ten women and ten men participated.

It was hypothesised that listeners would primarily pay attention to the vowel duration, but that in the 'middle ground' stimuli between phonemically 'long' and 'short' vowel durations, the duration of the nasal may assist in word identification – that is, perhaps the ratio of vowel to nasal would be used as a cue to the vowel's length and therefore the identity of the word.
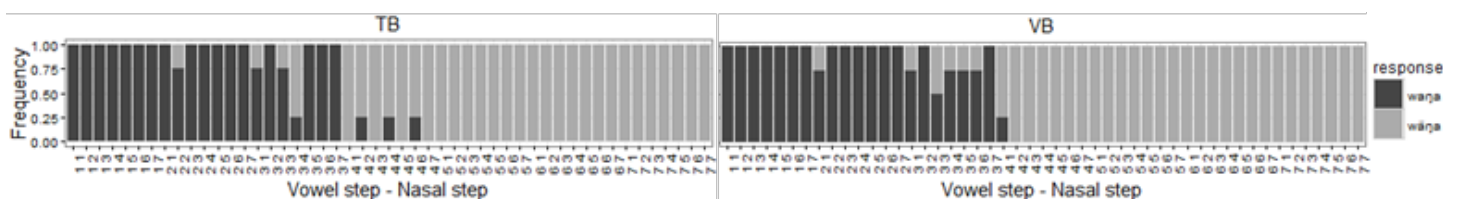

Figure 1. Responses from two speakers. x-axis shows step for vowel and nasal duration (1=shortest, 7=longest).

Overall, the results show that from the fourth point in the vowel continuum participants shifted from perceiving short-vowel word *waŋa*, to long-vowel word *wäŋa*. This occurs at some time between vowel duration of 160ms (step 3) and 185ms (step 4). This categorical shift reflects the significance of phonemic distinctions, and suggest that listeners are finely tuned to durational differences which are key to the vowel length contrast in Djambarrpuyŋu phonology. The shift also suggests that the phonetic duration differences observed on the consonant, while measurable and statistically significant, are not a salient perceptual cue to the length contrast for Djambarrpuyŋu vowels.

References

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Jepson, Kathleen & Hywel Stoakes. 2015. Vowel Duration and Consonant Lengthening in Djambarrpuyŋu. *Proceedings of the 18th International Congress of Phonetic Sciences*, Glasgow, UK.

Mathôt, Sebastiaan., Daniel Schreij & Jan Theeuwes. 2012. OpenSesame: An open-source, graphical experiment builder for the social sciences. *Behavior Research Methods* 44(2), 314-324.

An acoustic analysis of pre-stopping in Arabana

As in several other Australian languages, Arabana has non-contrastive pre-stopping. Pre-stopping in Arabana, though, has been described as "close to reaching phonemic status" (Hercus, 1994: 43), and this near-phonemic status as the basis for some atypical patterns: pre-stopping does not occur at all places of articulation—e.g. [bm], [dn] occur, but not [cɲ] or [gŋ]—and while it is blocked in certain environments—e.g. [#a_], *adnari ~ anari 'this way'—, it is permitted nonetheless in apparently similar environments—e.g. [#i_], idnhi 'to be lying down' (Hercus, 1994: 39-40). Further, though morphological conditioning has not otherwise been reported for pre-stopping in Australian languages, Hercus (1994: 42) reports regular absence of pre-stopping in reduplicated forms—e.g. kudni 'to put down' vs. kuni-kuni 'to make camp' *kudni-kudni. We conducted a production experiment to better understand the variability and acoustic characteristics of pre-stopping in Arabana.

Method: We searched the Arabana dictionary for headwords satisfying an orthographic template of #(C)$V_{1-}$$V_2$(CV+)# (e.g. madla 'dog', kudnurduku 'mist'), and shortlisted words based on ease-of-picturability. For eliciting these headwords, the research team trialled photos and illustrations, a final selection from which we produced slideshows, placing one image per slide, with the slide order randomized.

A single male speaker of Arabana was recorded in a quiet environment in Alice Springs, NT, using the inbuilt directional microphone on a TASCAM DR-100 field recorder. After an initial familiarization phase, slides were presented individually and the participant produced several repetitions of the pictured headword. The audio data were then anonymized and annotated in Praat, coding for V_1, V_2, and all intervocalic consonantal segments.

Results: We report initial results from 129 tokens of [bm], [dn], and [dl] sequences from 20 headwords (median 4 tokens per headword). The mean durations of pre-stopped closures in Arabana were found to be shorter than durations reported for contrastive pre-stopping of nasals in Kaytetye, though longer than durations of non-contrastive pre-stopping in other languages and of laterals in Kaytetye (Table 1).

The general consistency of pre-stopping in Arabana also differed from the considerable variability in the presence of non-contrastive pre-stopping that has been reported for other languages (see Harvey et al., 2015: 2, 13). Of 15 headwords expected to have pre-stopping, 5 were found to have no visible phonetic pre-stopping on all tokens (e.g. [wana] for wadna 'yam stick'). When pre-stopping was produced, all medial tokens had visible pre-stopping (in 6 headwords, all but the initial token was pre-stopped). Unexpected pre-stopping of plain laterals and nasals was not observed.

Table 1. Comparison of mean durations (milliseconds) of pre-stopped closures

	[**b**m]	[**d**n]	[**d**l]	No. of speakers
Arabana	59	49	42	1
[1]Kaytetye	-	≈ 60	≈ 20	7
[2]Warlpiri & Gupapuyngu	17	17	20	2
[3]Warlpiri	-	-	29.42	1

Sources: [1]Harvey et al. (2015: Fig. 5), [2]Butcher & Loakes (2008: 23, 26), [3]Loakes et al. (2008: Fig. 6)

References

Butcher, A., & Loakes, D. (2008). Enhancing the left edge: The phonetics of prestopped sonorants in Australian languages. *Journal of the Acoustical Society of America*, *124*(4), 2527-2527.

Harvey, M., Lin, S., Turpin, M., Davies, B., & Demuth, K. (2015). Contrastive and Non-Contrastive Pre-stopping in Kaytetye. *AJL*, *35*(3), 232-250.

Hercus, L. (1994). *A grammar* of the *Arabana-Wangkangurru language of the Lake Eyre Basin, South Australia*. Pacific Linguistics C-128. Canberra: Australia.

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Cassandra Algy, Jennifer Green, Gabrielle Hodge, Felicity Meakins

Alternate for some and primary for others: using sign language in a Gurindji community

Traditional sign languages are an important part of communicative practice in Indigenous Australia. Sign is not usually the primary mode of communication of a community or of a particular individual but rather used alongside other semiotic systems, including speech, gesture and drawing practices (Green & Wilkins, 2014; Kendon, 1988). These sign languages have been distinguished as "alternate" sign languages by Kendon (1988), as they have developed as a form of communication used when speech itself is either ritually restricted, impractical or in other ways inappropriate or inconvenient. Indigenous deaf also sign, but the exact nature of the interaction between Indigenous alternate sign languages, homesign, and other sign languages such as Auslan is largely unexplored. Kendon (1988, p. 406, 407) suggests that Indigenous deaf do not become highly fluent in the ambient traditional sign languages, but rather rely on improvised forms. Others claim that traditional sign languages are used by deaf members of the community, at least in communities in Arnhem Land were YSL (Yolŋu Sign Language) is found (Adone & Maypilama, 2013; Bauer, 2014; Maypilama & Adone, 2013).

Despite these speculations, there is little or no systematic research that looks at the fine detail of shared communicative practices in Indigenous communities where there are both deaf and hearing signers. Exactly which elements of traditional sign are likely to be shared, and are they equally shared by all? What pointing/ gestural practices are evident in the community, and how are temporal and spatial relations communicated in the visual modality? Our data consists of filmed dyadic interactions between hearing and deaf members from Kalkaringi, including both unscripted conversations and responses to sessions based on the 'director-matcher' tasks used to investigate case (Meakins, 2005). We give an analysis of this data and begin to tease out various influences which have contributed to the development of the sign language that is currently used in Kalkaringi. Our results are considered against a backdrop of contemporary and archival records of the "alternate" sign language of the Victoria River District. We also consider some potential effects of Auslan on the shared sign repertoire (for example in Kalkaringi it is reported that Auslan fingerspelling was learnt from the back pages of the telephone directory!).

References

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Elizabeth Ellis, Jennifer Green, Lauren Reed, Jane Simpson, Inge Kral

An exploration of the handshapes and phonology of Western Desert alternate sign languages

The recent surge in documentation of the diverse range of sign languages of the world has energized the new field of sign language typology (de Vos & Pfau 2015). Sign languages show different features depending on their sociolinguistic context. While deaf community and 'village' sign languages arise where significant numbers of deaf people are present, alternate sign languages are created primarily by hearing people as an alternative mode of communication.

Alternate sign languages were or are in use by many Aboriginal groups in Australia. They range in degree of elaboration, from use in hunting contexts—e.g. the Barngarla of Port Lincoln to Rdaka-Rdaka (Warlpiri Sign Language)—which could be used as a sole mode of communication, even for years at a time (Kendon 1988). Indigenous sign languages are at even greater risk of endangerment than their spoken counterparts (Green and Wilkins 2014). Nonetheless new signs have emerged to communicate contemporary concepts (ranging from POLICEMAN to MOBILE PHONE).

Across the Western Desert and Central Australia, alternate sign languages are used for communication over distance, in hunting, in ceremony, and for showing respect in some situations. Signs feature in storytelling, often combined with sand drawing; signing while speaking is a commonplace; and signing practice may include the use of alphabetic symbols 'written in the air'.

Yurrira watjalku, 'speaking by moving' is the highly endangered alternate sign language of the Ngaanyatjarra. Fragmentary documentation of this and related Western Desert sign languages exists). In 2013, several of the authors recorded around 110 signs in 90 minutes of sign elicitation from five female signers.

The paper is a beginning exploration of handshapes and phonology in yurrira watjalku, comparing them with other Western Desert and Central Australian alternate sign languages. The question investigated is whether alternate sign languages show the phonological complexity characteristic of primary sign languages (Brentari 2011). Phonology is claimed to be largely lacking in some village sign languages (e.g. Al-Sayyid Bedouin Sign Language) with holistic, highly iconic signs lacking duality of patterning, without minimal pairs , and with significant use of unmarked, underspecified handshapes. There may also be a high degree of inter-signer variation (Sandler et al 2011)

In contrast, yurrira watjalku signers show consistency in sign wellformedness. There are minimal pairs contrasting on the parameters of handshape, location and movement. Finally a number of cross-linguistically unusual handshapes that are motorically complex are found. This parallels Kendon's (1988) North Central Desert sign language analysis, where he noted that the distribution of handshapes seen in Australian sign languages both overlaps and shows some notable differences when compared with primary sign languages. The yurrira watjalku findings are compared with signing from neighboring speech communities. The conclusion is that yurrira watjalku is a stable and well-developed alternate sign language.

References

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Margaret Carew, Jennifer Green, Murray Garde

Action! Kinship, respect and multimodal communication in Maningrida

Alternate sign languages are an important part of the language ecology of the Maningrida region, as for elsewhere in remote Australia (Kendon, 1988; Green & Wilkins, 2014; Green et al., in press). Locally, people use the English word 'action' to describe many non-verbal aspects of communication. 'Action' provides a broad rubric for the analysis of a new corpus of multimodal data, contributed by consultants from five language groups and exhibiting a complex interplay of speech, lexical sign, deictic gestures and 'performed enactments' (Hodge & Ferrara, 2013).

In Maningrida, actions play a significant role in enacting kin-based norms of politeness and respect. The greatest measure of circumspection is practiced between affines of both harmonic and disharmonic generations, and between opposite-gender siblings (Garde, 2013; Hiatt, 1965). This may be expressed through a range of communicative resources. Along with actions (sign, gesture), these resources include silence, the use of special speech registers (cf. *kun-kurrng* or *kun-balak* 'mother-in-law lexical replacement register', Garde, 2013), body stance, non-speech vocalization, and avoidance of spatial proximity. Actions may be performed more frequently in the presence of certain kin, and some are particularly emblematic of respect. To exemplify this we examine multiple dimensions of signing and gesturing practices used in relation to affinal kin. In particular we look at *jongok*, a category of affinal kin glossed as 'mother-in-law' or 'poison-cousin' (SpM, SpMB, SpF, SpFZ), and opposite-gender same generation affines (WZ, HB). Actions that index these kin are articulated as: 1. a bent elbow and 2. the holding of one forearm with the other hand (cf. Adone & Maypilama, 2013; Blythe, 2012). These actions occur across different interactional contexts, both in combination and independently. Subject to motor constraints, these two actions can also be co-articulated with both deictic gestures and other lexical signs.

Such practices generate the potential for semiotic complexity in composite utterances. Analysis of the multimodal components of these utterances enables a more nuanced understanding of the semiotics of respect, interaction and reference within the complex domain of kinship in the societies of north-central Arnhem Land.

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The expression of 'apprehension' in Australian languages

The grammatical expression of a semantic category broadly corresponding to 'apprehension' is widespread among Australian Aboriginal languages (cf. Angelo and Schultze-Berndt 2016). Grammatical descriptions gloss such forms with a wide range of labels, including 'apprehensive'/'apprehensional', 'aversive', 'avoidative', 'evitative', 'for fear of' and 'lest'. There is considerable variation in the more precise semantics and functions associated with the forms in question, as well as variation in the morphosyntax of their expression. For example, forms falling within this semantic domain may be realised as verbal (modal) inflection, nominal (case) inflection, particles and adverbs. Further, two or more such forms may contrast within a single language. Examples (1) and (2) illustrate Yidinj's 'aversive' nominal case suffix, -*yida*, and 'apprehensional' verbal inflection, -*ji*, respectively:

(1)   *yiŋu   waguuja   garba-ŋ   bama-yida*
       this(ABS)   man(ABS)   hide-PRES   people-AVERS
       'this man is hiding for fear of the [strange] people (i.e. so that he will not be seen by them)'
       (Dixon 1980:299)

(2)   *yiŋu   waguuja   garba-ŋ   gudaga-ŋgu   bajaal-ji*
       this(ABS)   man(ABS)   hide-PRES   dog-ERG   bite-APPR
       'the man is hiding, lest the dog bite him (i.e. for fear that the dog might otherwise bite him)'
       (Dixon 1980:380)

This paper will draw on a sample of languages from all around Australia to advance answers to three primary research questions:

     I.   What is the (a) geographical and (b) genealogical distribution of forms expressing 'APPREHENSION' among Australian languages?

    II.   What is the range of more precisely defined semantics associated with such forms?

   III.   How are such forms morphosyntactically realised?

The answers to (II) and (III) will feed into an analysis of whether the kinds of broadly 'apprehensive' meaning expressed on nouns through case-marking differ in non-trivial ways from the kinds of meaning expressed on verbs or as particles. We may expect to find differences in scope between the various marking strategies, but whether there are more nuanced correspondences between morphosyntactic form and the semantics expressed remains an open question. Finally, this paper will consider the areal and genetic distribution of apprehensional forms across the continent.

ANGELO, DENISE.; and EVA SCHULTZE-BERNDT. 2016. Beware bambai - lest it be apprehensive. *Loss and Renewal. Australian languages since colonisation*, ed. by Felicity Meakins and Carmel O'Shannessy. Boston/Berlin: De Gruyter.

DIXON, ROBERT M. W. 1980. *The Languages of Australia*. Cambridge: Cambridge University Press.

Topic launches in Umpila and Kuuku Ya'u collaborative storytelling

Multi-party narration, where two or more narrators co-construct a story, has been posited as a characterising feature of Aboriginal Australian narrative style (Walsh 2016). The narratives of the Umpila and Kuuku Ya'u people (Cape York Peninsula, Australia), which this paper is concerned with, holds to Walsh's account of a high premium on co-construction in narration in Aboriginal Australia. In Umpila/Kuuku Ya'u narration the collaboration extends far beyond audience confirmations or prompts, recognition and recipient tokens, with a group of narrators who take turns or even co-produce turns to jointly tell a story (Hill, 2011; Hill, forthcoming). This paper looks at how these multiple narrators, with different access and knowledge of the story, coordinate to craft a successful and coherent narrative. The discussion will investigate the management of transitions in topic within narratives, i.e. the launch of a new topic or a new thematic sequence and the close of such sequences. It will be shown that the launch of new topic sequences, specifically those which constitute a significant change of location in the story, are associated with marked linguistic devices, including a high density, and marked presentation, of person references. I will argue that these topic transitions serve as waypoints in the collaborative development of the narrative, and that the marked morphosyntactic devices used in these transitions have important functions aiding joint comprehension and supporting the ongoing co-construction of the story.

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Caroline Hendy, Cathy Bow, Celeste Humphris, Angelina Joshua, Grant Thompson, Jackie van den Bos

Attitudes in Ngukurr to Kriol Acquisition by Non-Locals

This paper investigates the attitudes of residents of Ngukurr towards non-locals, *munanga*, learning the local language, Kriol. Kriol, an English-lexified creole spoken by 15,000-30,000 across the Top End of Australia, originated at the Roper River Mission, founded in 1908 – what is now the remote Indigenous community of Ngukurr (Dickson, 2015). The language is spoken at home by at least 72.4% of Ngukurr's population (ABS, 2017), likely many more. Few *munanga* in Ngukurr are able to communicate proficiently in Kriol, although the Language Centre's Kriol Awareness Course has gone some way to increasing this number. This paper presents the qualitative findings of 21 interviews with 27 participants – local and non-local – accounting for approximately 2% of Ngukurr's population. The results of this research will be used to inform Language Centre's continued development of Kriol teaching resources.

One of the concerns in teaching Kriol is that the language has been stigmatised for much of its history by Indigenous and non-Indigenous alike, having been seen as 'broken' English (Hill, 2010) and a killer of traditional Indigenous languages (Dickson, 2016). Our research shows little evidence of such a stigma in place in Ngukurr now. Every participant expressed support for *munanga* learning Kriol. Although several participants did refer to the language as 'broken English', this term was used 'factually' rather than pejoratively, such as in the following exchange:

> (1)   Participant: [Kriol's] just like broken English
> Researcher: is that a bad thing?
> Participant: I don't think so.

Indeed, there were many expressions of pride in the language:

> (2)   Participant: *Kriol im mo beda then Ingglish* (Kriol is better than English)

Additionally, participants agreed that cross-cultural communication would be made easier if *munanga* were to learn Kriol.

> (3)   Researcher: So what do you think about *munanga* learning Kriol?
> Participant: It's really good, 'cause it's rea- it's helpful. […] Aboriginal person and *munanga* can work together and, you know, work together as one and make that family grow.

This paper finds strong support for the teaching and learning of Kriol as a second language.

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Mary-Anne Gale, Jane Simpson, Rob Amery, David Wilkins

**WHAT WOMEN WANT: Understanding the functions of pronouns in Ngarrindjeri
in the world as it was, and as it will be**

Ngarrindjeri is the name for a dialect chain from southern South Australia, which is currently being revived, particulary by the women. It is also a language that is "pronoun happy". Current research into the texts collected by Ronald and Catherine Berndt between 1939 and 1943 from some of the last speakers reveal that there are three different syntactic forms of pronouns in Ngarrindjeri that are used abundantly to keep tabs on the participants and their roles at the clause, sentence, information structure and discourse level. It is a challenge to understand what these forms are, whether the written recordings by the Berndts accurately represent these pronouns in their various bound and free forms, and how their use might have changed since the first recordings of sentences in the 1840s by Heinrich Meyer. There are few sound recordings to use as a point of comparison. But the Ngarrindjeri women, who are most active in revival activities, want to re-learn to use their language in authentic ways, and that means learning how and where to use the abundant "pesty pronoun particles".

Building on the insightful (1994) Honours research work of Mark Cerin, on pronominals in Yaraldi (a dialect of Ngarrindjeri), this paper outlines a tripartite system, in which the "reduced" pronoun forms are used in two different ways at the clause and discourse level, in contrast to their full pronoun forms. The full pronoun forms seem to occur rarely in natural speech, in the sentences recorded by Meyer (1843) in the Ramindjeri dialect, and in the texts of the last fluent speakers recorded 75 years ago by Ronald & Catherine Berndt, and independently by Norman B.Tindale. This paper will outline the tripartite syntactic system of pronouns at the clause, sentence, information structure and discourse levels,

Reviving Ngarrindjeri requires decisions on whether to use the full forms more frequently (as in English) or whether to revive the tripartite system. Relevant factors include pedagogical pressures to regularise grammatical forms to facilitate learning, and to disambiguate written texts which lack the prosodic and contextual cues associated with an oral-only language. On the other hand, there are also pressures to re-learn the most authentic forms and uses of the traditional language. But how do you find that happy balance, when the traditional form of the language is full of irregularities and the usage of its "pesty pronoun particles" (in particular) are complex, and at times confusing. We suggest one way of memorising the abundant "reduced" pronoun forms is by rote learning the pronoun paradigm in a chant: "tunkun-ap; tunkun-inti; tunkun-itji 'I love; you love; she loves'..." (just as we once learnt Latin pronoun paradigms). Our paper finally asks: Does it really matter if we collectively decide, and learn, to regularise and use the "reduced" as well as the free pronoun forms of Ngarrindjeri in inauthentic ways?

Key Terms: Ngarrindjeri, reduced pronouns, language revival, Berndt and Berndt.

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RNLD moving forward: The DRIL training program now and into the future

The Resource Network for Linguistic Diversity (RNLD) supports the sustainability of Indigenous languages and Indigenous people's ownership of their language documentation and revitalisation. We are responsive to community need, and offer training, advocacy, networking, professional development and information sharing. In this presentation we discuss the ways in which RNLD supports Indigenous communities in their language work through our DRIL training program, and how we hope to improve our reach and impact in the future through collaboration and partnerships.

Since the launch of RNLD's Documenting and Revitalising Indigenous Languages (DRIL) Training Program in 2010, we have facilitated over 150 workshops in communities and Indigenous organisations across the country. We have worked with approximately 650 Indigenous participants to support 100 Australian languages. Our training model has grown in response to community needs and requests, and now offers 3 strands of training:

- DRIL Flex training – our original model of flexible, in-community training, covering skills in linguistics, teaching methods, technology, resource creation, and revitalisation strategies.
- Professional Development program – this advanced program brings together standout DRIL participants from across Australia for intensive linguistic training and networking opportunities.
- Nationally Accredited training – Certificate II in Master-Apprentice Language Learning Program and Certificate III in Aboriginal Languages for Communities and Workplaces; developed to meet a need for nationally accredited qualifications.

RNLD actively works towards supporting Indigenous people in stepping up into key roles in language centres, schools, and other language projects; and gaining the necessary skills and training to thrive in these positions. Many of our participants tell us they want qualifications in order to work as community linguists, or as language teachers, however don't see university as a viable pathway due to financial, cultural or logistical constraints. We therefore aim to partner with linguists, universities, other institutions, and Community to develop effective and alternative pathways for Indigenous people to qualify for, and excel in, these roles.

RNLD currently relies solely on government funding, and does not have the capacity to meet demand for our training, nor the scope to train in all topics that communities ask for. We plan to foster partnerships with people and institutions that can provide training that is complimentary to our own programs in Community, and with organisations that can support us financially. By diversifying our income stream, and partnering with like-minded entities, we hope to increase our capacity, improve our reach, and provide comprehensive services to meet the needs of all our participants.

We value strong partnerships with linguists and universities, which also promote effective collaboration between community and academia. Our internship program in partnership with the Research Unit for Indigenous Languages (RUIL) is valuable in introducing students to community-led language programs, and helping them understand community values in language work. We have also worked to link communities up with linguists who have previously worked on their languages, and to link research students up with communities who want to work with a linguist. We hope to continue to provide services such as these, and are open to thoughts and ideas from the linguistic community as to how we can better work together.

Grant Mathumba Thompson, Angelina Barda Joshua, Jackie van den Bos, Celeste Humphris, Gautier Durantin, Jonathon Taufatofua, Greg Dickson, Scott Heath, Ben Foley, Carlos Ramirez Briñez, Janet Wiles

Opie la Ngukurr: the integration of a social robot into Indigenous language teaching

In 2017, Ngukurr Language Centre and Guluman Child and Family Centre invited Opie to visit. Ngukurr Language Centre has been working with the University of Queensland Information Technology and Electrical Engineering robotics lab, and the Centre of Excellence for the Dynamics of Language on a project to create Opie, a child-friendly robot. Opie is designed to enhance children's language learning through technology, by making it a social activity. Children interact with Opie via a tummy-mounted tablet which runs language games. Designed as an extra tool for language teachers, Opie has the capacity to provide consistent and ongoing language input for students, which is particularly significant in contexts where language custodians are not able to be present for regular language lessons. Opie gathers language learning data from his interactive games, and can also record audio snippets of children using the target language. Thus, Opie also provides an excellent alternative for accurately assessing students' language learning, free from social factors that may have a negative impact in a traditional testing environment, such as shame or shyness.

In this presentation, Opie will show everyone some of the interactive language activities that were created during his visit to Ngukurr. Indigenous language teachers from Ngukurr Language Centre will present Opie, with games demonstrations in their respective languages. The presenters will talk about how the app that is used to create Opie's language teaching material could be used to document stories, or to make your own language teaching resources for use in a language revitalisation, revival and/or classroom context. The presenters will also address cultural topics about how Opie fits into community social structures, and what current language teaching issues Opie might help to address.

40 years on: speech communities in Indigenous Australia since Sutton (1978)

Sutton (1978) presented a compelling case for the development of variation within a multilingual speech community at a time when the idea that speech communities are inherently multilingual was still not broadly accepted (Gumperz 1968). The evidence that Sutton corralled effectively skewered models that saw multilingualism as the interaction between isolated monolingual speech communities. Sutton's (1978) broad-ranging study of language at Cape Keerweer in western Cape York instead presents the multilingual speech community as the outcome of people of using language to index a plethora of cross-cutting identities.

Crucially, Sutton argued that multilingualism at Cape Keerweer was stable, having endured since pre-contact times and thus that the variation had evolved in situ, within a context of very high multilingualism and mobility. The idea of the speech community has undergone radical reshaping over the last 40 years to the point where it has all but been abandoned (Rampton 2010). The past 40 years has also seen new work on Indigenous Australian languages emerge that looks at connections between language and identity. And there have also been many changes in how Indigenous people's identities align with language. For example, the emerging importance of the 'remote community' as a reference point for identity in the self-determination era has gone hand-in-hand with the study of community-based varieties (Meakins 2008; Dixon 2017; O'Shannessy 2009). Sutton (1978) appeals to Silverstein's idea of postulating separate 'language communities' in addition to the overarching (multilingual) 'speech community' (Silverstein 1972; Silverstein 2015). However Rigsby and Sutton (1980) suggest that we abandon the speech community as a separate theoretical construct and instead base our analyses on those social groupings that emerge from broader ethnographic research. Now that remote communities have emerged as relevant to how Indigenous people categorise themselves, and that some communities have their own varieties, is it acceptable to define the speech community as congruent with a remote community? Or does such an approach obscure more longstanding groupings, shared histories and patterns of mobility? This talk looks at work on language and identity in a number of different remote communities to try to answer this question.

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Makinti Minutjukur, Katrina Tjitayi, Rebecca Defina

Pitjantjatjara language change

Pitjantjatjara is one of Australia's more robust Indigenous languages with a large population of speakers including many children, across a number of communities. Nevertheless, it is undergoing substantial changes. Langlois (2004) described the changes occurring among teenage Pitjantjatjara speakers in Areyonga in the 1990s. Those speakers have now grown up and are providing the linguistic model for the next generation of speakers. In this talk, we examine the current state of Pitjantjatjara in the community of Pukatja. How are children and young adults speaking? What aspects of the language are changing, and what aspects are remaining stable? And how does this compare with the situation in Areyonga 20 years ago?

The study is based on reflections and comments from Pitjantjatjara speakers and recorded observations of young children and their families. We note changes in phonology, morphosynax, and semantics. People are also often mixing English in with their Pitjantjatjara speech and some of the changes we note show direct influence from English.

Many of the phonological changes noted by Langlois for 1990's teenage Pitjantjatjara in Areyonga can be seen nowadays in young adult speech in Pukatja. Weaker syllables are being lost as in the shift of *kunmanara* to *kunmana* 'name used in place of a name which has become taboo' or *tjukaruru* to *tjukaru* 'straight'. These elisions have been common in faster speech for some time but are now becoming standard. Consonant clusters are also often being reduced. For instance, *maḻanypa* 'younger sibling' is reduced to *maḻapa*. There are also reports of more frequent words undergoing more radical change such as *nyangatja* 'here' shifting to *nyiitja*.

There are also several morphosyntactic changes. Verbs are no longer nominalized before adding the intentive so *mantji-ntji-kitja* 'get-NOML-INTENT' has become *mantji-kitja*. Reduplication to indicate pluractionality has also shifted from preverbal directional to reduplication of the verb root. The -*nya* suffix marking nominative and accusative case with proper nouns is also often omitted paralleling the common noun paradigm.

In terms of semantics, we note three types of changes. One is the loss of more specialized, specific terminology. For instance, many older speakers report that younger people use generic words in place of specific words for types of things such as birds, water, or firewood. Another type of change we find is where a word broadens to take on related meanings. For instance, the verb *kutitjunanyi* 'conceal something' has been extended to also refer to concealing oneself and often replaces *kumpini* 'hide'. Relatedly, we also see direct calquing from English providing new meanings and uses. For instance, the verb *patjaṉi* 'bite' takes on an eating meaning when used in *patjalkutjakuṉa?* 'Can I've a bite?'.

All languages shift and change over time. However, these changes appear to show quite a rapid shift in Pitjantjatara over the last two generations and many elders are concerned about the future of the language. We thus conclude with their call for additional language maintenance and education to be done now while there are still many strong language speakers in the community.

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Convergence vs. differentiation: competing pressures in variation and change in north-central Arnhem Land

Arnhem Land, northern Australia, is a noted 'hotspot' for linguistic diversity – the region is home to many languages representing several diverse language families. Although a significant genetic boundary bisects the region, the languages form a Sprachbund evidencing grammatical, phonological and lexical convergence. Individual language repertoires in Arnhem Land are large, typically drawing on between three to six local languages, as well as English, a range of contact varieties, and local auxiliary sign language.

Data from Arnhem Land has periodically been used to exemplify a range of supposed 'exceptionalisms' (Koch 2014) which have been argued to characterise Australian languages more generally, such as high levels of lexical diversity, intensive borrowing (as well as unique motivations for it) (cf. Bowern & Atkinson 2012; Evans 2005; Harvey 2011), and 'extraordinary' levels of variation (Garde 2008). This paper considers two seemingly incongruous claims about the operation of variation and change in the region. First, it has been demonstrated that extensive and long-term grammatical, phonological and lexical diffusion has occurred (Heath 1978, 1981). It is suggested that this has been scaffolded by particular multilingual practices in the region, an apparent absence of social pressures to maintain linguistic distinction, and cultural/ demographic factors such as small language groups and extensive cross-linguistic marriage (Heath 1978: 142-3, 1981: 365). Second, fine-grained systems of variation have been documented in many languages of Arnhem Land. Variation may be dimensionalised along diverse lines, including indexing patriclan (Garde 2008), moiety (Green 2003, Morphy 1977) and geographical oppositions (e.g. coastal vs. inland (McKay 2000)). Such variation is thought to be created and maintained by strong ideologies which value linguistic diversity, and possibly via the conscious promotion of particular variants (Evans 2003: 30; Garde 2008). Considered together, then, it would appear that Arnhem Land simultaneously demonstrates both significant convergence as well as systematic diversification/differentiation (cf. Gumperz and Wilson 1971, and Rumsey *in prep* on similar processes in the northern Kimberley region).

In this paper I consider evidence from north-central Arnhem Land to investigate the operation and interaction of these competing processes. Drawing on analyses of new data from Burarra, as well as existing documentation of Gurr-goni and Djinang (e.g. Green & Nimbadja 2015, Waters 1989), I explore patterns of convergence and systematic variation in these neighbouring varieties. I argue that both processes are indeed able to coexist, and that they demonstrably do so in the language ecology of this region. Reworking Labov's (e.g. 1972) framework for categorising variables (stereotypes|markers|indicators), I suggest that differing levels of 'salience' are key to understanding how these apparently contradictory processes interact within a larger system. Finally, this paper will highlight the necessity of looking beyond the boundaries of single-language systems to broader language ecologies in understanding the functioning of variation, and its role in language change.

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Gurindji children's expression of spatial relations

This paper examines the spatial description system employed by Gurindj children in Kalkaringi (Northern Territory, Australia) to describe ternary relations in small-scale space. While Gurindji is the traditional language of Kalkaringi, a new variety, Gurindji Kriol, has developed as a result of language contact, and is now the first language of young adults and children. Speakers of Gurindji use cardinal directions in descriptions both small-scale and large-scale space, whereas cardinal terms are almost never used to describe small-scale in naturally-occurring Gurindji Kriol speech (Meakins, 2011). Although children's knowledge of the Gurindji cardinal system has been tested previously (Meakins & Algy, 2016), this study is the first systematic investigation of the spatial description strategies Gurindji children use in descriptions of small-scale space.

In this paper, we use the 'Man and tree' task (cf. Levinson et al., 1992) to determine Gurindji children's preferred strategies for describing ternary relations in small-scale space. The tasks were conducted between 2015 and 2017 with 30 Gurindji children aged between 9-17 years. We show that the strategies preferred by children differ from those used by their parents, who produce predominantly cardinal descriptions. Instead, Gurindji Kriol-speaking children use fewer cardinals, preferring landmark-based strategies. Where they use cardinal terms, we show that there is an implicational hierarchy at play, with the east-west axis emerging as stronger than the north-south axis.

Given the linguistic shift underway in the domain of spatial relations, we also explore the implications for Gurindji children's conceptualisation of space. It has been argued that the linguistic resources available in a language have cognitive consequences for its speakers (e.g., Levinson & Wilkins, 2006), and situations of language contact and shift provide an ideal setting to test such claims (Adamou & Shen, 2017, p. 96; Meakins, Jones, & Algy, 2016, p. 2). In this study, we compare the children's linguistic performance on the 'Man and tree' task with their non-linguistic performance on the 'Animals in a row' task, and show that there is a correlation at an age group level, but not at the individual level.

This study contributes to a expanding body of cross-linguistic spatial relations literature which explores the effects of language contact and shift on these systems. By investigating the spatial language of the current generation of Gurindji children, this study additionally furthers our understanding of the inter-generational changes that continue to occur in the Gurindji community.

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The Verbal System of Kriol-Mudburra Bilinguals

Verbs exert a fundamental influence over their entire clause, whether mono- or multilingual, and consequently receive particular attention in the study of language mixing (Moravcsik, 1975; Muysken, 2000; Wohlgemuth, 2009, *inter alia*). In this presentation, I analyse the variety of verb constructions currently used by bilingual speakers of Mudburra (Ngumpin-Yapa, Pama-Nyungan) and Northern Australian Kriol (English-lexifier creole language). While the sheer diversity and creativity of verb structures used within this speech community are valuable for study in themselves, I argue that these verb patterns hold additional significance for language contact theory for two reasons.

First, they test some of the proposed limits of language mixing, expanding our understanding of likely or possible contact outcomes. For instance, verbs from both Mudburra and Kriol can take arguments—including, crucially, bound and free pronouns—from the other language (1, 2). Researchers have variously asserted that elements (such as arguments) that are required by clause-level syntax are particularly limited in their availability to language mixing (e.g., Di Sciullo, Muysken, & Singh, 1986), that pronouns are unswitchable in certain positions (MacSwan, 2013), and that free pronouns cannot be switched with clitics (Jake, 1994). The Kriol/Mudburra bilingual data, however, show that such limitations must, at the very least, be qualified; they are clearly not categorical. (Mudburra italicised; Kriol in plain font. Verbal lexemes and TAM elements in bold.)

1.) From Marlinja **kam-bek** *ba=wula*.
from placename come-back CAT=3DU.S
"The two of them would do round trips from Marlinja." (MSD: DOS1-2016_024-04, 161275_165907)

2.) *Warlaku-lu=ma*, im ***nya-nganini*** na.
dog-ERG=TOP 3SG see-PRS SEQ
"The dog, he's looking at it." (MMB: AHA1-2016_011-02, 302999_305132)

Second, analysis of bilingual Kriol-Mudburra speech supports the assertion that contact- and shift-induced language change can—or is perhaps even inclined to—follow predictable language-*internal* pathways (Heine & Kuteva, 2003). Evidence comes from a prominent verb pattern in which a Kriol lexical verb is used in combination with a Mudburra inflecting verb (3). This pattern is evident in Mudburra recordings from the 1970s as well in modern data, but crucially, has not remained static over this period; instead, it has contracted and stabilised via recognised mechanisms of grammaticalisation (Heine & Kuteva, 2002, p. 2). Specifically, I will argue that the Mudburra-derived "inflecting verb" in this bilingual construction is grammaticalising to become a general, auxiliary-type inflecting element. On a local level, this finding indicates a shift within Mudburra verbal grammar that is massive in its implications for the language's syntax, yet uncannily predictable in its trajectory; on a more global level, this finding implies an extraordinary systematicity within language change processes, regardless of their motivation.

3.) *Jurla-li* *ba=yi* **elp-im**=*wanya* **ka-yini** lait-im-*ku*.
subsect-ERG CAT=1SG.O help-TR=SEQ be-PRS light-TR-DAT
"Jurla is helping me light it." (MMB: AHA1-2016_021-01_low, 1224039_1229266; modern data)

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Reduplication and lexical access

In Wubuy, there are two productive reduplication patterns applying to verbs, depending on the sonoracy of the initial segment. If the initial segment is a stop, the reduplicant is a CV copy of the first CV of the verb stem, as in (1). If the initial segment is a sonorant, the reduplicant is a CVCV copy of the verb stem, as in (2) (if the verb stem is vowel initial, the reduplicant is VCV: we regard this as a subtype of the second, as in (3); examples from Heath 1980).

(1) a. ngi-<u>bu</u>=buri::
       3RSga-Rdp=sit-Pa2
       'she was sitting'   [NMET:5.15]

    b. ngunu-<u>ga</u>-gari=yura-ngi
        3FSg/3MSga-Rdp-behind=carry-Pa1
        'she came along with him'   [NMET: 5.19]

(2) wingi-<u>yangga</u>=ya-nggi
       3FDua-Rdp=go-Pa2
       'they (two) went'   [NMET: 6.1]

(3) ngi:-'nyja:-'nyji=ya-nggi
       ngi:-<u>anyja</u>-anyji=ya-nggi
       3FSga-Rdp-with=go-Pa2
       'she kept going with (it)'   [NMET: 5.18]

These patterns can't be accounted for in any current approaches to reduplication, such as McCarthy & Prince (1995) or Inkelas & Zoll (2005). The reason for the difference in reduplication pattern according to initial segment type is simply mysterious, under these theories.

        As an alternative account, we propose that the differences may be accounted for with respect to lexical access, taking into account the relative informativity of a phonemic string. Specifically, we propose that speakers (in general) reduplicate only *as much as they need to* in order to 'minimally evoke' the verb stem in question. Under such a proposal, the reduplication patterns in Wubuy can be explained by the unusual characteristics of the Wubuy lexicon in which more than 80% of lexemes begin in a sonorant: to successfully activate a stem (and deactivate likely lexical competitors), a sonorant-initial lexeme requires presentation of more phonemic material than a stop-initial lexeme, all things being equal. To our knowledge this is the first application of theories of information and language processing to the phenomenon of reduplication.

Heath, J. 1980. Nunggubuyu Myths and Ethnographic Texts. Canberra: AIAS.
Inkelas, S., & Zoll, C. (2005). Reduplication: Doubling in morphology (Vol. 106). Cambridge University Press.
McCarthy, J. & Prince, A. 1995. Faithfulness and reduplicative identity. In Jill Beckman, Laura Dickey, and Suzanne Urbanczyk (eds.), University of Massachusetts Occasional Papers in Linguistics 18: Papers in Optimality Theory. Amherst, MA: GLSA, 249–384.

We give a preliminary typology of quantification in Australian languages. By "quantification," we refer primarily to expressions that are glossed in English as quantifiers over individuals (e.g. *some*, *all*, *many*, *few*) and over times (e.g. *always*, *sometimes*, *often*). We are also interested in the encoding of quantificational concepts more broadly speaking, including the encoding of distributivity (e.g. *each*), indefinite pronouns (e.g. *someone*, *everyone*), and Wh-words referring to cardinality (e.g. *how many*).

Our findings are currently based on a preliminary sample of 48 primary sources (mainly grammars and dictionaries). We continue to increase the scope of the study, aiming at a target sample of 100 languages. We attempt to give a survey that is geographically as well as genetically balanced. Overall, we note that documentation of quantificational concepts in Australian languages is relatively sparse. Of the 48 sources we consulted so far, 15 do not have any information on quantification at all, and only 10 discuss it in some detail. This paper is therefore in part a plea to increase documentation of quantification in Australia.

We report the preliminary findings based on those 33 languages from the sample for which the sources provided some information.

- Most (27/33) languages in our survey have a word for 'many'
- Many (18/33) languages have a word for 'few'/'a small number' (perhaps without the associated value judgment that comes with English *few*)
- Less than half (12/33) of the languages have a unique universal quantifier 'all'
- A number of languages (9/33) have a lexicalized Wh-word for 'how many' (although in some cases it's not clear whether such Wh-word is only used for 'how many' or such use is an extension of e.g. 'in what manner')

In addition to describing the inventories of quantificational expressions, we analyze organizational patterns of these systems. For instance, in several unrelated languages (e.g. Kunbarlang, MalakMalak and Yir Yoront) temporal quantifiers meaning '*n* times' are formed from existential quantifiers (especially numerals) by adding the word 'arm' or 'finger.' In still other languages (e.g. Bardi, Buwandik, Kalkatungu, Woiwurrung), there is a dedicated suffix for deriving these 'times'-quantifiers.

We further report on a variety of fine semantic distinctions and complex phenomena, such as collective vs. distributive universal quantifiers (e.g. Bardi), strategies to mark distributivity more generally (e.g. the Mayali preverb *bebbeh*-), mass vs. count quantifiers (e.g. Martuthunira), exhaustive focus expressions (such as the MalakMalak suffix -*wuna* 'only'), and Boolean compound quantifiers (Murriny Patha: *manangga-wurnangat* 'not-many').

Conclusions. We show that, contra the widespread assumptions, quantification systems in Australian languages exhibit significant diversity both in form and in meaning. This finding is in line with Bowern & Zentz's (2012) results in a survey of numeral systems in Australia. We maintain that the lesser reliance on counting in Aboriginal cultures (relative to the Europeans) does not entail poor or uninteresting quantificational systems. On the contrary, this appears to be a research field of considerable wealth and interest.

References. Bowern, Claire & Jason Zentz. 2012. Diversity in the numeral systems of Australian languages. *Anthropological Linguistics* 54(2). 133–160.

Linguistic areas and typological diversity in Australia

The languages of Australia are well-known for a number of traits that are unusual on a global level: the paucity of fricatives, the large number of nasals, and small vowel systems are a combination unknown elsewhere in the world. There is, however, plenty of variation within Australia as well, in the realms of both phonology and morphosyntax. In this talk we objectively examine the distribution of linguistic traits in a sample of 120 Australian languages, coded for full segmental and phonotactic inventories, and morphosyntactic features as represented in *WALS*. We then approached the problem of objective typological classification by applying multidimensional scaling to dependency-sensitive pairwise distances among the languages (following Hammarström & O'Connor 2013), and clustering the resulting points using a mixture model based on the von Mises-Fisher distribution (Hornik & Grün 2014). We found that while the Kimberleys-Top End can be easily identified morphosyntactically, there is no clear Pama-Nyungan 'footprint'; that is, internal to Australia, more diversity lies within the Pama-Nyungan languages than without. Phonologically a number of areas can be identified, not including the Kimberleys-Top End area. The discrepancies between the phonological clusters and the morphosyntactic clusters suggest that northern Australia is a residual convergence zone, and that much of Pama-Nyungan could well represent an accretion of disparate languages into an apparent subgroup. Other divisions, between coast and interior, and between east and west, are suggestive of earlier socially-significant regionalities which have left their mark in the linguistic signal. We offer cross-disciplinary hypotheses for some of the clusters, and interpretations of the divergence of phonological and morphosyntactic signals in different parts of the continent.

References
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Donohue, Mark, Rebecca Hetherington, James McElvenny and Virginia Dawson. 2013. World phonotactics database. Department of Linguistics, The Australian National University. http://phonotactics.anu.edu.au.
Hammarström, Harald and Loretta O'Connor. 2013. Dependency sensitive typological distance. In Lars Borin & Anju Saxena, eds., *Approaches to measuring linguistic differences*: 337–360. Berlin: Mouton de Gruyter.
Hornik, Kurt and Bettina Grün. 2014. movMF: An R Package for Fitting Mixtures of von Mises-Fisher Distributions. *Journal of Statistical Software* 58(10): 1–31.

Map 1. A morphosyntactic cluster
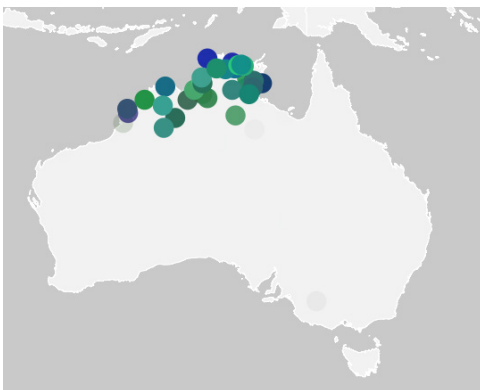
Map 2. A phonological cluster
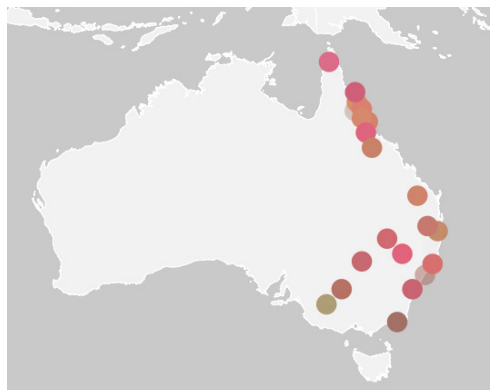
A preliminary reconstruction of Proto-Australian

This paper provides an overview of a reconstruction of Proto-Australian. We show there are similarities, distributed across the range of Australian languages, in nominal class prefixes (Harvey & Mailhammer in press), pronominal verb prefixes, TAM affixes, and a small number of lexical roots. We show that these similarities involve significant geographical discontinuities, and significant irregularities both within and between languages. Therefore, we propose that the data supports the hypothesis that all Australian languages are related, over hypotheses that the similarities are due to chance or contact. This genetic unity has been the working hypothesis in mainstream Australianist research, but it had never been evaluated using the standard method in historical linguistics, the Comparative Method.

The distribution of the nominal Class IV *ma- prefix in Map 1 illustrates a typical discontinuous distribution. As shown in Harvey & Mailhammer (in press), genetic analyses of this discontinuous distribution are better supported than hypotheses of chance or contact.
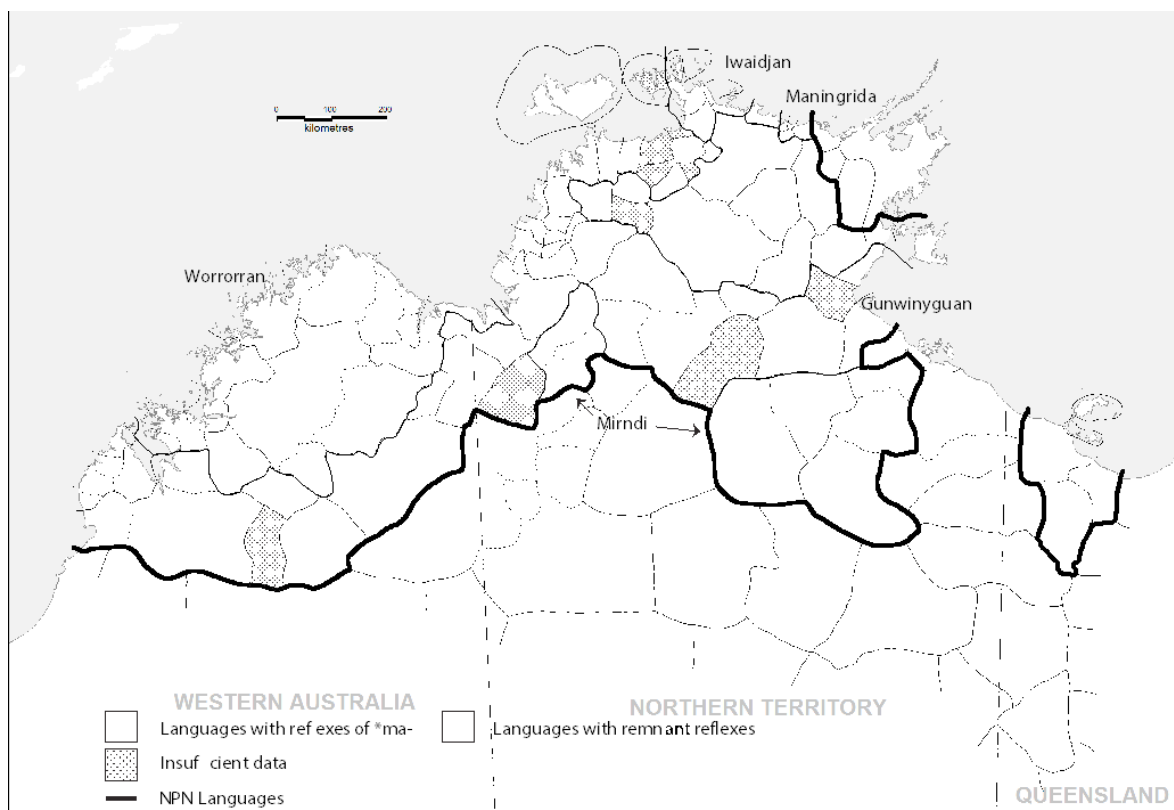
Map 1: Reflexes of *ma 'plant' (Harvey & Mailhammer in press)

The hypothesis that all Australian languages are demonstrably related to each other has far-reaching implications. First, it means that Australia is genetically the least diverse inhabited continent in the world, as all languages belong to the same family. Second, it means that two distinct waves of supra-regional language spread can be reconstructed in Australia. The first involved Proto-Australian, and the second Proto-Pama-Nyungan. Analyses of diachrony under hunter-gatherer economies cannot therefore posit that supra-regional language spread is an atypical, 'one-off' phenomenon.

References:
Harvey M. & R. Mailhammer. in press. Reconstructing remote relationships: Proto-Australian noun class prefixation. *Diachronica* 34(4).