



# Australian Linguistic Society 2022 Conference

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# ABSTRACTS

DAY 1 – Wednesday 30 November

## PLENARY 1

Jane Simpson	Fragile ecologies: Teaching Indigenous languages at universities: 1995-2022
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Teaching particular Australian Indigenous languages and courses about Indigenous languages currently enjoy some support within universities. Such teaching fits in with university reconciliation action plans, Indigenous Studies programs and embedding Indigenous knowledge into curricula. Tertiary-level language courses also assist in fulfilling community aspirations for language maintenance (language for communication) and for language renewal (language rebuilding). Teaching language for communication fits with traditional university language courses. Teaching languages for renewal has elements of traditional language teaching but also shares much with linguistics teaching (teaching about languages), with cultural awareness courses, and with Indigenous Studies. Whether for language renewal or for communication, involvement of the language community is essential. However, few universities actually offer such courses, only a few languages are on offer, and their administrative position is fragile. I reflect on the history of teaching of Indigenous languages at universities, notably the special constraints of ownership, changing audiences, types of courses, and the role of diaspora heritage language communities.

## Special Interest Group "Linguistics in schools"

Iain Giblin, Clarence Green and Jean Mulder	A Narrative Synthesis review of Genre Theory/SFL-based pedagogies for reading and writing outcomes in Australia f-10.
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We report a Systematic Narrative Synthesis review of Genre Theory/Systemic Functional Linguistics based pedagogies reading and writing outcomes in Australia f-10. Narrative Synthesis is a form of systematic review that is transparent and unbiased and therefore provides a suitable format for assessing the effects of interventions. The working research question of this study is “What is the evidence base for pedagogies based on SFL/Genre Theory within f-10 education in Australia?”. Our goal is to evaluate the empirical evidence for SFL/Genre Theory pedagogies given their long-established presence in Australian curricula (Rose, 2019).

This study adopts the systematic narrative synthesis methods used by Erbeli and Rice (2021) for sustained silent reading. Our review used the following three-stage process:

First, we conducted an exhaustive database search for studies using librarian-vetted Boolean search terms in databases (e.g. “genre approach” OR “genre based” OR genre-approach OR genre-based OR “genre pedagogy” OR “systemic functional linguistics” etc).

Second, the three project members screened the studies identified in the database search (< 3000 studies) according to the criteria of Erbeli and Rice (2021), What Works Clearinghouse, and the Popay et al. (2006) Guidance on the Conduct of Narrative Synthesis in Systematic Reviews. We only included include experimental or quasi-experimental reports that considered the effect of SFG/Genre-based instruction on writing and/or reading related outcomes and achievement. We excluded studies that did not include at least one measured outcome as a dependent variable. We also excluded studies that did not include a control group. We also excluded studies that only analysed the association between intervention and outcomes, that is correlational designs. We only included studies of writing/reading for English in grades f-10 and only included peer reviewed journal articles, books or book chapters, grant reports from 1991-2021.

Third, the studies that passed these criteria were analysed with a Quality Indicators Evaluation Codesheet that was adapted form Erbeli & Rice (2021) and Gersten et al. (2005).

We identified very few peer-reviewed published studies that demonstrated any effect of an intervention and given SFL/Genre Theory’s position in Australian curricula this was a surprising result. Our systematic review suggests that there is an insufficient evidence base for SFL/Genre Theory pedagogies within f-10 education in Australia. We suggest that high-quality intervention studies should be undertaken to assess the efficacy of SFL/Genre Theory in terms of measurable outcomes.

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Charbel El-Khaissi	Student Writing Progress: An Experimental Proof-of-concept Application
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This presentation investigates the feasibility of using corpus linguistic technology for identifying habitual writing errors in Australian secondary school students. A small experiment was conducted using written assignments of a Sydney-based high school student, comprising a small corpus (500k words) that spanned three years (2019-2000), multiple subjects (English, Geography, Health, Religion, etc) and multiple genres (e.g. creative writing, scientific reports). Experimental design emphasised the automation and scalability of natural language data collection, processing, analysis, and visualisation to enable swift deployment in school networks. Results expose both positive and negative trends in student writing performance across several Australian curriculum areas. The presentation concludes with the implications for using such technology at a micro- (e.g. classroom) and macro-level (e.g. national), including possibilities for month-on-month adaptive grading (i.e. measuring individual student writing progress longitudinally) as a complement to biennial, standardised assessments (e.g. point-in-time NA- PLAN testing). Existing challenges and opportunities for commercialising this application in the EdTech sector are also provided.

Annelise Balsamo	Reviewing VCE English Language: a narrative
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VCE English Language is one of only two senior English studies based on the discipline of linguistics globally. In the Australian context, no other national jurisdiction has a comparable study, and internationally, only England has any study like it.

This reality makes it a challenging study to benchmark, review and revise to maintain best practice and to meet the needs of the Victorian cohort of students who choose to study it. This paper will give an account of the current review of VCE English Language, the study's relationship with the current Victorian Curriculum F-10: English and implications with the changes made to the Australian Curriculum v.9.0. The presentation will include the ways the review is thinking through the opportunities and challenges posed by its unique status in senior secondary English.

Anna Stewart	The relevance of syntax in the English classroom
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This presentation is about a syntax program that I am concurrently writing and teaching as an English teacher in a high school. The aim of the program is to develop student skills in writing by exploring the conventions of syntax, rather than looking at paragraph structure as is the current practise.

The norm for English teaching in the classroom is to lay down a clear paragraph structure, such as TEEL, for year seven students. The intention is that when the students are in the senior classes, they develop the complexity of the paragraph parallel with developing greater insight of the text.

I believe this approach is flawed for two main reasons:

1. That by teaching students to shape their thoughts so early into a predetermined structure, we are impacting on their capacity to develop critical thought.

By learning to write to a predetermined paragraph structure, students are given a limitation on how they can express their thoughts and insights. Students tend to focus more on how to meet the structural expectations set out by their teachers than on the quality of the thoughts themselves.

2. That junior students can already interpret nuance and complexity in texts.

English teaching seems to equate students' comprehension of text to their written expression of that comprehension. Therefore, if students don't write with clarity, then the assumption is that they have not understood the text itself.

In my year seven English class this year, I have been spending the first fifteen minutes of each class developing awareness of syntax with the goal to raising an awareness of crafting sentences to reveal emphasis and control of meaning.

My students can identify the subject, verb and adverbial functions in a sentence. They understand that the adverbial can be moved around the sentence for different focus.

My students can identify simple, compound and complex sentences; and are aware of the nature of the subordinating clause in the complex sentence and its possibilities as both the opening and closing clause.

My students can use conjunctive adverbials.

My students can use embedded sentences in the form of the appositive and the relative clause, and can recognise which parts of these sentences carry the most weight; therefore, what content could follow for better cohesion.

By understanding these syntactic properties, my students are also learning to manipulate how to use these different structures to create emphasis and meaning through the encouragement of language play and invention.

In my development of this alternative teaching method, I would continue this learning into year eight to encompass other syntactic features of parallelism, antitheses and listing; as well as cohesive strategies such as synonymy, antonymy, repetition, substitution, referencing, and aspects of information flow.

Currently, English teaching seems to jump from lexicology to discourse; however, I believe that it is in the syntactic control that students can develop the capacity to express complex thought. It is my belief that students in these early middle years should not be asked to write essays, or possibly even paragraphs, while they develop their writing craft, but rather are given learning tasks that allow them to express their insights without the restrictions of a provided structure. During this time, students are gaining the capacity to organise and structure their thoughts in a more organic way. Essays produced by senior students introduced to writing in this way are more likely to be better structured with stronger cohesive flow and revealing more critical insight.

I would welcome feedback and discussion that sharing the program would generate.

Peter Crosthwaite	Data-driven learning for younger learners: Introducing CorpusMate
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The use of corpora for learning about language through language, also known as Data-driven learning (DDL) is fast becoming de rigueur at tertiary institutions but is little known in primary/secondary education contexts. Reasons for this include complexity of current corpus tools mostly designed for adult researchers, a lack of simple ("pedagogically processed") corpora for consultation, a lack of TPACK in teachers thinking of adopting corpus methods, and many more. This proposed talk within the "Linguistics in the School Curriculum (LiSC) Special Interest Group" session for ALS introduces a new corpus tool - CorpusMate - currently being designed to resolve many of these issues. CorpusMate uses NLP technology to simplify corpus data into syntactically and lexically simpler results at the point of query, while offering a clean Google-like online platform for ease of use. Users have the ability to filter queries according to the main school disciplinary areas (e.g. science, English, geography, etc.), and have access to a range of textual, statistical and visual information from which to come to conclusions about language in use. I introduce this platform with the aim of discussing its potential affordances for Australian pre-tertiary classrooms and curricula

## Bilingualism

Anna Mikhaylova and Ellena Brownlow	Narrative discourse structure in literate Russian-English child bilinguals in Australia.
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The present study continues the line of research into oral narratives of Russian-English bilinguals elicited using wordless picture books with bilingual adults (Dillon & Kagan, 2006; Polinsky 2007) as well as children, primarily under the age of 7 (Gagarina et al, 2015, 2021; Karpava et al, 2015; Rodina, 2017; Mikhaylova & Ravitch, 2018; Protassova, 2021; Ringblom, 2021; among others). While pursuing different research questions, the studies above turned to narratives as an effective lens into communicative abilities in bilinguals' one or both languages. Many of the recent studies cited above used LITMUS-MAIN (Multilingual Assessment Instrument for Narratives) (Gagarina et al, 2012, 2019), which consists of a set of picture books with an evaluation protocol for the assessment of narrative discourse competence, i.e., macrostructure and microstructure in one or two languages.

The dataset for this study was also collected using MAIN picture books and elicitation protocols in three Russian community schools in Australia. We tested 80 children aged 4-12, allowing comparison of developmental features in narrative produced by older children with those reported in the literature. Our study pursued the following objectives: (1) to examine the relationship between macro- and microstructure of the collected narratives; to compare data on children under the age of 7 with data from older children; (3) to examine the effect of language exposure and experience on the narrative discourse structure.

A detailed background questionnaire was administered to capture the language history of each child providing insights into age of onset of bilingualism, types of exposure, literacy, proficiency and amount of time devoted to each language. The majority of the children had both Russian-speaking parents and were born in Australia or another English-speaking country but exposed to Russian from birth at home and to English shortly after.

We then transcribed and coded each narrative using the MAIN (2019) instrument to measure each story's macrostructure, i.e. story structure (SS) and story complexity (SC) as operationalized Gagarina et.al (2021). In addition we are in the process of examining each story for microstructure, i.e., total number of Russian words (tokens), excluding repetitions, self-corrections and fillers; number of grammatical units (inflected predicate with its argument, following Polinsky (2007)); as well as speech rate measured in words per minute, excluding English words, repetitions, self-corrections and fillers but not excluding pauses.

In our paper we will discuss our findings in light of declared research questions, practical implications beyond linguistic analysis and in light of methodological considerations pointed by De Cat (2022).

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Meron Reda	How can the languages acquired during the refugee journey assist African youth settle better in Australia?
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Refugee-background African youth bring with them to Australia language resources that can support their settlement. Their heritage languages play significant roles in building and sustaining connections with their speech communities. Having a sense of belonging to family, speech communities, and the broader Australian public is fundamental for refugee-background youth to become established. This research sees that current Australian literature on refugee settlement predominately covers the benefits of English language acquisition. Existing literature also simplifies the language experiences and challenges of refugee-background individuals. Situated in Applied Linguistics, and Migration and Language Studies, and building on Hatoss' work on displacement and language shifts, this research explores how the multilingual experiences of refugee-background African youth affect their settlement in Australia. It specifically studies how acquisition of multiple languages and changes in language use in Africa and in Australia impact the ways African youth belong to their speech communities in Australia. Following the mixed method approach, this study gathers data through an online questionnaire, narrative-writing task, and follow-up interviews. Data analysis using the narrative inquiry method finds languages acquired during a refugee journey useful for settlement in Australia. If sustained, the languages that refugee-background individuals acquire on their journey to Australia provide them opportunities to engage with and belong to various speaker groups. This study also reveals that a 'transit' experience offers perspectives essential for living in harmony with people from different walks of life. The study's findings encourage settlement agencies and policymakers to shift from addressing issues of African refugees following uniform approaches.

## Translation

Dima Rusho	Critiquing neutrality and impartiality in First Nations language interpreting
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Accredited professional interpreters working in Australia are required to abide by the Australian Institute of Interpreters and Translators Code of Ethics which consists of several general principles that govern how they carry out their professional interpreting duties. One principle, impartiality, requires interpreters to act as impartial and unbiased participants in interpreted interactions. However, adhering to the principle of impartiality can raise certain challenges for interpreters, including navigating cultural norms and practices, as well as expectations of solidarity with one's community. These challenges have been widely discussed in the literature (Hale, 2011, 2008; Roy, 2000; Wadensjö, 2014; Zimanyi, 2009), but there remains only a small body of work that focuses on First Nations language interpreting in Australia (although see Cooke, 2002, 2004). In this paper I explore some of the specific factors that can impact the ability of First Nations interpreters to remain impartial while working in institutional settings, particularly with regards to the justice system. I examine the relationship between the notions of impartiality and neutrality and argue that they are both frequently challenged by kinship obligations, cultural and social expectations, and historical and ongoing relations of power. The data in the paper is drawn from fieldwork conducted in the Northern Territory in 2018 and 2019 and includes field notes, court observations, and recorded semi-structured interviews with First Nations language interpreters as well as legal professionals and judicial officers. Findings demonstrate that the issues facing interpreters are not widely recognised in the justice system and that greater awareness is needed of the complexities of neutrality and impartiality in interpreting. The paper also provides new insights into how these issues are magnified in specific settings, such as circuit courts, where interpreters are often related to many of the community members involved in court proceedings and therefore have additional obligations to contend with.

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Sixin Liao, Lili Yu, Jan-Louis Kruger and Erik Reichle	The influence of subtitle-video congruency on subtitle reading: Evidence from eye movements
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Despite the prevalent use of subtitles in educational videos, our knowledge about the mental processes underlying the interaction and integration of subtitles and video content is still limited. To advance our understanding in this sphere, two experiments were conducted to investigate how the congruency between the subtitles and video content might affect the reading of subtitles, and how such effects might be modulated by subtitle speed. In Experiment 1, participants watched six videos from a BBC documentary series with subtitles presented at three different speeds (12 cps, 20 cps, and 28 cps) while their eye movements were recorded. The

degree of congruency for each subtitle and its accompanying video content was rated by a different group of participants, with the average congruency rating being treated as a fixed-factor in the eye-movement data analyses. Experiment 2 set out to examine the influence of subtitle-video congruency with more experimental control using a sentence-picture verification paradigm. Participants were presented with 240 short videos that displayed a moving geometric object with a subtitle that either described the video accurately or inaccurately (i.e., true/false subtitles). Participants were asked to judge whether the subtitle described the video accurately and press corresponding key buttons for their response as soon as possible while their eye movements were recorded. Three congruency conditions (high- vs. medium- vs. low- congruency) were defined by manipulating the extent to which the subtitle disambiguated the descriptors for three features of the object, namely color, shape, and orientation. In the high-congruency condition, all three features were described unambiguously (e.g., “a red circle object is moving to the left”), whereas the medium-congruency conditions had one feature described ambiguously (e.g., “a red circle object is moving horizontally”). In the low-congruency condition, two features were described ambiguously (e.g., “a red curved object is moving horizontally”). Participants were exposed to all videos with subtitles at two speeds (12cps and 28 cps). The 12cps condition were always presented prior to the 28cps conditions in order to prevent participants from applying a text-skimming strategy that they might develop at the fast-speed condition to the low-speed condition. All videos within the same speed condition were presented in a randomized order. Preliminary results showed that participants spent proportionally less time reading subtitles and made fewer inter-word regressions when the video content was more congruent with the subtitle. These findings suggest that, when reading in multimodal contexts, readers are constantly assessing the relations between different information sources to inform their decisions about when and where to move their eyes. Implications for research on multimodal reading and multimedia learning will be discussed.

Jia Zhang	A systematic review of machine translation in contemporary translator training
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Machine translation (MT) and post-editing (PE) have now been in commercial use for decades, providing technological support for translators. Post-editing, which refers to checking, proof-reading, and revising the output of MT systems (Gouadec, 2007), is necessary, because MT still cannot accurately and fluently convey all the meaning of the source text to the target language. Recognizing the importance of MT and PE, business organizations and higher education institutions have begun to offer specialized training on MT/PE to professional translators and translation students. However, such training is relatively nascent and still being developed. This talk will report on a systematic review of all available applied work on MT/PE in translator training, with an aim to present the current research trends and discover gaps. In previous studies, three major research themes were identified, “the impact of MT/PE”, “teaching pedagogy of MT/PE” and “MT/PE as a teaching instrument”. In general, there is evidently more interest in training in the higher education context, while less attention is given to training in the professional setting, despite that MT training has been offered in the industry even earlier than that in university programmes. Though empirical evidence has shown that MT/PE is beneficial to translation students, not much exploration is done on exactly when the best timing is to teach students the skills. In addition, researchers did not reach consensus on what and how much knowledge of MT/PE should be taught. In terms of methodology, most previous research involved only one type of data, which shows methodological triangulation is not as common as expected. Experimental design in empirical studies is problematic in that variables are not strictly controlled, and control groups are sometimes missing. This review is significant as it identifies current trends and gaps, which facilitate a better understanding of the role of MT and PE in translator training, and the work that is still needed for more standardized, accessible, and effective training on MT/PE.

Reference

Eve Jingwen Chen and Jia Zhang	Poetic or lost in translation? Conceptualizing the use of Classical Chinese in English song subtitling
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Using Classical Chinese in English song subtitling is trending in China, and it has triggered heated public debates. Many music fans believe the use of Classical Chinese in English song subtitling represents the literary aesthetics of the Chinese language, but critiques about such trend are found among professional translators and skeptical members of the general public. This study aims to identify public perceptions towards using Classical Chinese in English song subtitling and investigate how these perceptions impact the professional criteria of song lyrics translation and imply the practice of song lyrics translators. Drawing on the strengths of the Cultural Linguistics (Sharifian 2017) framework, we address the proposed questions in this study by deconstructing popular WeChat articles about using Classical Chinese in English song subtitling and unpacking cultural conceptualizations embedded in public opinions towards this translation strategy and its products. Moreover, we seek to understand the collective cognitive processing of song lyrics translators by analyzing discourse data in these articles about the criteria of good song lyrics translation. By drawing a conceptual mind map with the underlying conceptualizations, we further discuss technical challenges faced by song lyrics translators and the proper strategies song lyrics translators can negotiate to meet both the professional standards and the market's expectations. This study can enhance understanding of how Chinese youths conceptualize traditional cultural elements and provide insights on the negotiation of translation strategies in song translations, and in particular, song lyrics subtitling.

Keywords: song lyrics translation, song subtitling, Cultural Linguistics, cultural conceptualizations

Reference:

Sharifian, F. (2017). Cultural Linguistics. John Benjamins Publishing Company.

Wei Yu	Attitudinal Positioning in Bilingual Legal Judgments of Hong Kong: A Case Study
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As a multilingual and post-colonial society, Hong Kong maintains the common law legal system tradition as its current legal system. In present Hong Kong, both languages of Chinese and English are the official language according to the Basic Law (1997). However, in the progress of legal bilingualism, English remains dominant and Chinese is increasing its role in law. This presentation focuses on bilingual legal data, legal judgments drafted in Chinese and translated into English, which is uncommon in Hong Kong.

Following the framework of Martin and White (2005) and with the help of the UAM corpus tool (O'Donnell, 2022), the presentation analyses the evaluative expressions at both bilingual contexts and different levels of courts in a criminal case regarding dangerous driving which caused harm. Altogether, there are three legal judgments, including two Chinese versions and one English version. One Chinese version and its corresponding English version is from the Court of Appeal of the High Court, whereas the other Chinese judgment is from a lower court, the District Court, of the same case. The comparative analysis of the four judgments aims to answer the two research questions: 1) how do different levels of courts construct their legal argumentation towards the same facts; and 2) how is the evaluative language in the source text, which contributes to constructing the legal argumentation in legal Chinese, represented in the default language of the common law system.

This presentation is a case study of legal discourse in the post-colonial common law practice from the linguistic perspective. This study can contribute to the other bilingual jurisdictions and the construction of legal argumentation in both original and translated legal discourse.

## Sign language/gesture

Samantha Rarrick, Eleanor Jorgensen and Lisa Petersen	Future-proofing corpora: what eyeblinks in Hawai'i sign language show
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Language documentation aims to create a complete record of a language in use. The language materials that linguists collect, curate, and archive are typically intended to be long-lasting and to serve language stakeholders and a wide range of potential future users. Our current research with eyeblinks in Hawai'i Sign Language (HSL) draws from a corpus compiled in the 2010s. This corpus was originally collected with a focus on creating language-learning materials. Because the data were not designed for investigating the linguistic properties of eyeblinks, they have been useful for

identifying methodological issues surrounding 'future-proofing' data. Here, we examine some of

the issues that we have encountered as 'future users' of this corpus and use these to provide recommendations to improve existing and future collections, particularly with regards to naturalistic data collection of a small sign language.

The HSL corpus is primarily comprised of 20 hours of classroom-style videos which were recorded in weekly sessions over two years. The recording set up included multiple video cameras recording at speeds and frame rates in-line with current best practices for language documentation at the time (Margetts & Margetts 2012). Working with the archived HSL corpus has highlighted some methodological concerns with eyeblink research broadly and more specific problems with this particular corpus, despite the fact that the data were collected and stored in line with best practices. Some of these issues, such as small sample size and low diversity of language users in the data, are inherent to endangered language contexts. Other issues, such as poor video quality that limits visibility of the participants' eyes, suggest that the standards for video recordings in language documentation need to be adjusted or interpreted as a minimum level of quality, especially as data storage has become easier, less expensive, and requires less physical space in recent years.

We focus on two aspects of naturalistic data collection: i-maximising diversity – of participants, genre, filming location, and suitability for many avenues of research – and ii-minimising the visual 'noise' which comes from recording in situ. The HSL corpus includes diverse topics and genres (narratives, language lessons, and conversations); however, because the recording environment rarely changed over the years that the data were collected, the lighting in most recordings creates a glare off the signers' glasses which obscures the eyes. For this corpus, the lack of diversity of recording environments was not considered because the set up worked well for the visibility of the hands and bodies of the signers and the linguists present. Lack of visibility of the eyes was not noticed or raised as a concern until our eyeblink research began, approximately five years after the data were archived. Unlike many archived collections, there will likely be more opportunities to collect more suitable data for HSL eyeblink research, but this problem clearly shows a drawback of the common practice of privileging 'perfect' data over 'diverse' data.

Ensuring that language documentation and corpora are suitable for a diverse range of future uses, including unforeseen topics like eyeblinks, necessitates that the data are also highly diverse.

Accounting for this in future and ongoing research may require recalibrating and refining current standards for data collection and management. It also requires researchers to reflect on the diversity of diversity in the corpora that they manage. Our experience as researchers testing the future-proofing of the HSL corpus has shown that collections that are diverse in one area (such as content or style) may be inherently limited by homogeneity in another (such as recording environment). By sharing potential proactive solutions for ensuring diverse diversity, we aim to provide unique perspectives on data collection and management that can increase the longevity of corpora and the languages recorded in them.

Margetts, Anna & Andrew Margetts. 2012. "Audio and video recording techniques for linguistic research". In Thieberger, Nicholas (ed.), *The Oxford handbook of linguistic fieldwork*, 13–53. Oxford: Oxford University Press.

Eleanor Jorgensen, Anna Margetts, Harriet Sheppard and Isabelle Burke	What counts as a relevant gesture in the study of multimodal event expressions?
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The relationship between speech and gesture can be considered along two separate but interconnected lines: how gesture and speech are ordered in relation to each other across time (temporal alignment) and whether they express the same information (co-expressiveness). Speech and gesture are commonly seen as closely integrated, in the sense that most gestures will temporally align with the spoken elements with which they are co-expressive (McNeill, 1992). This picture gets somewhat more complicated when we consider the alignment of gestures not with individual words but with expressions of events. This is because an event is not usually mapped onto a single lexical item, but rather is distributed across different parts of a clause and beyond (Bohnemeyer et al. 2007). As such, research on the multimodal expression of events has largely been concerned with the distribution of specific meaning components across both speech and gesture, with many studies focusing on how path and manner are expressed in motion events (e.g. Chui, 2012; Furman, 2012; Gullberg, 2011; Gullberg & Narasimhan, 2010; Kita & Özyürek, 2003; Özyürek et al., 2005, 2008). To look at multimodal event expressions, researchers must first decide what counts as a relevant gesture. We see two main ways in which this is determined: 1) the selection of representational gestures based on alignment with target speech (see for example, Bergmann et al., 2011; Boutet et al., 2018; Defina, 2016), and 2) the coding of representational gestures which express the meaning(s) under study (usually path and manner), regardless of what speech they are produced with (see for example, Kita & Özyürek, 2003; Özyürek et al., 2008). Both methodologies are narrow – the first in terms of temporal alignment, and the second in terms of meaning.

In this presentation we report on a project about the multimodal expression of caused motion events taken from natural text data corpora of three languages: Australian English, Saliba- Logea and Sudest (both Oceanic languages spoken in Papua New Guinea). Our focus is methodological in nature. We explore how the definition of an 'event-relevant' gesture – that is, the type of gestures to be included in the investigation – impacts on the results of our overall analysis. For this purpose, we coded all representational gestures which temporally align with any part of what we considered a caused motion event expression in the data. This included the verb(s), but also phrases denoting the agent, theme, path, source, or goal. All speech and gestures were annotated for meaning components including manner of caused motion, manner of motion, path, source, goal, agent, and theme.

This data set allowed us to differentiate several conditions:

- (a) gestures co-occurring with the verb(s) expressing the event
- (b) gestures co-occurring with their lexical affiliate (i.e., gestures which were co-expressive with the speech with which they aligned)
- (c) any gestures which conveyed information about caused motion
- (d) all (representational) gestures co-occurring with any part of the event

In the first instance, these different conditions render different amounts of gesture tokens to be analysed. But beyond this, they affect the patterns that can be observed regarding the frequency of different meaning components being expressed in gesture, and the patterns of which meaning components occur in temporal alignment across gesture and speech.

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Jessica Kruk, Lauren Gawne and Peta M. Freestone	Live Long and May the Odds Be Ever in Your Favour: Emblem gestures in sci-fi and their uptake in popular culture
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This paper draws attention to the important effect that gesture in science fiction can have on real-world communicative contexts, as well as the benefits and challenges of using corpus approaches in gesture study. Australians are avid consumers of science fiction across books, film and television (Clute & Langford 2021).

Worldbuilding in science fiction includes language choices that contribute to the fabric of the fictional setting. One language element occasionally integrated is gesture, a ubiquitous feature of communication across human cultures. We use corpus methods to explore the use of gestures in two science fiction worlds and their adoption in wider society. The first is the 'Vulcan salute', the recognised gesture of greeting for one species of humanoids in the Star Trek universe. The second is the 'three-finger salute' used in The Hunger Games universe. Both are gestures of a type commonly known as emblems (Efron 1941/1972; Ekman and Friesen 1969).

Emblems have standards of well-formedness and a conventional meaning for a particular group, which can have a distribution beyond linguistic boundaries (Morris et al. 1979; Payrató and Clemente 2019). While corpus approaches to gesture have been limited by the lack of available annotated corpora of gestural phenomena, emblems are specifically valuable for corpus studies as they are ‘named’/‘namable’, making it possible to conduct text searches. We use novel corpus methods to explore use of each of these emblems.

Firstly, a Twitter corpus of emoji use of the Vulcan salute shows that the gesture is used to represent Star Trek fandom and wider nerd culture, alongside its use as a greeting gesture. Secondly, a global news corpus shows the three-finger salute has come to be used as a pro-democracy protest gesture across political and cultural boundaries in South East Asia. These corpus studies show different trajectories for the two gestures, with the three-finger salute escaping the confines of its fictional world, while the Vulcan salute has come to stand in as a reference to the media it originated from. We conclude with a reflection on the opportunities, challenges and limitations of bringing corpus methods to gesture studies.

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## Language learning

Mujahid Torwali	Prospects for Indigenous Language Education in Pakistan: Focusing on the case of the Torwali language in the Swat district of North Pakistan.
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In this paper I will present research I am currently undertaking for my PhD about Indigenous languages in the education system in Pakistan focusing on the case of my own community language, Torwali of Swat, north Pakistan. As part of my project, I am also developing a methodology for creating a teaching grammar for my language as an example of an accessible community grammar. This will assist teachers in my community to engage with teaching about Torwali language and to teach in Torwali. Here I will describe ways in which using Indigenous languages in education supports students in their learning and will also present what I have so far done, as a teacher in my Torwali community, in the context of language in education in Pakistan.

All Indigenous communities in the world are being colonised in many ways. They are being kept away from education and especially education in their mother tongue. The first thing dominant societies have done is to demolish the language and culture of the Indigenous communities after invading. All the world's Indigenous communities are colonised by invaders and Pakistan has at least 72 language groups, all Indigenous who have been internally colonised by the State or by other Indigenous groups within the region or by the British. The tyranny of this experience is that invaders first want to suppress the language of the local people and then popularise their own language establishing their own languages in the teaching and writing system to further perpetuate their dominance. These invaders then destroy the customs and traditions of the Indigenous people to erase all ties to their past. This is our experience, as the Indigenous communities of Swat. Urdu the National Language of Pakistan and English the unofficial 'official language' and Pashto, the language of the dominant Pashtun invaders in Swat, have all become the languages of education with our own Indigenous languages unsupported in the education system. If the Indigenous languages continue to be marginalised in the education system, the new generation will have no knowledge of their past.

Local languages are not just languages, behind each Indigenous word is a history of the land and the people. For example, if I take the name of a village in my region 'Gurnal' in Torwali language, there is a philosophy behind it, what can this name mean, was it the name of a person, was it a special event? Is this place given the name Gurnal for any special event? But in contrast, if I take the name of this village in any other language, like 'Gurnai', it does not matter to anyone, including Torwalis, because they know that the name has been Islamised or given a new name in the Pashto by the local or district administration.

Torwali is attributed to the group of Himalayan languages widely known as the Dardic group, which belongs to the Indo-Aryan family of languages. Recent long term areal research, conducted in north Pakistan since the 1980s led by linguist Henrik Liljgren (University of Stockholm, Sweden) questions the Dardic grouping but as this is work in progress, I will refer to the group as it is currently more broadly referenced. The Torwali language had no formal writing system until 2007. In 2005, work began to develop an orthography, an alphabet book, and a primer, with the support of SIL International by local language activists. After two years, a curriculum for the early childhood multilingual education program was developed in Torwali by a community-based organization 'Idara Baraye Taleem-o-Taraqi' (IBT). The course books in Torwali include graded reading stories, reading and writing primers, listening stories, big books, children's rhymes, basic mathematical concepts, cultural and ethical studies, and counting books. A teacher's guide, which was developed by Susan Malone, UNESCO, and an SIL International consultant on literacy and education, was translated into Torwali from English. I have also written a trilingual daily usage conversation book in English, Urdu, and Torwali, which is very famous among the students and other language learners. These teaching materials IBT produced by IBT are limited to use in its own Multilingual Education (MLE) schools in the Torwali area. Public and private sector schools are in principle not allowed to teach anything out of the set standard curriculum. Even local Torwali teachers are not allowed to teach in their own language. Being a teacher, I have experienced that students learn better when teachers teach them in their mother tongue. So far in Pakistan there is no hope for the inclusion of Indigenous languages in the

Education System but some education activists are eager to develop a movement to support mother tongue education in Pakistan.

Saboor Hamdani, Angel Chan, Natalia Gagarina, Ewa Haman, Magdalena Łuniewska and Sharon Armon-Lotem	Learning Urdu as A Minority Heritage Language: Reduced Input Effects and Linguistic Vulnerabilities
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For decades, Australia has been home to many migrant families, with the Census 2021 data shows that the number of Urdu speakers (mostly Pakistanis) has increased by over 60% to more than 111,000 between 2016 and 2021; and that over 60% of this population are Australian citizens (Australian Bureau of Statistics, 2022). Despite Urdu being ranked as 14 out of 429 languages spoken in Australia, (Australian Bureau of Statistics, 2022), and 10th in the world (Eberhard, 2022), child language studies on Urdu have been scant in the current acquisition literature. This presentation aims to (i) address issues in the heritage language acquisition of bilingual ethnic minority children: reduced input effects and linguistic vulnerabilities; and (ii) promote our online Urdu adaptations of language assessment tools from the European Cost Action “Language Impairment Testing in Multilingual Settings (LITMUS)” battery for assessing Urdu-speaking children that are increasingly common in Australia and many other countries.

This study examined a group of bilingual ethnic minority (EM) children acquiring Urdu (L1) as minority heritage language and compared their L1 language abilities with their peers acquiring Urdu (L1) as majority language in Pakistan. The EM children acquire Urdu in their host country under reduced input, while the control group acquire Urdu in their country of origin with more abundant input. We predict that certain language areas that are more affected by language input conditions would be vulnerable domains in the EM children, and the EM children might also demonstrate restricted age-related progress in their heritage language relative to their controls.

Thirty-one EM children and 31 age, gender and grade matched peers from Pakistan participated (mean age = 8;2 (years; months), range = 6;0–10;11). Their narrative macrostructure and microstructure abilities, morphosyntactic abilities, and lexical comprehension and production abilities were assessed by the Urdu versions of Multilingual Assessment Instrument for Narratives (MAIN, Gagarina et al., 2019; Hamdani et al., 2020a), Sentence Repetition tasks (SRep, Marinis & Armon-Lotem, 2015; Hamdani et al., 2020b), and Crosslinguistic Lexical Tasks (CLT, Haman et al., 2015; Hamdani et al., 2020c). These language outcome measures were analysed using generalized linear and linear mixed effects models.

Results showed that while the EM children scored not lower than the control group in narrative comprehension, narrative macrostructure production (story structure and story complexity), and use of internal state terms; they scored significantly lower than the controls in the narrative microstructure measure of grammaticality (proportion of grammatical C-Units), morphosyntactic competence, and lexical competence. The EM children also exhibited age-related progress in fewer language outcome measures relative to the controls. Error analyses show that these EM children made significantly more errors in gender marking, number marking, word order, and case/postposition than their controls.

The findings support the idea that some language abilities are more/less affected by input conditions: morphosyntactic and lexical competence are more sensitive to input effects, while narrative macrostructure is relatively less dependent on specific language experience/abilities. The findings are also informative to parents and practitioners raising and serving EM children, in terms of specifying their linguistic vulnerabilities for focused remediation. Moreover, the assessment tools will be useful to many researchers, as the materials developed to support online testing can be flexibly adapted to suit any target language and ethnic group, and the MAIN materials to support online testing are for free open access via the official MAIN homepage.

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## Phonology

Ruihua Yin	Languages prefer optimal sonority distances: perception or articulation?
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Background: An underlying assumption in relation to the sonority distance between two consonant clusters is that clusters with high sonority distances are preferred by languages, as captured in the unmarked status of onset OG (obstruent-glide) or coda GO clusters. The unmarked status of such clusters is formalised in terms of sonority constraints on consonant clusters, e.g., [ $*\text{Ons}/\text{obs}+*\text{Ons}/\text{fric}$ ]cl >> ... >> [ $*\text{Ons}/\text{obs}+*\text{Ons}/\text{gl}$ ]cl (Prince & Smolensky, 1993/2004), or in terms of sonority distance, e.g.,  $*\text{DIST}0 >> *\text{DIST}1 >> \dots >> *\text{DIST}5$  (Baertsch, 2002; Gouskova, 2004), and is also formulated as the Sonority Dispersion Principle (SDP) (Clements, 1990). These sonority distance constraints imposed on clusters predict “If a language allows a cluster of high sonority distance, it also allows a cluster of low sonority distance”, and cross-linguistically, sonority distances of higher values (OG-/-GO) are more likely to occur compared with relatively unmarked clusters like OL-, ON-, -NO, and -LO, etc. However, such cross-linguistic preference towards high sonority distance is increasingly tested by clusters that go against the sonority profile reported from under-documented languages, e.g., languages like Leti, Ewe where clusters crossing over sonorants and obstruents (e.g., /rt-, -tr/) are attested, as well as languages Georgian in which long clusters like /mc’vrtneli/ are (Blevins, 2006). These empirical challenges are aggravated by the recent establishment of complex syllable structures (Easterday, 2019). These clusters that go against the predictions of sonority distance constraints have been formulated as 1) sonority constraints as being violable (e.g.,  $*\text{SonSeq}$ ) (Kager, 1999), 2) intervening markedness constraints that dominate sonority constraints (Zec, 2007); 3) morphological-phonological rules applied at a later stage of derivation (Clements, 1990); or 4) due to extra-syllabicity or extra-prosodicity (e.g., /s/ in sC) (Clements & Keyser, 1983), among others. However, it is unclear how these formalisations can bring coherence in accounting for frequently reported clusters that do not have large sonority distances, or clusters that go against sonority sequencing principle. Can the increasing empirical challenges be incorporated into the existing theoretical formulations mentioned above. The current study aims to test this theoretical status of the unmarkedness of clusters on empirical data. To what degree will this unmarked status of OG- or -GO hold against large-scale typological data?

METHODS: 1) Phoneme sequences from 496 languages were obtained from two large lexical databases, CLICS2 (List et al., 2018) and AusPhon-Lexicon (Round, 2017); 2) then sonority distance permitted in each language was calculated, by adopting two widely accepted sonority scales, [gl(4)>nas(3)>liq(2)>obs(1)] (sonority is phonologically defined as a derived notion from binary features (Clements, 1990)), and [gl(10)>rho(9)>...>vcl plo(1)] (sonority is phonetically defined as intensity (Parker, 2002)); 3) the number of languages with each sonority distance was counted; 4) lastly, sequential polynomial regression was performed to investigate the correlation between the number of languages and attested sonority distance.

RESULTS: A significant correlation is attested between sonority distance and the number of languages attested: the number of languages attested generally increases as sonority distance increases, however, it does not monotonically keep increasing, i.e., the correlation between the number of languages and sonority distance does not show linear model, rather, the highest significant value in the correlation is attested when a quadratic component is added. Specifically, at the sonority distance value of 4/5, the highest number of languages is attested. This trend stands true, either in onsets or codas, regardless of sonority scales or assumption made on complex segments (see this general trend in Figure1 and statistical details in Table1).

DISCUSSION: OG- and -GO have long been regarded as the most unmarked clusters, as formulated in sonority (or sonority distance) constraint hierarchies, or the Sonority Dispersion Principle. However, the finding that there is an optimal sonority distance where the largest number of languages are attested shows that not high sonority distance is always favoured by languages. Rather, there is optimal sonority distance cross-linguistically (see these clusters in the Table 2). The finding indicates languages do not only put restrictions on minimal sonority distance, but also on maximal sonority distance, motivating a markedness constraint of  $*\text{MAXSONDIST}$ . Consonant clusters

that are most frequently tested cross-linguistically also call for empirical research into articulatory and perceptual grounding of these clusters.

Brett Baker	Dorsals as segmental juncture phenomena in Australian languages
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Natural languages have been claimed to show no epenthesis of dorsal segments (De Lacy & Kingston 2013; citing Trubetzkoy 1939, Jakobson 1941, Lombardi 2002). Numerous Australian languages however exhibit patterns of dorsal epenthesis both historically and synchronically, which challenges this position—a challenge which raises further questions about the source of alternations of this kind. The distribution of synchronic dorsal epenthesis however suggests a source in junctural phenomena, since it is conditioned with respect to Intonational Phrase boundaries. The fact that we also found its counterpart, deletion, in these same contexts adds additional support to this proposal. We explore here the possibility that dorsal nasals have an origin in the mis-perception of inter-utterance articulatory rest postures as dorsal nasals, and vice versa.

Synchronic epenthesis in Australian languages is reported to be conditioned by the edges of Intonational Phrases (IPs), as in Uradhi (Crowley 1983 p. 324) for example, which is described with synchronic epenthesis of dorsal nasals preceding pause, as in (1). In languages with historical evidence of final dorsal nasal epenthesis, such as Anmatyerre (Green 2010 p. 94), Wiradjuri (Donaldson 1980 p. 32), and Damiin (Hale 1973), epenthesis becomes phonologised to the word domain, with complex consequences for the case system of these languages (Hale 1976).

The reverse process—loss of 'exposed' final dorsal nasals—has affected Tangkic languages (Evans 1995 p. 272); e.g. the Allative case suffix in Kayardild is -kiɻiŋ when another suffix follows, but -kiɻi word-finally, as in (2). Again, this process is conditioned by the distribution of pause. Historical loss of final dorsal nasals has also affected Ngiyambaa (Donaldson 1980 p. 32), where it has become word bound.

Epenthesis and deletion phenomena are also found word and IP-initially in Australian languages as in Bininj Gunwok (Marley 2020) and Wubuy, (3). In both cases, it is (some) inflectional prefixes which are subject to the phenomenon, not lexemes in general, and IP- initial position is especially susceptible to nasal deletion. Arabana and other languages are also described with IP-initial loss of dorsal nasals in the recent historical period (Hercus 1979). Dorsal nasals are also a common choice of lexical word-initial epenthesis for borrowings which are vowel-initial in the source language, as in Dyirbal.

We argue that the deletion and epenthesis phenomena may both be explained with reference to the notion of inter-utterance articulatory postures discussed by (Gick et al. 2004), if it is the case that [ŋ] is similar to (or can be perceived as similar to) such a position. If indeed there is such a similarity, then speakers could misperceive both utterance-final [ŋ] and utterance-initial [ŋ] as the auditory ghost of 'rest' postures, rather than lexical speech information. We argue that frequency alone cannot be the answer, at least in the case of initial deletion, even though ŋ-initial prefixes are often the most frequent in most prefixing languages. The frequency of n-initial prefixes vis à vis ŋ-initial ones in Wubuy is a test of that theory, since initial [n] is never dropped. And conversely, other nasals [m], [ŋ], [m], [ŋ] are very rarely attested as boundary phenomena. The misperception model provides a unified account of these otherwise unconnected and mysterious processes of initial and final epenthesis and deletion of dorsal nasals in Australian languages, which until now have defied any obvious explanation in historical or universal terms.

(1) a. jukana:luŋ

juku ana:lu tree.abs go-pres-here 'The tree is coming'

b. ura:ni[ŋ'] ura a:ni

this.ABS what.ABS 'What's this?'

(2) a. taṭin-kiṭiŋ-kina

that-ALL-MABL but

b. ŋaŋ-kiṭi

beach-ALL

(3) [a:mbuḷ aŋgaṭurbij] ŋaampu-ḷ aŋkaṭurpi+ŋ

1in.plirr-make.mark.on.ground+fut 'We'll make a mark'

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Yishan Huang	Right Dominancy of Sinitic Tone Sandhi: Encoding and Challenging
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Zhangzhou possesses an extraordinarily abundant and interesting suffixing system. (1) Semantically, the derivational suffixation presents a productive function to modify existing meanings of the bases and create new lexemes across different semantic domains, including methods and disciplines (ḥwet41 法 and ḥet221 学), culmination and concentration of the essential elements (t<sup>h</sup>ew22 头), smallness, closeness, and affection (ʔe51 and ʔe), tool and equipment (ʔe51), and persons of a specific occupation, skill or expertise (sej35 师, su35 师, su33 士, ke35 家, gwen22 员, and ʔe51) among others. (2) Morpho-syntactically, the suffixes serves multiple roles in the word formation, including being nominalizer (such as ʔe51, ʔe, ḥwet41 法, ḥet221, su35 师, su33 士, ke35 家, gwen22 员, and ʔe51), nominal marker (such as t<sup>h</sup>ew22 头, sej35 师, ʔe51, tsi51 籽), adverbializer (such as the suffix ʔe51) and verbalizer (such as ḥwe41 化). As well as this, the bases that can undergo derivational suffixation are found to be cross-categorical, ranging from noun, verb, adjective, classifier, noun phrase, verb phrase, and adjective phrase among others. (3) The process of suffixation can trigger special phonological alternation, showing a correlation between phonetics, phonology, semantics, and morph-syntax within the

context of word formation in this dialect. For example, preceding the suffix ʔe51 that denotes smallness, closeness, and affection, the bases with falling-pitched citation tones are found to be realized as having a high-level pitch contour [55], whereas the ones with non-falling-pitched citation tones are all realised as having a rising pitch [35]. (4) Although the suffixing is extraordinarily abundant in this dialect, the suffixation processes are constrained by multifarious factors, ranging from semantics, word class, phonology, syntax to pragmatics, in order to create new lexemes that are grammatically well-formed. (a) semantic condition: for example, the suffix ʔe51 can only occur after those kinship terms that denote a younger generation or a younger member of the same generation to express affection and closeness. (b) word class condition: for example, the suffix ɦwet41 appears to occur exclusively on a verbal base, while the suffix t<sup>h</sup>ew22 prefers a nominal base. (c) syntactic condition: for example, the suffix -ʔe51, denoting individual person with a certain profession, requires the base to be either a noun phrase or a verbal phrase. (d) phonological condition: this is reflected in that only part of the base can undergo suffixation to express a particular semantic function. For example, the diminutive markers ʔe51 and ʔe are found only to be able to occur after the last syllable of the first name to denote the feeling of affection and closeness. (e) pragmatic condition: this resides in the fact that there present colloquial and literary contexts where suffixes occur in conversation. For example, the Chinese character 师, meaning master or teacher, is pronounced as sej35 by the local people when it is attached in the colloquial setting, but as su35 when its suffixing is used in the formal context.

This study directly fills in the research gap in Zhangzhou grammar study; broadens our understanding of the encoding of suffixation in Southern Chinese dialects, while contributing important empirical data to the typological study of suffixation as an important word formation method in human languages.

## RUIL PUBLIC LECTURE

Clint Bracknell	Yeyinyang: New domains for original languages
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UNESCO Expert Group on Endangered Languages identified 'Responses to new domains and media' as one of nine factors contributing to language vitality. A language's future relies on its speakers, resources, and relevant policy. For many Indigenous communities, finding new things to do with their endangered language is also crucial. A recent surge in identification with Aboriginal and Torres Strait Islander languages seems connected to the way these languages are permeating new domains and taking on new challenges. This phenomenon is perhaps most pronounced in the southwest of Western Australia, where the most recent Australian census recorded a 200% increase in avowed speakers of the Noongar language. Noongar has a long history of working its way into theatre and increasingly popular music, television, film, opera, and ballet too. Recent watershed moments for Noongar language include both the first full adaptation of a Shakespearean work and the first dubbed international feature film into a language of Australia. As is the case with many other endangered languages worldwide, online content is also driving Noongar language engagement. While languages constantly adapt and change, maintaining linguistic and cultural integrity, and a connectedness to Country, may be key to the community-perceived success of Noongar responses to new domains and media.

## DAY 2 – Thursday 1 December

### PLENARY 2

Yoshiyuki Asahi	Creating new Japanese-related contact languages in and out of Japan
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Japanese is one of the most spoken languages in the world, comprising about 125.4 million speakers, Japan has been believed to be highly homogenous throughout its history. Demographic history in Japan exhibits a number of potential research topics, especially in the areas of dialect and language contacts and its linguistic and sociolinguistic outcomes. What characterizes Japanese language in particular is an influence of standard variety, which was discussed and designed by Japanese linguists in the late 19th century. The linguistic questions in Japanese-related language/dialect contact studies focuses on what kind of contact-induced phenomena were observed in which contact languages/dialects with a close look at its sociohistorical backgrounds. The question of standard variety needs to be address to measure the degree of impact on the recent contact languages/dialects.

This talk addresses descriptions of my researches on dialect and language contacts in a Japanese new town, Sakhalin, Kuril, Hawai'i, and the mainland US together with other relevant Japanese sociolinguistic studies to share the intriguing sociolinguistic phenomena and the impact of standard variety upon the contact languages/dialects. Based on this, this talk makes some prospects of Japanese-related language contact and emerging new language varieties, called multicultural Tokyo Japanese in the expatriate community in Greater Tokyo.

## Spatial semantics

Mark Harvey	The Wagiman landscape: mental maps and prototypes
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This paper examines the classification of the landscape, both biota and terrain, in Wagiman a language of northern Australia. Cross-linguistically, there is considerable debate over the classification of both biota and terrain. In both domains, some researchers propose that terminological oppositions are based principally in cognitive oppositions: biota (Berlin 1992); terrain (Bromhead 2018). By contrast, other researchers propose that terminological oppositions are based principally in cultural oppositions: biota (Hunn 1982); terrain (Levinson 2008).

Debates over classification necessarily include consideration of theories of meaning, but theories of meaning have played only a limited role in these debates to date. Among the various approaches to meaning, there are two which play a central role in the categorization of the Wagiman landscape. The first is the classic approach concerned with necessary and sufficient conditions, where connotation is the abstract principle governing the reference of a term (Blackburn 2017). The second approach is the prototype approach, where meaning is analysed as a space occupied by one or two central examples (prototypes) and then a penumbra of decreasingly typical examples (Blackburn 2017).

In Wagiman landscape terminology, cognitive factors play a greater role in the delimitation of connotation and cultural factors play a greater role in the delimitation of prototypes. The delimitation of connotation in Wagiman terrain terminology involves the cognitive factors of material make-up, shape, size and the cultural factor of affordance. For biota, delimitation of connotation conforms to Berlin's (1992: 21) well known principle 2.

The categorization of plant and animal taxa into a general system of ethnobiological classification is based primarily on observed morphological and behavioral affinities and differences among the recognized taxa.

The delimitation of prototypes centrally involves two factors, individuation and spatial modelling in the form of mental maps. Maps are necessarily cultural constructs. Prototypes for landscape terminology generally involve zones in a mental map of the landscape where potential referents most commonly, but not necessarily, occur. Prototypes are thus usually unindividuated.

For example, the prototype for the Wagiman term gubam is not a single, individuated 'hill'.

Rather, the prototype is a zone of multiple adjacent hills, 'hill country', in a mental map of the landscape. There are isolated individual hills in 'non-hill country', i.e. plain country, and these individual hills can be referred to as gubam, but without specific contextual information to this effect the usual interpretation of gubam is 'hill country', as in ex (1). Individual hills are commonly referred to as garradin 'boulder, hill, outcrop, pebble, rock, stone', a material make-up term.

Similarly, the prototype for ngubamin 'black wallaroo' is not an individuated wallaroo. As individuals, their black fur saliently distinguishes this species from other macropods. However, speakers did not focus on this in discussions of the species, but rather discussed its habitation zone in rocky country and referred to it as 'rock kangaroo' in Kriol. In terms of prototypical meanings, the Wagiman term ngubamin has more in common with its Linnean equivalent *Macropus bernardus*, which commonly appears with unindividuated reference in scientific discourse, than it does with its standard English equivalent 'black wallaroo'.

There has, to date, been no discussion of the role of mental maps in classification of the landscape in Australia. Roberts (2012) proposes that mental maps play a central role in the Maori categorization of the world, including ethnobiological classification. The most extensive discussion of the roles of mental maps appears to be in the literature on wayfinding and spatial reference, and there is considerable debate as to the potential role of mental maps (Istomin & Dwyer 2009). Lewis (1976) is a classic study of the role of mental maps in wayfinding

among peoples in central Australia. The central role of mental maps in Wagiman landscape classification does not appear to follow from any unique or atypical components of Wagiman culture. This suggests that exploration of mental maps may contribute to analysis of landscape terminology more widely in Australia.

(1) wilh-ma m-i-ya-ngana gubam-laying galh-ma m-i-ya-ngana  
 walk-N.PF FUT-1PL.S-go-INCL hill-LOC go.up-N.PF FUT-1PL.S-go-INCL

‘We’ll go walking. We’ll go up into the hills/hill country.’

‘We’re going to go walk longa high country.’ (translation supplied by speaker)

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Laurits Stapput Knudsen	Periphrasis, grammar, and lexicon: a usage-based approach to determine the structural status of spatial expressions
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A spatial frame of reference (FoR) is a strategy to locate entities that are separated in space in relation to one another, and different speakers of different languages use different FoRs. While an English speaker might prefer the egocentric term right when describing the position of a tree in relation to a house (the tree is right of the house), different strategies will be preferred by speakers of other languages to describe the same scene, such as describing the tree as being downriver or north of the house (e.g. Bohnemeyer et al., 2015; Levinson, 2003; Majid et al., 2004; Pederson et al., 1998). Variation is also found within communities, where different speakers of the same language will vary in their use of FoRs (e.g. Bohnemeyer et al., 2015; Palmer et al., 2017).

The variation in the strategies people use is suggested to be dependent on a complex interplay between the physical environment, cultural spatial practices, habits of language use, and the linguistic structure (Bohnemeyer et al., 2015; Lum et al., 2022; Palmer et al., 2017). People’s day-to-day interaction with the physical and cultural environment is argued to influence their preferred linguistic strategy as well as behaviour when solving non-linguistic spatial tasks (see also Shapero, 2017). However, there are exceptions to this correlation between the linguistic and non-linguistic strategies, and the strength of the correlation differs across and within communities (see Bohnemeyer et al. 2022). An explanation for these mismatches between linguistic and non-linguistic FoR strategies that has not been explored is the variation in the structural status of the linguistic expressions of FoR. Assuming that choice of FoR is a cultural practice and that the cultural significance of a concept is reflected in the linguistic structure (e.g. Enfield, 2002; Everett, 2012; Wierzbicka, 1979), the mismatches can be hypothesised to

co-vary with the structural status of expressions for FoR in the languages. The first step of testing this hypothesis is developing a principled and rigorous typology of the structural status of FoRs, which is the goal of this paper.

In this paper, we present a usage-based approach to determine the structural status of spatial FoRs. While earlier studies distinguish between paraphrastic, grammatical, and lexical expressions of spatial FoRs, they are based on the part-of-speech, meaning, and distribution patterns of the expressions (Palmer et al., 2017; Schlossberg, 2018). Boye and Harder (2012) argue that basing the structural status of linguistic elements on these criteria is problematic and present a usage-based alternative. The typology presented here distinguishes between paraphrastic, lexical, and grammatical expressions for FoR based on Boye and Harder’s theory of the distinction between grammatical and lexical elements; grammatical elements are defined as elements conventionalised as discursively secondary, while lexical elements are potentially discursively primary. Paraphrastic elements are combinations of multiple lexical elements.

In this paper, we test this usage-based typology on a small set of phylogenetically and typologically diverse languages, where detailed descriptions of the use of FoRs are available: Nahuatl (Uto-Aztecan, Mexico), Anindilyakwa (Gunwingyuan, Australia), Dhivehi (Indo-Aryan, Maldives), and Marshallese (Oceanic, Marshall Islands). Differentiating between periphrastic, lexical, and grammatical elements based on potential discursive status makes finer distinctions between linguistic elements that would be treated as similar using previous typologies of the structural status of FoR. For instance, the typology differentiates between two linguistic elements in Nahuatl expressing direction towards the speaker: the verbal prefix *wal-* ‘towards here’, which can never be discursively primary, and the lexicalised element *nika* ‘(towards) here’, which can potentially be discursively primary. Both strategies would be considered grammaticised expressions using previous approaches.

Lastly, we discuss the general applicability and utility of the typology. We argue that our typology is a crucial part of investigations into the relationship between linguistic structure, cognition, and culture. The presented typology is suited to test predictions about whether speakers using grammaticised linguistic elements are more likely to use corresponding non-linguistic strategies to solve non-linguistic spatial tasks, than speakers using lexicalised or paraphrastic linguistic elements. The mismatches between linguistic and non-linguistic spatial strategies might be explained by the differences in the structural status of the elements used to express them. A principled and rigorous typology such as the one we present here, is necessary to answer questions such as this.

Joe Blythe, Laurits Stapput Knudsen, Eleanor Yacopetti and Tom Ennever	The Rotating Scene Machine – a topographical testbench for semantic typology
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A spatial Frame of Reference is a strategy for locating or orienting an object or path in relation to another object. The standard approach to assessing individual’s preferred spatial frames of reference options has generally been to use standardised sets of stimuli as elicitation prompts, in which something or other is rotated. The top-down design of these tasks, which are modelled according to the received wisdom of the era in which the tasks were contrived, have tended to confirm or disconfirm the degree to which the spatial system under investigation conforms to small set of typological prototypes. Director-matcher tasks like ‘man and tree’, typically implemented with a screen between the participants, had the specific objective of suppressing deixis and eliminating gesture, thus providing an impoverished (as well as etic) perspective on the ways participants use their languages to refer to entities and their locations.

Nevertheless, as typological research on spatial systems proceeds, it is becoming increasingly apparent that the diversity of spatial systems is far greater than was imagined several decades ago (Bohnemeyer & O’Meara 2012; Bohnemeyer et al. 2022; Palmer 2015; Palmer et al. 2021; Lum 2021). Thus Levinson’s (2003) three macro-spatial frames, the absolute, the relative and the intrinsic since have all been carved at the joints to reveal substantial variation across the world:

- Absolute: geocentric (geomorphic, landmark-based), abstract cardinals

- Relative: reflectional, translational, rotational
- Intrinsic: the Direct frame, Object-centred frame, FIBO

Many of these display superficial similarities, along with deictic systems such as nearside/farside, inside/outside, etc. All of this makes spatial language something of a minefield.

Various FoR systems are characterised and differentiated in terms of rotational properties – specifically whether or not the truth values of a linguistic construction remain constant under rotation of:

- the viewer
- the ground
- the figure-ground array
- the anchor

The rotating scene machine is an elicitation device for spatial language, easily constructed from plywood and using basic woodworking tools. The device provides for a bottom-up approach which allows field researchers to develop and test their understanding of a language’s spatial semantics, on the fly, as their understanding of the language develops in the field. It is ‘topographically agnostic’, in that it allows the researcher to model the local environment – streams, hill, roads, islands, rivers, valleys – as appropriate for the fieldsite under investigation. The researchers use simple props (toy people and animals, ribbons, sticky tape, papier mâché mountains, etc.) to set the scene which can then be rotated, as required, to establish how rotation effects the spatial semantics. The machine should be able model all four of the different rotational possibilities mentioned above.

In this paper, we present the device and demonstrate some of the ways it has been used in data collection thus far on several Australian languages. The flexibility of the rotating scene machine gives language specialists a mechanism to model their own language’s spatial terminology as they explain it to researchers. Rather than limiting inquiry to grammaticality judgements, consultants may use the model to display the topographic conditions under which a possible construction might be acceptable, thereby facilitating a more emic explication of spatial language.

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Alex Smith, Kiwako Ito and Bill Palmer	Gamifying the Acquisition of Novel Spatial Terms: A Pilot Eye-Tracking Study
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This paper reports on a project investigating the use of a 3D video game for teaching English speakers unconventional spatial terms. It reports on the pilot data resulting from the test implementation of a game *Gogu's Island* created for this project as a research tool for studying spatial language and cognition using an artificial language paradigm. Gamification as research methodology is still in development as technical capabilities evolve, and enables maximising both experimental control and ecological validity (Peeters, 2019).

Participants are monolingual Australian English speakers. They are introduced to artificial spatial terms that refer to directions along two geocentric spatial axes that are rarely used in English: inland-coastward and upcoast-downcoast. The stimuli reflect commonalities found among many Austronesian languages. Stimuli are composed of two syllables, in which the first syllable refers to an axis, and the second syllable points in one direction along the referred axis. Phonemic and syllabic structure are designed for maximum acoustic discernability. Words and axes are assigned to two counterbalanced wordlists (Table 1).

*Gogu's Island* simulates the type of topography where this combination of axes is used in the real world. Players are instructed that the terms are directions in Gogu's language, but receive no explicit definition of each word. Word learning is measured indirectly through a composite measure consisting of task success and time taken, movement latencies and trajectories, and eye gaze patterns. Two trial blocks present different target locations to highlight the salience of axis-specific landmarks one at a time. Participants are predicted to show similar behavioural responses regardless of their wordlist (Table 1) and order of exposure to the axes (Blocks 1 and 2). Task performance is expected to increase with trials, resulting in faster and more accurate responses to novel terms with fewer movements towards target chests (Figure 1).

Measurements are taken at two levels: (1) each block consisting of 15 trials (i.e., searches for 15 targets), and (2) the individual stimuli (i.e., spoken direction words) and responses. The game software collects additional behavioural data, which demonstrate how participants integrate the auditory and visual cues to effectively interact with the virtual space. Figure 2 shows movement onset - the time between stimulus presentation and player movement, which represents the time between response planning and execution (Thorpe et al., 2021). Onset is predicted to decrease with repeated stimuli as players learn the meanings of spatial terms. Figure 3 shows path linearity - the ratio of the shortest path to the target over the actual path taken (Allritz et al., 2022). Figure 4 shows angular deviation - the angle of the player's first movement from a direct path towards a target (angle of 0) (Allritz et al., 2022). Linearity is predicted to increase with trials, with higher mean scores on block 2. Angular deviation is predicted to decrease with trials, with lower mean scores on block 2.

Many of the languages on which *Gogu's Island* is based are endangered, and players' success in learning vocabulary and a new cognitive spatial framework may result in the game's application in language revitalisation and maintenance. We also plan to extend this project to address a question of how the knowledge of novel referential terms impacts our spatial cognition in a new environment.

Wordlist no.	Landward	Seaward	Upcoast	Downcoast
1	Baki	Bago	Duki	Dugo
2	Duki	Dugo	Baki	Bago

Table 1 Stimuli wordlists used in this study



Figure 1 Example of a target in gameplay.

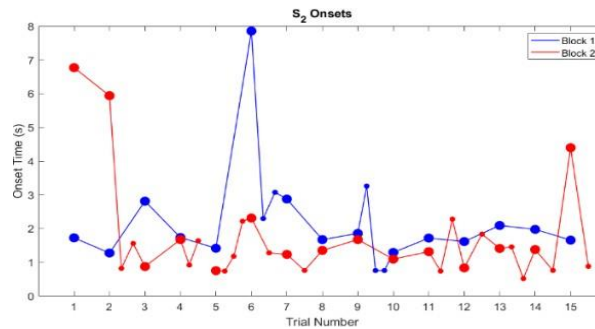


Figure 2 Movement onset time at stimulus level. Large dots represent the first presentation of stimulus within trials. Small dots represent subsequent presentations within trials.

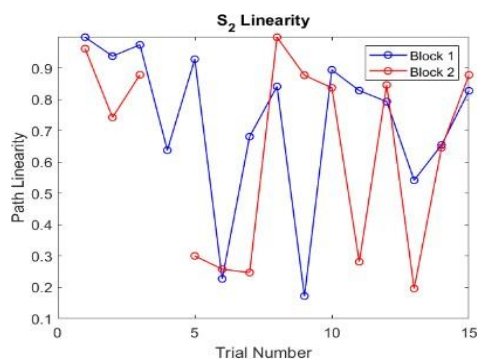


Figure 4 Path linearity at whole-trial level. Missing dots represent incomplete trials.

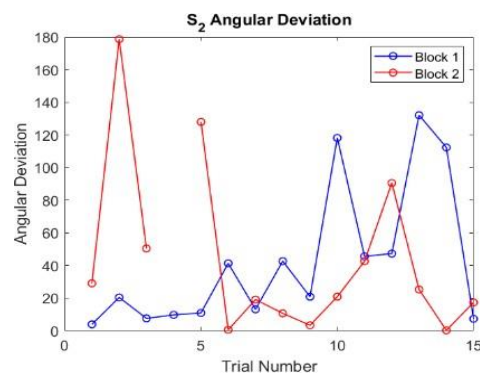


Figure 3 Angular deviation at whole-trial level. Missing dots represent incomplete trials.

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Many languages around the world, like English, extend the meaning of expressions like left, right, in front of and behind to encode spatial relationships between objects that lack any inherent facets. So, for example, we can say that the teaspoon is behind the sugar bowl even if the sugar bowl has no intrinsic front or back. The assignment of a front, back, left and right to unfaceted objects is not always straightforward, however, and English speakers may disagree as to whether behind the sugar bowl denotes the space between the speaker and the sugar bowl, or beyond the sugar bowl from the speaker's perspective. We find variation between speech communities, too, with three subtypes of viewpoint-dependent spatial system traditionally identified in the typological literature: rotational, reflectional and translational (Levinson 2003: 84–89; see Fig. 1 below). This paper explores the application of Optimality Theory (OT) as a lens through which we can better understand why certain interpretations of these terms are favoured by particular speakers and speech communities. OT is ideally suited to our purpose because it allows an “elegant statement” not only of the typological options (Haspelmath 1999: 183), but also of the competing forces at work in languages, and how diachrony and ontogeny shape language usage in the present moment (cf. Kager, Pater & Zonneveld 2004; Cannizzaro & Hendriks 2020).

If we assume that the original semantic input of terms like behind and left denote the observer's own bodily axes, we can predict the full range of extended ('relative' frame of reference) interpretations in terms of diverse (violable) constraints relating to the logical properties of those bodily axes. Violations of competing constraints are central to OT, and constraint violations are marked by an asterisk in the relatively simple tableau in Fig. 2. Fatal violations, which rule a potential interpretation out of contention, are marked by an exclamation mark '!'. The optimal interpretation is marked by a manicule '☞'.

No English speaker would interpret behind the bowl to refer to a region to the left of the bowl: behind is restricted to relations along the sagittal (front-back) axis by the constraint IDENT-AXIS, while left operates on the lateral (left-right) axis. Interpreting behind as the region beyond the bowl violates alignment of a sagittal axis of the bowl with the speaker's sagittal axis (IDENT-SAGITTAL), but allows for the construal of the bowl as a fictive interactant facing the speaker (CANONICAL ENCOUNTER; Clark 1973). The CANONICAL ENCOUNTER constraint outranks alignment with the speaker's sagittal axis (front-back), but is in turn outranked by alignment with the lateral axis (left-right; IDENT-LATERAL). We argue that this is because the front-back asymmetry in human interactants is far more perceptually salient and interactionally significant than their left-right asymmetry (Shepard & Hurwitz 1984), coupled with the relative cognitive difficulty of both learning and processing lateral terms (cf. Shusterman & Li 2016; van der Ham et al. 2020). This penalises non-alignment on the lateral axis more highly than on the sagittal.

These constraints apply not only to the interpretation of different lexemes (see Figure 2 for two terms in Australian English), but to the operation of spatial systems as a holistic frame of reference. Different rankings of the constraints enables us to explain inter- and intra-speaker variation among the English-speaking participants in our own experimental study, as well as the distribution of the three traditional viewpoint subtypes attested cross-linguistically (e.g. Clark 1973; Hill 1982; Pederson et al. 1998). Despite pioneering work more than twenty years ago (Hendriks & de Hoop 2001), the adaptation of OT architecture to the field of semantics remains embryonic by comparison with development of OT in phonology and morphology. By exploring the application of OT to spatial semantics, this paper not only contributes to our understanding of the typology of spatial language, but also sheds light on how restrictions on semantic interpretation can be framed as Correspondence and Markedness constraints.

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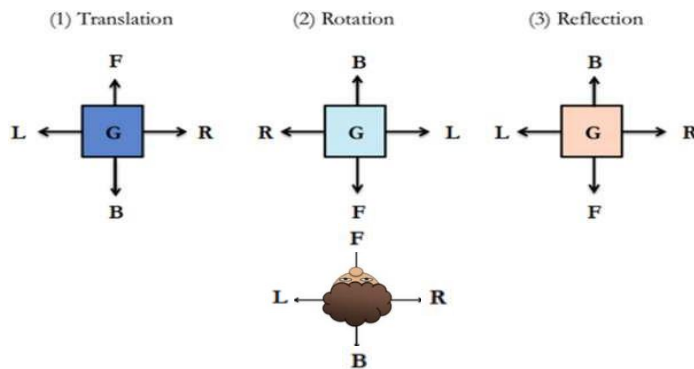


Figure 1: The subtypes of the relative frame of reference. F = front; L = left; R = right; B = back; G = ground.

	IDENT-AXIS	IDENT-LATERAL	CANONICAL ENCOUNTER	IDENT-SAGITTAL
input: <i>behind</i>				
between			*!	
☞ beyond			*	*
sp-left	*!		*	
sp-right	*!		*	
input: <i>left</i>				
between	*!		*	
beyond	*!		*	
☞ sp-left			*	
sp-right		*!		

Figure 2: Optimal interpretations of *behind* and *left* in Australian English.

Bill Palmer	Spatial language in Meryam Mir (Oriomo, eastern Torres Strait) and its neighbours
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Papuan languages are underrepresented in the literature on spatial language (but see Cooperrider et al 2016; Heesch 1982, 1997; Steinhauer 1997; Voorhoeve 1997; Wassmann 1997). What there is largely focuses on New Guinea languages of the highlands where uphill-downhill spatial systems dominate, with a small amount of work on spatial systems of island-based Papuan languages of Alor and Pantar (Schapper 2014), North Halmahera (Holton 2017), and Yéli Dnye (Levinson 2006). However, Meriam Mir (MM) presents a unique comparative opportunity to triangulate phylogenetic inheritance, language contact, and response to topography as factors underlying a language's spatial system. MM is spoken on the eastern islands of the Torres Strait, a topographic environment shared with western Torres Strait's Kala Lagaw Ya (KLY) (Bani 2001; Mitchell 2015; Ray 1907; Stirling 2011), with which MM has a long history of contact. However, it is unrelated to Pama-Nyungan KLY. MM belongs to the Oriomo (aka Eastern Trans Fly) family, whose other languages are located in southern mainland New Guinea (Evans et al 2018; see Dondorp & Shim 1997; Fleischmann 1981; Fleischmann & Turpeinen 1975; Kawabe 2014; van Bodegraven & van Bodegraven 2021). In a comparison of MM with its mainland Oriomo relatives, resemblances may result from inheritance. Resemblances with KLY, on the other hand, may result from either conceptual convergence or borrowing, or a similar response to a shared environment, supporting the Topographic Correspondence Hypothesis (Palmer 2015). Similarities between MM and KLY triangulated with a further comparison of KLY and its Cape York relatives can reveal whether MM and KLY have both responded in a similar way to their environment, or MM has borrowed an Australian type system preserved in KLY. A still further comparison of MM and KLY with neighbouring but unrelated Southern Kiwai (Trans New Guinea) (Ray 1931; Wurm 1951) of coastal New Guinea may reveal similarities reflecting contact effects, or shared responses to environment.

This paper unpicks cross-cutting similarities and differences in each of these comparisons. MM lexifies intrinsic frame of reference on the sagittal (front-back) axis with *op* 'face, front', an Oriomo reflex, so inheritance, and *kewbu* 'back, behind', with no known source. Unlike many Australian languages, MM lexifies the transverse (left-right) axis. Earlier dedicated terms *tuter* 'right' (an Oriomo reflex) and *ber* 'left' (a Southern Kiwai loan) (Ray & Haddon 1891-1893) have been replaced by a highly unusual previously unattested semantic extension of terms for oldest and youngest: *narbit* 'oldest, right', and *keymer* 'youngest, left' (Piper 1989).

Response to topography will be evident, if anywhere, in geocentric spatial systems. The dominant geocentric system of MM is anchored in prevailing seasonal winds, which blow from the southeast for most of the year, but in the wet season, monsoonal winds blow from the northwest (Ray & Haddon 1891-1893:549; Piper 2014:169). MM lexifies this southeast-northwest axis. *Koki* 'NW wind, monsoon season, NW side of an island or object' is shared with KLY and may be of Australian origin (?Proto-Paman \*kuwa 'W, NW'). SE direction and wind is lexified as *sager*, seen only in MM, and the more recent KLY loan *waur*. A northeast-southwest axis cross axis, associated with more minor winds, is lexified as *naiger* and *ziai* respectively. *Naiger* 'NE' is a regional term seen in Oriomo Bine, KLY, and Southern Kiwai, apparently via KLY *naigai(rr)i* connected with Proto-Paman \*kungkarr. *Ziai* 'SW' is shared with KLY, but connected with terms throughout Oriomo and Southern Kiwai. However, although all the languages display this seasonal wind system, it is rarely used in KLY. Instead, a separate upwind-downwind system occurs with high frequency, along with a landward-seaward system; neither conceptual system present in MM.

The directional terms of MM and its neighbours supports the notion of Torres Strait as a contact zone in which a response to environment in the form of highly salient seasonal winds underpins geocentric space. Some MM spatial terms display Oriomo inheritance, others are KLY loans and some are regional terms, reflecting the effect of contact. But in terms of both language use and conceptual representations of space, MM resembles its Oriomo relatives, and not KLY.

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Languages vary in the way the spatial information is expressed (see for example, Talmy, 2000; Slobin, 2004; Kopecka, 2010; Levin & Rappaport Hovav, 2019. *inter alia*). The focus of this presentation is to show how the spatial information is distributed in Nepali, an Indo-Aryan language spoken in Nepal, following the ‘Distributed Spatial Semantics’ approach (Sinha & Kuteva, 1995). In order to analyze this domain of expression, we used the video stimulus sets, namely *Trajectoire*, developed by Ishibashi *et al.* (2006) for the self-agentive Motion where 17 native speakers of Nepali elicited the video stimuli that consist of a total of 949 motion descriptions (a.k.a. clauses). During the presentation, we will introduce the domain and focus on the distribution patterns, namely redundant and differentiated distribution patterns of Path. The redundant pattern means that the same Path information such as Source, Goal or Vertical Motion is conveyed in different morphosyntactic devices (e.g., verb, postposition, adverb). The differentiation pattern is meant when different Path information is encoded in different linguistic devices.

Our results show that the Path or the spatial information is distributed both redundantly and in a differentiated pattern in Nepali. The redundant pattern occurs in Source-, Median- Vertical- and Goal-oriented Path/s.

However, the Source-oriented Path is the most redundant pattern in the data as is illustrated in (1). Regarding the differentiation pattern, it mostly occurs in the Source-Goal-oriented Path (as in the example 2), which is also the most differentiated, most complex and most fine-grained distribution of the Path. To conclude, the spatial information is overtly distributed in Nepali in a fine-grained way.

Key words: spatial semantics, Nepali, distribution, redundant, differentiation, Path, Motion, Figure, Ground

**EXAMPLES**

(1)	FIGURE	GROUND	PATH-PATH	PATH	MOTION+PATH
			<b>Source-Source</b>	<b>Source</b>	<b>Source</b>
	<i>uni-∅</i>	<i>dzʌŋgʌl</i>	<i>-b<sup>h</sup>itrʌ-batʌ</i>	<i>bahirʌ</i>	<i>niski -e</i>
	3SG.H-NOM	forest	-inside-ABL	outside	exit -PST.3SG.M.H
	‘He exited the forest.’				
	(Lit. ‘He exited outside from inside the forest.’) [Traj_055_s10]				

(2)	FIGURE	GROUND	PATH	GROUND	PATH	MOTION+PATH
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		Source		Goal		Goal
<i>u-∅</i>	<i>caur</i>	<i>-baʈa</i>	<i>jhaɟi</i>	<i>-taɾpʰa</i>	<i>pɾaʷes</i>	<i>gaɾ-i</i>
<b>3SG.NOM</b>	meadow	<b>-ABL</b>	bush	<b>-toward</b>	<b>entrance</b>	<b>do-PST.3SG.F.NH</b>
'She went toward the bush.'						
(Lit. 'From the meadow she entered toward the bush.' [Traj_057_s5])						

## Abbreviations

3 = 3<sup>rd</sup> person, ABL = ablative, F = feminine, M = masculine, NH = non-honorific, NOM = nominative, PL = plural, PST = Past, s = speaker, SG = singular, Traj. *trajectoire*

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Simon Christie	Motion Events in Southern Bai
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This presentation will analyse how motion events are expressed in the southern dialect of the Bai language (henceforth Southern Bai), spoken by approximately 500,000 people in and around the Dali Bai Autonomous prefecture in Yunnan, China. This presentation will discuss three constructions used in the expression of motion events in Southern Bai: Agentive placement, stationary placement, and directional motion. This analysis will demonstrate that Southern Bai speakers express motion events through two or three-way serial verb constructions that encode information about the manner, path, and deixis of the event.

Furthermore, speakers demonstrate a strong tendency to place the Ground of the utterance before the Figure in events of placement. After discussing how motion events are expressed in Southern Bai, this presentation will make the argument that Southern Bai should be considered a Satellite-framed language according to Talmy's (2000, 2007) typology.

Data was collected in 2018 as part of fieldwork for the author's PhD thesis. The majority of which was derived from stimulus materials provided by the Max Planck Institute for Psycholinguistics. These materials comprised of sets of graphics or short video clips designed to elicit language data on how speakers encode such events and topological relations in semi- natural speech.

The contents of this presentation will contribute to the growing body of work on motion events and topological relations which historically have been heavily weighted in favour of Indo-European languages.

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Anna Margetts and Isabelle Burke	“Fly me over in the ultra light” and “bring the brumbies in”: the linguistic (and physical) landscape of caused accompanied motion events in Australian English
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There has been burgeoning interest in the crosslinguistic expression of caused motion events and concepts such as PUT, PLACE and REMOVE over the last decades (e.g. Narasimhan et al. 2012). This has recently expanded to include directed caused accompanied motion events (‘directed CAM events’), in which the agent of the caused motion accompanies the theme along the same path, as expressed, e.g. by concepts such as BRING and TAKE (Hellwig et al. 2022; Margetts et al. 2022; Margetts et al. (eds.) 2022). However, there has been surprisingly little scholarship on this semantic domain in English, particularly through a typological lens. Previous literature has mostly examined solely the prototypical English CAM verbs bring and take (e.g. Hockett 1982; Coe 1973; Preston 1984), although English clearly has a rich vocabulary of CAM verbs, from schlep to smuggle to herd and cart (see Levin 1993; Dixon 1992).

This presentation draws upon the Braided Channels collection from the Australian National Corpus which mostly comprises oral histories and personal narratives embedded in conversation. We identified and annotated over 700 tokens of directed CAM events using ELAN (Wittenburg et al. 2006) to investigate the linguistic landscape of these events in Australian English and how they compare with the typological patterns described by Hellwig et al. (2022) for a cross-linguistic sample.

Our data shows that the archetypal directed CAM verbs bring and take do indeed predominate in English, accounting for just over half of all tokens. Indeed, at first blush, Australian English might appear a pinup of typological normality: the corpus data reveals that CAM expressions follow the robust cross-linguistic tendency to focus on goals (56% of CAM events) (e.g. “he brought the brumbies to Windorah”) rather than sources (expressed for 18%) (e.g. “she flew out from Birdsville”), as has been noted in previous works (e.g.

Ikegami 1987; Creissel 2006; Stefanowitsch 2018; Kopecka et al. 2021). But beyond this a maybe more unexpected picture emerges, showing that over 10% of directed CAM events involve verbs which are specific about the manner of motion (“The old ladies would walk us halfway”) or manner of caused motion (“we truck a lot of cattle in Dajarra”). About a further 10% are expressed by multi-verb constructions which follow similar patterns as described for languages with verb serialisation (e.g. Crowley, 2002, Hellwig et al. 2022) (“I’d have to get this bloody blue velvet bag and dump it there”). And close to another 10% of directed CAM expressions involve comitative constructions (“He used to come down with stock”). Startling is also the behaviour of CAM verbs which take animate themes: the verb muster is reserved for livestock while the verb herd is only ever found to refer to Aboriginal people, who are “herded up [...] and put on reserves” or “herded up and shot”.

The linguistic landscape of caused accompanied motion events can act as a mirror for the historical, physical (and social) landscape of rural Australia: the inventory of CAM verbs and their uses are a reflection of a way of life where livestock must be moved across vast and often inhospitable distances, where “water has to be carted”, and older speakers recount a time when “white pastoralists drove Aboriginal people off the land”. This papers primarily situates Australian English CAM verbs within the typological framework of previous cross- linguistic studies, but also acknowledges its inextricable relationship with the physical and social landscape of its speakers.

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## Historical linguistics/language change

Andrew Tanner	Rediscovering an overlooked language of southern Victoria
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An analysis of recently rediscovered word lists from 1840s Melbourne demonstrates the existence of a local Aboriginal language previously unrecognised by linguists, most likely corresponding to The Boon Wurrung language. While the language of the Boon Wurrung people of the Mornington Peninsula and Westernport Bay was previously thought to have been nearly identical to their Eastern Kulin neighbours to the north, the language recorded in these wordlists is at the very least highly divergent from these, and may not even be properly classified as a Kulin language at all.

Due to devastating impact of European colonisation since the late 18th and early 19th centuries, intergenerational transmission of the Aboriginal languages of southeast Australia was severely disrupted. To learn about these languages today, Aboriginal language revitalisation activists and linguists are dependent on the incomplete and deeply flawed records left by untrained colonisers who generally did not speak the languages they were attempting to document. While of course no new records of native speakers of these languages can be created, forgotten documents may occasionally surface to shed light on old questions.

Since the early days of the European colonisation of the Melbourne area, most published accounts have generally maintained there was no significant difference between the language varieties spoken by the Woi Wurrung to the north and east, and the Boon Wurrung to the south and southeast. Blake's (1991) lexicostatistical analysis found these two languages shared 90% of their core vocabulary and were grammatically identical, confirming earlier claims from Smyth (1878), Mathews (1902), and Schmidt (1919). Newly discovered evidence among the papers of Chief Protector of the Aborigines George Augustus Robinson dating from the 1840s, however, suggests this picture is far from complete, and in fact may be missing any data that is representative of the Boon Wurrung language at all.

This paper presents a new lexicostatistical analysis of the languages of central and southern Victoria based on the early documentation of George Robinson, whose papers constitute a valuable and relatively accurate record of the linguistic diversity of the area at a time when the irrevocable damage being done to the transmission of traditional language and culture was only just beginning. This is accompanied by an exploration of other possible documents of the Boon Wurrung language, and a discussion of the significance of the finding that this is a previously overlooked and divergent variety.

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Madeleine Clews	Up close and personal: Ego-documents as evidence of an emerging dialect in the Colony of Western Australia
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What can two sisters born in Western Australia in the mid-19<sup>th</sup> century tell us about the evolution of Australian English (AusE)? Previous studies of written texts have yielded insights about early AusE (e.g., Burrige, 2010), but have searched without success for evidence of Irish influence in the early stages of dialect formation (Musgrave & Burrige, In press; Burrige & Musgrave, 2014) – an effect which linguists have long speculated must exist (e.g. Trudgill, 2006: 18-20; Mitchell, 2003: 112; Fritz, 2000; Trudgill, 1986). Meanwhile, corpus-based studies of AusE suggest that over the 19<sup>th</sup> and 20<sup>th</sup> centuries grammatical features such as modality and quasi-modals (Collins, 2014; Collins & Yao, 2014) and a set of forms including inflectional genitives and mandative subjunctives (Collins, 2015) have diverged from British English and are following the lead of American English. What remains to be understood is how local factors unique to specific geographic areas may have interacted with external influences.

In this study, I analyse two ego-documents (115,226 words) generated by sisters born 14 years apart at a time which may be understood to align temporally with Trudgill's (2006) second stage of focusing and the exonormative stabilisation and nativisation phases of dialect formation proposed by Schneider (2007; 2003). The focus is on the colony of Western Australia, a location and temporal span rarely considered in sociolinguistic research. Using a 'history from below' approach, I examine two morpho-syntactic features (examples 1–3), two potential phonetic features (examples 4–6), and two lexical features (examples 7 and 8). Together, these features point to possible influences of Irish English and the presence of significant numbers of American whalers in the region, both prevalent factors in the local language ecology. I make a case to develop a new corpus of ego-documents authored by Australian-born speakers to enrich the growing resources available for historical sociolinguistic analysis of AusE.

### Examples

#### NON-STANDARD PAST-TENSE CONSTRUCTION: *DO + NOUN OR GERUND*

(1) I **done** some weeding (EK/female/born 1861)

#### NON-STANDARD NUMBER EXPRESSION IN VERB CONSTRUCTIONS

(2) Our ears **was** open (BK/female/born1875)

(3) Miss C\_\_\_ and W\_\_\_ C\_\_\_ **has broke** their engagement (EK/female/born 1861)

#### PLURAL PRONOUN *THEY*

(4) **the** left Locks lland but **the** never got paid for the trenching (BK/female/born1875)

#### VARIABLE SPELLING OF *QUOKKA*

(5) A very hot day no visitors caught no **quakas** (EK/female/born 1861)

(6) My brother B\_\_ was out **quacker** shooting (BK/female/born1875)

#### PHRASAL VERB *RID UP*

(7) got things **rid up** mended clothes &c. (EK/female/born 1861)

#### NOUN *OPOSSUM*

(8) when I was a Child I had pet Kangaroo rats **opossums** Birds Cats (BK/female/born1875)

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Page Maitland	An investigation of language change and contact effects on aspect and mood in languages of New Guinea
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In the study of language contact among Papuan languages of New Guinea, contact effects in several areas of grammar have been identified and investigated, but relatively few of these deal with effects on aspect and mood encoding. This paper reports on research in this area, in the following three regions. The contact situation and many areal features of the Sepik Region (Papua New Guinea) were described by Aikhenvald (2008), though few were in the domains of aspect or mood. The Lakes Plain (West Papua) languages' tense, aspect and mood (TAM) have been reasonably well-described but little has been written about areal features and contact situation/s. For languages of Bougainville, a fair amount of literature on language contact has been produced by scholars ranging from Dutton (1994) to Evans (2018) which shows some

notable examples of contact change in TAM features, such as the Tok Pisin- influenced temporal and modal expressions in Papapana described in Smith (2015), which shows promise for identifying more examples of this type of change.

The original analysis of grammatical features, and of the contact situation in these areas, reported in this paper, has so far produced findings regarding contact-induced change in TAM features in the languages of these areas. This analysis uses language data and grammatical descriptions to establish synchronic descriptions of the languages' TAM encoding strategies, and sociological, geographic and ethnographic data to illustrate the contact situations of language groups. For each of the three areas, the typology of TAM in the languages will be compared, and three main research questions will be answered for each area. Firstly, which are the features that typify a particular language family, and how can this best be determined? Secondly, what features can be classified as 'aberrant' on the basis of what has been discerned as typical in those families, i.e. having little to no correspondences to features present in related languages (Smith, 2015:331) (e.g. realis-irrealis morphology in a family which predominantly lacks it; aspectual prefixes in a family of which most members indicate aspect through suffixes, etc.). Lastly, whether these aberrant features appear to have originated in other unrelated languages, and which languages are most likely to have contributed these features in the receiving language (e.g. most members of the Lakes Plain family indicate aspect through suffixation or stem suppletion, including Obokuitai (Jenison, 1995), Fayu (Maitland, 2020) and Edopi (Kim, 1991), however Iau employs tonal inflection instead (Bateman, 1986)).

The analysis reported here follows the work of Thomason (2008), who supplies a framework for incorporating sociological factors into investigations of contact-induced change; Ellison et al. (2012), and Labov (1994, 2001, 2010), who produced comprehensive works both on the state of the art of contact linguistics and on methodologies for identifying and classifying change factors and effects.

Findings reported on here include descriptions of typical aspect and mood expression in Papuan language families including Lakes Plain and Dani (West Papua), South Bougainville (Bougainville) and Ndu (Papua New Guinea), identification of languages with aberrant aspect and mood features in the context of their families, and identification possible internal and external motivations for these features' emergence.

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“... certain words naturally go together, and being encountered drag each other along a train of thought like the barked atoms of Democritus” [Bolinger 1940, p. 62]

Words are of course symbols — the connection between a word form such as *pig* and what it denotes is arbitrary. This provides one of the cornerstones of etymology. Yet, over time symbols can stop being symbolic, as nicely demonstrated by the following well-known anecdote: a child encountering a pig for the first time exclaims how appropriate the name is for such a dirty creature. It is as if *pig* is communicating the essential nature of the creature, even though, as Pyles and Algeo remind, “a pig by any other name — even if it were called a rose — would smell as bad” (1982, p. 320).

When associations are made between the sounds of words and their meanings, the connections can extend. It is a snowballing process which, as Bolinger (and others such as Benczes 2019) have shown, can result in complex patterns of mutual influences. Once integrated into the system, these can be powerful triggers for the creation of new forms and alterations to the shape and meaning of existing forms. Such sound symbolic associations and pressures also help to solve one of the puzzles to do with the lifecycle of words, namely, the survival of certain expressions over others.

In this presentation, we show how the world of smells is awash with complex constellations of words, Bolinger’s “kinships of sound-to-sense” that are united in similarity of sound and “partly or wholly *induced* similarity of meaning” (1940, p. 65). And yet, word historians, in their pursuit of clear and singular etymological paths, have branded many of these words “of obscure origin”. Even the history of the basic term *smell* remains a mystery; as the *Oxford English Dictionary* (OED.com) notes, *smell* is “no doubt of Old English origin, but not recorded, and not represented in any of the cognate languages”.

We explore the idea of multiple causation and the not so arbitrary association of sound and meaning through a case study of three smell words: *musty*, *fusty*, and *smell* itself. We show how their phonological form and semantic meaning are governed by a network of existing terms and intra-linguistic patterns that have merged, blended, and clashed during their lifetime. We then discuss the interplay of sound-symbolic / phonesthemic elements and the implications of using such entangled phenomena in word histories.

Accounts of linguistic change so often seek neat single factor solutions; yet the reality of any linguistic innovation and change is complex and multi-factored (see Joseph 2013). And while recent etymological accounts readily acknowledge lexical disorderliness, even challenging the idea of the lexicon as a set of distinct words, each with a single, true etymon, they have done little to incorporate “the complex and often messy realities of the histories of words”, to cite Philip Durkin, principal etymologist for the *Oxford English Dictionary* (2016, p. 252). We aim to demonstrate that techniques for identifying multiple etymologies and sound-symbolic associations can be as rigorous as any other etymological method.

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Pun Ho Lui	From “as soon as” to “whenever”: a secondary grammaticalization of immediate anteriority marker in Cantonese
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This paper investigates the secondary grammaticalization of immediate anteriority marker (IMANTE) — *jat1* in Cantonese. An IMANTE is a subordinating function indicating two events occurring consecutively (=“as soon as”, Kortmann, 1997). The event in a subordinate clause (event P) occurs immediately before the event in a main clause (event Q, see example 1).

By delving into the corpora and internet examples from early Cantonese (~1800) to modern Cantonese, the data suggests that the IMANTE marker has further developed into a contingency marker (=“whenever”; CONTIN henceforth). This study follows Heine’s (2002) theory on grammaticalization stages and investigates the bridging contexts and switch contexts of this grammaticalization path. Bridging contexts are examples which the target function is an implied use alongside with a developed sense, forming a semantic ambiguity, in this case, CONTIN is an implied use while IMANTE is a developed sense. Switch contexts are examples which only the target function is available while the source function is not available or backgrounded.

For bridging contexts, ample examples in early Cantonese suggested that when the event P is an inchoative point of a [+durative] predicate without an overt inchoative marker, a CONTIN use is implied (example 2).

For switch contexts, two sets of examples can be attested in modern Cantonese: (a) the addition of adverbial phrase 以前 *ji5cin4* “before” in the subordinate clause; (b) a generic sentence which the individual-level stative predicate indicates a permanent feature of a generic/ indefinite subject in the subordinate clause. For (a), the event P has lost its event status and becomes a reference time which is not compatible with IMANTE function because the reference time temporally overlaps with event Q as opposed to forming a temporal sequence (see example 3). For (b), an individual-level stative predicate indicates a permanent feature of a generic/ indefinite subject, indicating a “timeless” statement which holds true at all time, i.e.: CONTIN (example 4).

The status of CONTIN being sense or use can be detected by the cancellation test which coerces the event(s) to one-off event(s). Since CONTIN refers to a set of events happening iteratively, it is not compatible with a one-off event. An implied CONTIN use is cancellable (example 5) while a developed CONTIN sense is not (example 6).

For explanation purpose, this study presents three types of IMANTE in Cantonese with three types of event P: achievement (example 1); inchoative point of a [+durative] predicate (example 2); perfective point of a [+durative] predicate (example 7).

From a linguistic viewpoint, this study can pave a way for other linguists to study the same construction in other languages. There is work focusing anteriority and posteriority: “before” and “after” (Haspelmath, 1997; Hetterle, 2015), whereas an immediate anteriority is understudied with limited work (Kortmann, 1997; Heine & Kuteva, 2002). Hence, its (secondary) grammaticalization is also not in the limelight. This study helps linguists predict the grammaticalization path in other languages such as Muylaq’ Aymara (Coler, 2014) and Guìqióng (Jiang, 2015).

- (1) 我 一 上床 就 訓著  
ngo5 jat1 soeng5 cong4 zau6 fan3zyu3  
1SG one get.in.bed then fall.asleep  
“As soon as I get in bed, I fall asleep.” (Early Cantonese tagged database, 1923)
- (2) 一 黑 就 訓  
jat1 hak1 zau6 fan3  
One black then sleep  
“As soon as the sky turn dark, X sleeps.” (Early Cantonese tagged database, 1923)
- (3) 一 做 功課 前 就 好 焦慮  
jat1 zou6 gung1 fo3 cin4 zau6 hou2 ziu1leo6  
One do homework before then very anxious  
“Whenever before I do homework, I feel anxious.” (LIHKG, 2021)
- (4) 男仔 一 矮 就 好 難 好睇  
naam4zai2 jat1 ngai2 zau6 hou2 naan4 hou2tai2  
Boy one short then very difficult good.looking  
“Short boys are difficult to be good looking.” (LIHKG, 2021)
- (5) 我 琴日 一 上床 就 訓著  
ngo5 kam4jat6 jat1 soeng5cong4 zau6 fan3zyu3  
1SG yesterday One get.in.bed then fall.asleep  
“As soon as I got in bed yesterday, I fell asleep.” (Modified from example (1))
- (6) ??琴日 一 做 功課 前 就 好 焦慮  
kam4 jat6 jat1 zou6 gung1fo3 cin4 zau6 hou2 ziu1leo6  
Yesterday one do homework before then very anxious  
“??As soon as before I do homework, I feel anxious” (Modified from example (3); unattested)
- (7) 我 一 返 屋企 呢 就 好似 起 一 個 小 香港  
ngo5 jat1 faan2 nguk1kei5 ne1 zau6 hou2ci5 hei2 jat1 go3 siu2 hoeng1 gong2  
1SG one return home PART then similar LOC one CL little Hong.Kong  
“As soon as I arrive home [lit. return home], it feels like I am in a little Hong Kong.” (HKCANCOR: VF27A, 1997-8)

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Catherine Travis and Rena Torres Cacoullos	Parallel linguistic and social change? Modals of obligation in real time
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The social role of interpersonal authority is widely assumed to have diminished since the late 1800s, however the locus of parallel linguistic change beyond lexis has been elusive (e.g., Hilpert 2020; Verhagen 2000) (cf., Arnaud 1998). One acclaimed parallel change has been that of English modals of obligation, as change in world view would give rise to a shift from modality functions that are based on social order and general principles to new modality functions that are more “interactive”, such as offering advice or making an emotional appeal (Myhill 1995:160). In particular, a decline in ‘*must*’ and an increase in ‘*need to*’ has been linked to a move away from authoritative, towards more personal, obligation, including for Australian English (e.g., Collins 2005; Fehringer & Corrigan 2015; Leech 2013; Penry Williams & Korhonen 2020; Tagliamonte & D’Arcy 2007). Here, we demonstrate that relationships between grammatical and social change can be observed not only through considering variation patterns between competing forms expressing similar meanings (cf., Labov 1982:20), but by considering these alongside distributions in spontaneous speech data of particular meaning nuances expressed.

We conduct real-time comparisons across sociolinguistic corpora of Australian English, totalling 1.25 million words from 255 speakers, compiled for the *Sydney Speaks* project (Travis 2014-2022). Earlier recordings were made in the 1970s and 1980s with Elderly Australians (*NSW Bicentennial Oral History Project*, 1987), Adults and Teenagers (*Sydney Social Dialect Survey*, Horvath 1985), who were born, respectively, in the 1900s, 1930s and 1960s. Comparable contemporary recordings were made in the 2010s with Adults and Young Adults, born in the 1960s and 1990s. All instances of ‘*must*’, ‘*have to*’, ‘(have) got to’, ‘*should*’ and ‘*need to*’ were exhaustively extracted. Approximately half occur with an obligation meaning within a variable context (Present tense, affirmative, declarative clauses, Myhill 1995:165-166; Tagliamonte & D’Arcy 2007:60), and were submitted to regression analyses (N=1,754).

To assess change in the nature of obligation expressed, we establish a data-driven classification according to source of obligation (cf., e.g. Coates 1983; Palmer 2003; van der Auwera & Plungian 1998). The resulting three-way classification distinguishes: *societal* hierarchy or norms, ex. (1); *general* consequences or circumstances, (2)-(3); and *personal* choice or opinion, (4)-(5).

- (1) Beatrice: *You must put your pencil down.* ((instructor to student)) [Bcnt\_AEF\_158]
- (2) Sophia: *but she has to do it,  
because she has to support her family.* [SydS\_AYF\_035]
- (3) Graham: *like when you just can’t get petrol.  
and I’ve got to spend,  
half the day running from place to place, getting a bit of petrol.* [SSDS\_AAM\_501]
- (4) Celeste: *I think she .. should teach us much better,* [SSDS\_ITF\_142]
- (5) Max: *I don’t feel like I n- need to be in a relationship generally anyway.* [SydS\_AYM\_012]

Analysing variation patterns between competing forms, we find that the incoming modal, ‘*need to*’, is favoured for personal choice, especially with first person subjects. Thus, source of obligation correlates with recency of the modal. In addition, tracking distributions of the data according to source of obligation expressed —independently of form— reveals change in the expression of interpersonal authority: for human specific subjects (N=737), we identify real-time shifts in the relative frequency of societal obligation contexts (which decrease) and personal obligation contexts (which increase). Thus, by pairing variation patterns with contextual distributions of the data, we are able to support the hypothesised social change in world view by demonstrating change in the nature of obligation expressed, which we find is *concomitant with, but independent of*, a linguistic change in modal forms.

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## Health communication

Maria Karidakis	First nations-led response to Covid-19 Vaccine Health Communication
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Background: The challenges precipitated by the advent of COVID-19 have brought to the fore the task governments and key stakeholders are faced with; ensuring public health communication messaging is readily accessible to vulnerable populations. COVID-19 has presented challenges for the provision and reception of timely, accessible and accurate health information pertaining to vaccine health messaging to Aboriginal and Torres Strait Islander peoples. The objective with this research was to investigate ways in which vaccine-health communication can be enhanced to better facilitate communication with Aboriginal and Torres Strait Islander peoples. This qualitative study explored strategies used by Aboriginal-led organisations to improve communication about COVID-19 and vaccination for their communities and to explore how these mediation and outreach strategies were received by community members.

Method: Data used included 8 hours of transcribed audio recording from semi-structured interviews with 6 Aboriginal-led organisations and 15 community members from several states across Australia and these interviews were analysed thematically.

Findings: The findings suggest that effective public health communication is enhanced when a First nations-led response defines the governance that happens in Indigenous communities. Pro-active and self-determining Aboriginal leadership and decision-making helps drive the response to counter a growing trend towards vaccine hesitancy. Other strategies include establishing partnerships with government departments and relevant non-governmental organisations to ensure services are implemented and culturally appropriate.

Outcomes: The outcomes of this research will afford policymakers, stakeholders in healthcare and cultural mediators the capacity to identify strengths and potential problems associated with pandemic health information and to subsequently implement creative and culturally specific solutions that go beyond the provision of written documentation via translation or interpreting. It will also enable governing bodies to adjust multilingual polices and to adopt mediation strategies that will improve information delivery and intercultural services on a national and international level.

Jakelin Troy, Janette Thambyrajah and Mujahid Torwali	'Yarn health': using 'community participatory practice' and 'yarning' to develop the domain of language about health and wellbeing in Wiradjuri.
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In this paper we discuss the methodologies used in a research project that we as a team conducted with the Wiradjuri community as a means for expanding domains of language use in languages in 'renewal'. These are languages that after a period of dormancy as community languages are now being renewed as languages of everyday communication and which often struggle to develop specific domains of language use beyond basic everyday communication. The methodologies we explore here are 'community participatory practise' (Martin and Mirraboopa 2003) and yarning 'an Indigenous cultural form of conversation' (Bessarab and Ng'andu p37; Fredericks et al 2011) as methodologies for engaging Aboriginal communities in language research that supports the expansion of domains of language use in languages that are being renewed by their community. We use as the basis for our paper research we have been conducting with the Wiradjuri community in Condobolin and Orange, NSW. The research collaboration, 'Talking about health in Wiradjuri', has been between researchers at The University of Sydney, The Wiradjuri Condobolin Corporation and The Orange Aboriginal Medical Service supported by a grant from the Commonwealth Indigenous Languages and the Arts Program. The project was conducted from October 2019 to June 2022 and faced considerable challenges during the many Covid-

19 lockdowns and restrictions on face-to-face field research. Despite the challenges, the Aboriginal community in Condobolin and Orange embraced this project and its focus on how to talk about health and wellbeing, using Wiradjuri language and Wiradjuri knowledge and experience of how to be healthy. The yarning technique provided community participants with a relaxed and meandering way to explore what health and wellbeing means to them and opened conversations that became personal narratives, stories of experiences that made people feel well and those that had adverse health impacts. Through all the discussions participants wove into their narratives what they knew about Wiradjuri, and other languages used by community from surrounding areas, into their narratives. The expansion of language knowledge and particularly around the domain of health and wellbeing was enhanced by the participatory practise engaged with from the inception of the project. Community controlled how the project developed and what form the final outputs would take. The collection of audio visual and audio only recorded interviews became very important to the participants as testimonials of their thinking about health and wellbeing. The project also developed practise among the participants of creating little story books using Wiradjuri words and short sentences, illustrated by the authors with painted artworks. These books were put together by the research team using online software and provided to participants to take home to their families to share. A website is also under production to make public the interviews, books and other materials being developed.

The participatory process involved in this project was novel to the two Wiradjuri communities involved, as they expected the University representatives to 'tell' them what to do. Instead of this, the community members were asked to direct the methodology for the project so that we would have a 'ground up' project that captured Wiradjuri ways of 'knowing, being, and doing' (Martin & Miraboopa, 2003). This produced an unexpected style of research and generated different results to what we, as a combined group, were expecting. We will explain in greater detail the methodology used, qualitatively describe the materials produced, and portray how these materials relate to talking about health in Wiradjuri.

Sharmistha Sarkar and Somdev Kar	Tonal Reduplication Patterns in Tibetan (Dharamshala): An Optimality Theoretic Account
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This study aims to systematically address questions regarding the various reduplicative patterns that occur in Tibetan (spoken in Dharamshala, India; henceforth, DT), using the Optimality Theoretic framework (Prince & Smolensky, 1993/2004). Both complete and partial reduplication take place in DT. Like Lhasa Tibetan (considered standard Tibetan; henceforth, LT), DT is also tonal, having three tones, namely, H, M, and L. Naturally the most pertinent question that arises in this context is whether the tone is copied in the reduplicated forms in tonal languages, particularly, in DT. If the tone is copied, is it fully reduplicated or partially? In certain cases, the tone is not transferred to the reduplicant (Downing, 2003).

In Tibetan, although most of the words are bisyllabic, there is a significant number of monosyllabic words (Tournadre & Dorje, 2003). Both monosyllabic and bisyllabic words are found as the base in Tibetan reduplication, where it is directed towards the right side of the base (examples A-D). In the case of complete reduplication, two different patterns can be observed. In a bisyllabic base, the RED fully copies both segments and the tone (McCarthy & Prince, 1995). If the tone pattern is HL in the base, the RED also copies HL while allowing H in the RED to go through downstepping. However, in the case of monosyllabic bases, the tone is not copied in the RED. The H tone in the base becomes L in RED. In the case of partial reduplication, a similar tone copying mechanism is followed, notwithstanding the partial copying of the segments.

In order to provide a unified theoretical explanation behind all these findings, it is imperative to recognize both phonological and morphological aspects of reduplication. As Optimality Theory concerns itself with the mechanism of constraints and language-specific rankings, it can offer an explanation for all the above-stated tone copying types. The observations regarding DT reduplication can be explored through the ideas like correspondence, identity, reduplicative template, unmarked quality of the reduplicant, etc (McCarthy & Prince, 1995). Identity and structural requirements are explored through the rankings between the faithfulness and markedness constraints in this study.

### Examples of Tibetan Reduplicative words

#### A. Complete reduplication with a monosyllabic word as base

- i. ni ni 'two each'
- ii. t<sup>h</sup>ung t<sup>h</sup>ung 'very small'
- iii. t<sup>h</sup>ib t<sup>h</sup>ib 'very dark'

#### B. Partial reduplication with a monosyllabic word as base

- i. su su 'who who'

#### C. Complete reduplication with a bisyllabic base

- i. t<sup>h</sup>etab t<sup>h</sup>etab 'open open'
- ii. k<sup>h</sup>ale k<sup>h</sup>ale 'slowly slowly'

#### D. Partial reduplication with a bisyllabic base

- i. sum-tju -so-tjik 'Thirty one'
- ii. fip-tju- Je:-tjik 'Forty One'

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Shubo Li	The phonetics and phonology of the Kufo language
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Kufo (also known as Kufa or Kufa-Lima) is a variety of the Kanga language which is traditionally spoken in the Nuba Mountains in South Kordofan, Sudan. The estimated number of Kanga speakers is 8,000. Kanga is classified as part of the Kadugli-Krongo language family. Some early studies viewed this family as part of the Niger-Congo phylum (Blench, 2006; Greenberg et al., 1955), while more recent work suggests that it has more in common with languages of the Nilo-Saharan phylum (Blench, 2019). Existing descriptive research on Kufo and related varieties is extremely limited, largely comprising some wordlist materials and preliminary phonological observations (Dafalla, 2006; Hall & Hall, 2004). This study aims to develop the first comprehensive description of the sound system of Kufo, focusing on investigating the segmental inventory, establishing preliminary tone analyses, and examining the phonetic characteristics of specific segmental phenomena.

Existing phonological observations suggest that Kufo has a rich inventory of consonants with various manners of articulation and a large number of places of articulation, as well as a possible length contrast among consonants (Blench & Mongash, 2022; Hall & Hall, 2004). However, the status of some of these consonant distinctions is uncertain, and Kufo may differ from related language varieties in terms of voicing contrasts. There are different views on the number and nature of vowel contrasts in previous work, with some proposals for a 7-vowel system, and other proposals for a 9-vowel or 10-vowel system with an ‘Advanced Tongue Root’ distinction (Blench & Mongash, 2022; Hall & Hall, 2004; Schadeberg, 1994). A possible vowel length contrast has also been suggested. Past studies note that Kufo is a tonal language, yet there is no systematic analysis regarding the tone inventory or how tones function.

This study is based on data collected with one Kufo speaker, including elicitation, naturalistic speech, and carefully designed wordlist recordings. Data used for phonological analyses was recorded either in person using Zoom portable audio recorders at an archival sampling rate, then downsampled to 44.1kHz and 16 bit-depth, or remotely via Zoom online meeting software, when in-person recordings were not possible. Data used for acoustic phonetic analyses was recorded in-person with Zoom portable audio recorders, using wordlists targeting vowel and consonant distinctions. The wordlist for vowels comprised CV.CV words with vowels of different qualities and lengths, and the wordlist for consonants comprised CV.CV words with medial consonants of different voicing types and lengths. The wordlist items were produced five times in an utterance-medial frame. These recordings were segmented and annotated in Praat (Boersma & Weenink, 2001), and used to create hierarchical databases with the EMU Speech Database Management System (Winkelmann et al., 2017).

The data collected for this study provides evidence for 36 consonant phonemes in Kufo (Table 1), including voicing distinctions among stops and fricatives, evidence for bilabial and alveolar implosives, and a length contrast for various stops, implosives, fricatives, and the palatal glide. Phonetic analyses of Voice Onset Time and closure duration provide further support for these analyses. Voicing alternations are also involved in morphophonological process such as noun pluralisation and verb conjugation, and length alternations occur in adjective intensification for some lexemes. The phonological and phonetic evidence points to nine contrastive vowel qualities, with an ‘Advanced Tongue Root’-type contrast among the close and mid vowels (Figure 1), though there is currently no evidence of vowel harmony based on this feature. Duration measures indicate that at least five of these nine vowel qualities exhibit a phonemic length contrast (Figure 2). As for tone, the data suggests that Kufo may have four contrastive tones (Table 2), though the falling tone appears less common than the three register tones. Tones in Kufo appear to carry a heavier functional load in forming grammatical distinctions than lexical distinctions. This study significantly extends the understanding of the Kufo sound system and lays the groundwork for larger-scale studies of phonetic and phonological patterns in the language.

Table 1: Kufo consonant inventory.

	Bilabial	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Glottal
Plosive	p b	t d		ʈ ɖ	ɟ	k g	ʔ
Implosive	ɓ ɓ̃	ɗ ɗ̃					
Nasal	m	n			ɲ	ŋ	
Fricative	ɸ ɸ̃	β β̃	s s̃	ʃ ʃ̃			ʒ
Tap/Flap		r					
Trill		r					
Lat. Approx.		l					
Approx.	w				j j̃		

Figure 1: Vowel quality (midpoint F1 and F2, Hz).

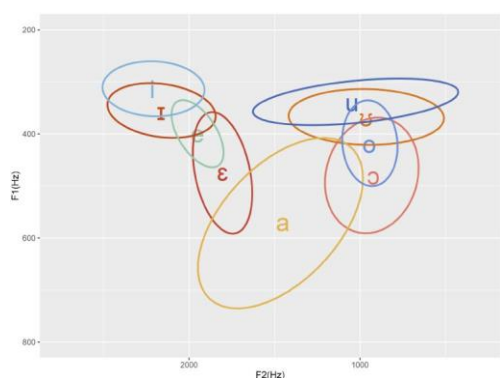


Figure 2: Vowel quantity (duration, ms).

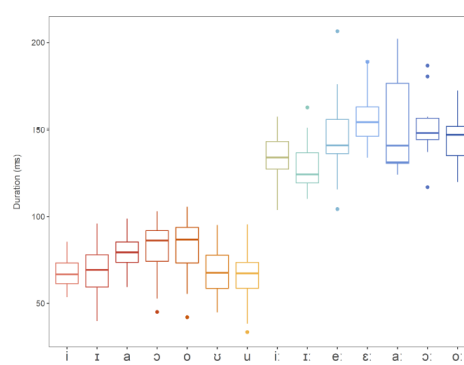


Table 2: Kufo tone inventory, with examples.

Tone	Marking	Lexical distinction	Grammatical function
high	H	tɛ: <sup>M</sup> dɛ <sup>M</sup>	pour INF
low	L	tɛ: <sup>L</sup> dɛ <sup>H</sup>	kill INF
mid	M	ɲa: <sup>H</sup> ra <sup>H</sup>	cousin SG
falling	F	ɲa: <sup>F</sup> ra <sup>H</sup>	fence PL
			na <sup>L</sup> na <sup>H</sup> buy 1SG PRS
			na: <sup>L</sup> na <sup>H</sup> buy 1SG PST PRF
			na <sup>M</sup> ga: <sup>L</sup> na <sup>H</sup> buy 1SG PST IPRF
			na <sup>L</sup> ta <sup>H</sup> na <sup>H</sup> buy 1SG FUT

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Priyeshi Kumari and Somdev Kar	Partial Reduplication in Maithili
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Reduplicative structures of various forms are seen in majority of the Indian languages (Abbi 1985). Kager (2004) defines reduplication as a phenomenon involving ‘phonological identity’ between the reduplicant and the base to which it adjoins. This study attempts to address such reduplicative structures in Maithili (spoken in the eastern India and the neighboring country, Nepal) that can, arguably, be categorized as partial reduplication (Asad, 2015; Yadav, 1996).

Our analysis of Maithili speech data (LDCIL corpora) does not find any fixed segment in the partial reduplications (unlike /v/ in the similar cases in Hindi). However, it is interesting to note that the reduplicant always starts with a consonant irrespective of the category of the initial sound segment of the base (examples in A). The data suggests a subcategory of partial reduplication, ‘ablaut reduplication’, where the vowel shift in the reduplicant is always towards high front vowel /i/ (examples in B). We used PRAAT to determine the vowel quality in such reduplication cases.

The study investigates partial reduplication in the Optimality Theoretic framework (Prince & Smolensky 1993), specifically, using the Correspondence Theory (McCarthy & Prince 1995). This later and influential version of Optimality Theory (OT) claims that reduplication takes place by the interaction of three constraint types: Well-Formedness, Base-Reduplicant Identity, and Faithfulness constraint (Kager, 2004). A higher-ranked well-formedness constraint ONSET interacts with other Base-Reduplicant constraints, such as DEP-BR and MAX-BR along with a faithfulness constraint IDENT-IO which leads to an optimal candidate. Typically, ONSET requires that syllables must not begin with vowels, which in these cases, plays a crucial role in determining the reduplicant. Thus, we try to build a working constraint ranking keeping these peculiarities of Maithili partial reduplication.

## Examples (Maithili)

### A. Instances of Partial Reduplication

/seva-teva/	[seva-teva]	‘service and all’	(Base: /seva/)
/idir-bidir/	[idir-bidir]	‘mutter, talk in sleep’	(Base: /idir/)

### B. Instances of Ablaut Reduplication

/ləmba-ləmbi/	[ləmba-ləmbi]	‘straight/horizontal’	(Base: /ləmba/)
/bera-beri/	[bera-beri]	‘turn by turn’	(Base: /bera/)

Keywords: Reduplication, Optimality Theory, Correspondence Theory, Maithili.

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Helen Fraser, Debbie Loakes and Ute Knoch	Developing an accountable evidence-based process for producing reliable transcripts of indistinct forensic audio
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Covert recordings provide powerful evidence in criminal trials. The problem is that they are often of extremely poor quality, to the extent that they cannot be understood without the assistance of a transcript (Fraser and Loakes 2020). Current Australian law allows transcripts to be provided by police investigating the case (French and Fraser 2018). This has been shown to be unacceptable, even when safeguards embodied in legal procedure are followed properly (Fraser 2018). In 2017, ALS led a ‘call to action’ asking the judiciary to review and reform legal procedures for handling transcripts of indistinct forensic audio in English and other languages.

It is expected then, that at some point police transcripts will no longer be allowed, making it necessary for linguistics to develop evidence-based processes for providing demonstrably reliable transcripts. This requires more than just applying existing scientific knowledge. While transcripts are used frequently in many branches of linguistics, we are rarely called upon to transcribe extremely indistinct audio when we do not know the content and the context is potentially misleading (Fraser 2022a).

The present paper investigates how transcripts with demonstrable reliability can be achieved, drawing on insights from language testing research (Knoch and McQueen 2020). The paper offers results of a preliminary study using a 2-minute section of an indistinct forensic-like recording, for which we were able to prepare a reliable master transcript. Forty participants recruited via the ALS mailing list each transcribed the audio, with no prior knowledge of the content or context. Each participant’s transcript was divided into intonation phrases (IPs) and each IP was scored against the

master transcript, with four ratings: a global rating and three analysis ratings (the latter showing how much of each IP was *misinterpreted*, *missing* or *added*) to give an impression of what factors contributed to the global score.

Results confirm that it is unrealistic to expect individual transcribers with no contextual information to produce demonstrably reliable transcripts (cf. Love and Wright 2021). Rather it is necessary to ensure that accredited transcribers follow an evidence-based process, designed and managed by experts (Fraser 2022b) – in a manner similar to those used by other responsible forensic sciences such as DNA analysis. The paper concludes with next steps for developing the evidence-based process, seeking discussion and input from ALS members.

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## Language processing

Rachel Nordlinger, Sasha Wilmoth, Evan Kidd and Gabriela Garrido Rodriguez

Word order flexibility in Pitjantjatjara, across genres and generations

Word order flexibility as a feature of (some) Australian languages has been discussed in the theoretical literature since Hale's early work on Warlpiri (e.g. Hale 1981, 1983), and it has long been recognized that word order does not play a major role in these languages in identifying grammatical functions. Simpson (1983) describes Warlpiri as a language in which "the burden of representing the relations between predicates and arguments ... is borne by the morphology rather than the syntax." (p. 18). Instead, word order in these languages is said to be 'pragmatically' driven, determined by information packaging and discourse prominence (Simpson 2007). Despite this theoretical attention, there have been surprisingly few detailed studies of word order flexibility in Australian languages (cf. Swartz 1991, Austin 2001). In this paper, we focus on word order in Pitjantjatjara, a language of the Western Desert, and draw on both experimental and naturalistic data to provide a holistic picture of word order variability. We also investigate whether word order is changing among younger people due to contact with English, as has been claimed by Langlois (2004).

The experimental data comes from a sentence production study in which 49 participants were asked to describe pictures of transitive events (e.g., a crocodile biting a man). In this study, agents and patients were fully cross-matched in terms of humanness/non-humanness but there was no discourse context – there were no shared characters across the pictures, and each utterance was logically independent of the previous one. Thus, we were able to examine what role non-discourse factors (such as underlying syntactic structure or humanness of character) might play in speakers' decisions about word order.

We then contrast this with findings from a naturalistic corpus containing spontaneous and semi-structured narratives. We find that the experimental corpus shows variability across all word orders and across all speakers, but that 51% of responses show Agent-Patient-Verb (APV) word order, which has been claimed to be the underlying word order in previous work (Bowe 1990). We argue that much of the word order variation in the experimental data is driven by four, sometimes conflicting, principles: agent before patient, human before non-human, no initial verbs, and humans can be elided. The naturalistic corpus has significantly greater variability than the experimental corpus, with fewer APV combinations (18%) and an increase in NP-ellipsis resulting in higher numbers of PV, AV and V-only utterances. Interestingly, the findings show greater variability in the speech of younger generations of Pitjantjatjara speakers, which may be unexpected given their increased contact with English; there is not a rigidification of word order, nor is there a straightforward shift to AVP.

In this paper we consider a number of variables that are at play in Pitjantjatjara word order choice – including syntactic, semantic, pragmatic and sociolinguistic variables – and explore their properties across both experimental and naturalistic datasets. We show that word order choice in flexible word order languages like Pitjantjatjara is neither solely syntactic nor solely pragmatic but is determined by a complex array of interacting factors including individual speaker choice. This research adds to the limited literature on word order variability in Australian languages and advances our understanding of how word order is determined in flexible word order languages.

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Takumi Kosaka and Helen Zhao	Chunk Reading Training Improves the Processing Efficiency of Japanese Learners of English
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The Chunk-and-Pass model (Christiansen & Chater, 2016) claims that a language learner must learn how to chunk the language input appropriately and rapidly as well as pass the chunks up to a more abstract level of linguistic representations. If a listener/reader fails in the Chunk-and-Pass processing, information at the lower representational levels is interfered with and lost due to memory limitations (Barrouillet et al., 2021). This processing deficiency results in poor processing quality. For this reason, Christiansen & Chater (2016) argue that learning how to chunk is an essential *skill* of language learning, which can be built through continual practice. The current study investigates if a chunk reading training (CRT) improves the chunk sensitivity of Japanese learners of English, which is operationalized as speakers’ ability about differentiating phrasal trigrams (i.e., syntactically correct and semantically complete such as “*send the data*”) and fragmental trigrams (i.e., syntactically correct but violating segmenting rules such as “*send data to*”) (see Table 1).

The current research is a pre-post intervention-based study, in which 59 Japanese secondary school students at the beginner level participated (experimental group = 30 participants). To measure their chunk sensitivity, we administered a phrasal decision task (PDT) (Jolsvai et al., 2020) on the pre-, post-, and delayed post-test (after two weeks). The participants judged if the trigram on a computer screen was possible in English as quickly and accurately as possible, and their response times (RTs) were measured. Additionally, we administered a chunking ability test (McCauley et al., 2017) to measure their general chunking ability in English. In the CRT for the experimental group, English sentences segmented into smaller units, which were grammatically and semantically meaningful, were automatically presented on a screen chunk by chunk (e.g., *The teacher / waited for students / at the station / for an hour*). Such training aims to have the participants learn to process sentences by chunk under time pressure. The length of one training session was about 15 minutes, and they completed 10 sessions. Finally, 26 native speakers (NS) were recruited to provide the baseline data.

We first split the learners in each group into “Good” and “Poor” chunkers by median split based on the chunking ability test (McCauley et al., 2017). Then, their RTs on the PDT were analyzed (see table 2 and figure 1). The result showed that only the RTs of the good chunkers in the experimental group became significantly faster on the post-test ( $\beta = 0.26$ ,  $SE = 0.07$ ,  $z = 3.52$ ,  $p = 0.022$ ,  $d = 0.46$ ) and on the delayed post-test ( $\beta = 0.55$ ,  $SE = 0.11$ ,  $z = 5.05$ ,  $p < 0.0001$ ,  $d = 1.05$ ) against the pre-test.

However, RTs between the experimental and control groups or between the good and poor chunkers in both groups did not reach significance. Moreover, there were no significant differences between phrasal and fragmental trigrams in all the chunkers in both groups, while NSs showed the difference ( $\beta = 0.07$ ,  $SE = 0.011$ ,  $t = 6.23$ ,  $p < 0.001$ ).

The current study presents that the CRT improved the processing efficiency of Japanese learners of English, particularly for the good chunkers; however, the poor chunkers did not benefit from the training. The good chunkers, who already had stronger chunking awareness, could implicitly acquire the skill of reading sentences in chunks and could more rapidly recognize the conventional unit of linguistic representation. The training might have boosted up their “rapid chunking ability” (Christiansen & Chater, 2016) so that they could develop more abstract representation of the linguistic construction and carry out more rapid processing. But even the good chunkers have not acquired sufficient knowledge of the language constructions that would allow them to do online processes according to native-like segmentation patterns. It would probably take these beginning-level learners more time and experience with the L2 to approximate native-like segmentation. The poor chunkers, on the other hand, failed to acquire the ability to read in chunks or to develop constructional knowledge from it. The poor chunkers might need more explicit types of instruction that help them develop the initial sentence chunking awareness before they could benefit from the implicit training of the CRT. The current findings shed light on the pedagogical implications of the Chunk-and-Pass model.

Table 1: Example trigrams (phrasal decision task: PDT)

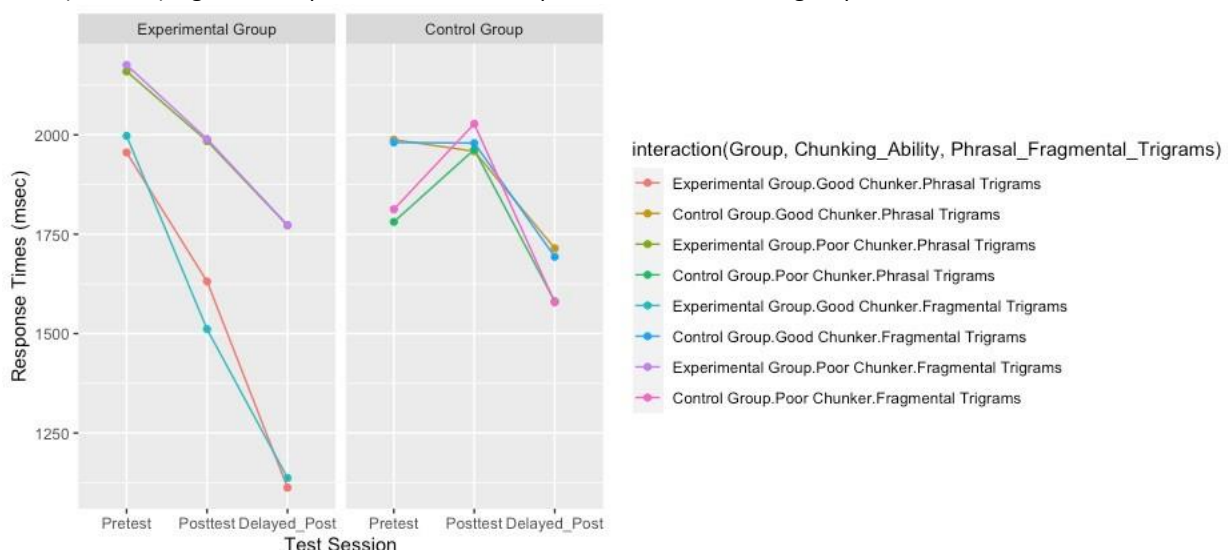
	Experimental Items (Possible Sequence)	Control Items (Impossible Sequence)
Phrasal	make good songs	songs good make
	send the data	data the send
	put new computers	computers new put
Fragmental	make songs for	make for songs
	send data to	send to data
	put computers in	computers on put

Table 2: Response times (millisecond)

		Experimental Group		Control Group	
		Good Chunkers	Poor Chunkers	Good Chunkers	Poor Chunkers
Pretest	Phrasal Trigrams	1996.46	2111.45	2008.22	1781.01
	Fragmental Trigrams	2027.46	2118.76	1996.97	1812.44
Posttest	Phrasal Trigrams	1690.23	1880.01	2011.59	1962.93
	Fragmental Trigrams	1571.93	1893.11	2034.78	2027.60
Delayed Posttest	Phrasal Trigrams	1149.10	1698.45	1719.80	1581.17
	Fragmental Trigrams	1156.02	1699.35	1687.62	1578.44

\*Native speakers' data: Phrasal Trigrams (1148.48) < Fragmental Trigrams

(1240.97) Figure 1. Response times of the experimental and control group over



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Jane Lai, Angel Chan and Evan Kidd	Comprehension of Relative Clauses in Cantonese-speaking Children with and without Developmental Language Disorder (DLD)
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Developmental Language Disorder (DLD), an impairment that 2 children in every class of 30 will experience, affects primarily linguistic abilities and language development in children, in the absence of obvious accompanying conditions such as hearing loss, emotional and behavioral problems, intellectual disability and neurological problems (Norbury et al., 2016). In the multilingual and multicultural context of Australia, Cantonese is ranked fourth as one of the five most commonly spoken languages (other than English) at home, comprising 1.2% of the total population (Australian Bureau of Statistics, 2022). We present a study that examined the offline and online comprehension of relative clauses (RCs) in Cantonese-speaking children with and without DLD, an empirical first not only in the Chinese but also the East Asian languages DLD literature. Moreover, this study is theoretically significant as it tests the predictions of domain-specific versus domain-general accounts on Cantonese RCs and children with DLD across several dimensions, including language status, relativisation strategy, and syntactic complexity.

We compared children with DLD (N=22) with their age-matched typically-developing (TD) children (AM-TD, N=23) aged 6;6 to 9;7 and language-matched (and therefore younger) TD children (YTD, N=21) aged 4;7 to 7;6, using a referent selection task. Within-subject factors were: RC types (subject-RCs (SRCs) versus object-RCs (ORCs)); relativization strategies (classifier (CL) versus relative marker *ge3* RCs). Offline accuracy measures and online looking to the target toy were analyzed using generalized linear mixed effects models.

Results confirmed that RC comprehension is vulnerable in Cantonese children with DLD. Consistent with cross-linguistic evidence, these DLD children scored significantly lower than their AM-TD peers in offline accuracy and processed RCs significantly slower than AM-TDs in online comprehension. On the other hand, these DLD children resembled the YTD children in their offline accuracy, and there is also no evidence suggesting that these DLD children were worse than YTD in the online measures. Regarding difficulty between RC types, offline and online findings collectively indicate a lack of robust SRC over ORC advantage in all children; and a lack of ORC disadvantage (as compared with their TD peers) in Cantonese DLD children- a novel finding unlike what has been documented in the DLD literature on RC studies in English and other European languages. As for difficulty between relativization strategies, both online and offline results show a clear CL over *ge3* advantage in comprehension.

Taken together, these findings concur with the domain-general limited processing capacity account of a global delay in children with DLD (Montgomery & Evans, 2009), rather than a specific difficulty with movement structures like RCs arising from a core deficit in grammatical knowledge in DLD (van der Lely, 2005). The findings also pose challenges to domain-specific structural accounts specified in structural intervention (Friedmann et al., 2009); but are better explained by domain-general emergentist (e.g. O’Grady, 2011) and constructivist (e.g. Lieven & Tomasello, 2008; Abbot-Smith & Brehens, 2006) multifactorial approaches that give primacy to factors such as learner’s language-specific experience, meaning and function, cognition as well as processing.

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During the pandemic, remote learning became a necessity overnight. For educational institutions, this meant that most of the teaching activities had to go online. In some cases, this online teaching happened real-time, in other cases, students could attend the lectures asynchronously at their own leisure without any interaction with a lecturer. One advantage of these asynchronous lectures is that they can be subtitled in advance, increasing accessibility for multicultural and multilingual audiences.

This paper focuses on the reception of subtitled online lectures. With regard to subtitles in education, an increasing number of studies have focused on the effects of subtitles on comprehension and cognitive load (e.g., Chan, Kruger, & Doherty, 2019; Hosogoshi, 2016; Kruger & Steyn 2013; Liao, Kruger, & Doherty, 2020). While most of these studies tend to agree that subtitles have no effect on cognitive load, and affects comprehension and academic performance to different degrees, one important consideration tends to receive little attention, namely the effect of the style of the lecture.

The styles of online lectures can vary. Looking at MOOCs, the most frequently used lecture styles are a talking-head format, showing the instructor lecturing into the camera, or a tablet capture with a voice-over (Hansch et al., 2015). However, in higher education institutions, the possible styles of lectures are often dictated by the institution and even when lecturers have the skills and materials to produce more advanced multimedia lectures, they tend to stick to more basic formats (Thomson, Bridgstock, & Willems, 2014).

So far, research into the impact of subtitles on the audience in different styles of lectures has been very limited. Considering the research that has been done, one key component tends to be regularly forgotten: the audience. In fact, studies into what the audience thinks of the subtitles, i.e., reception studies, have only begun to receive attention in the last decade (Di Giovanni & Gambier, 2018).

To contribute to the state-of-the-art, this paper reports on an experiment with 40 L1 English-speaking students. During the experiment, the students had to watch three different L2 English lectures with intralingual subtitles in three different commonly used online lecture formats. These lecture formats were (1) a talking head; (2) a voice-over style PowerPoint presentation lecture; and (3) a lecture with PowerPoint slides and an integrated talking head. After each lecture, the students were required to complete a psychometric questionnaire and comprehension test to measure their cognitive load and academic performance, respectively. After watching all three lectures, they were asked a number of questions about their experiences with the lectures and their personal preferences. This paper in particular wishes to focus on this last part, providing valuable insights into subtitled online lecture preferences of students. It aims to answer the key question: What does the learner want?

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Watcharaphong Soongpankhao	The Customer Service Needs of English for International Communication Majors at a University in Thailand: A Task-Based Needs Analysis
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English proficiency, particularly as it relates to customer service in the tourism industry, plays a vital role in driving Thailand's economy. Following recent government directives for instruction that better meets the needs of employers, a Task-Based Needs Analysis (TBNA) was conducted for English for International Communications (EIC) majors at a university in Thailand. The TBNA consisted of cycles of data collection, each drawing on multiple sources and methods, to identify the occupational needs of EIC majors. These include (1) a document analysis, (2) semi-structured interviews with graduates and managers, (3) follow-up interviews with managers, (4) a means analysis, (5) a confirmatory survey, and (6) an analysis of target discourse (ATD). The outcomes of study demonstrate how TBNA can provide a basis for designing task-based instructional modules and assessment procedures to better address the future occupational needs of learners within the tourism industry in Thailand. The study illuminates the nature of Thai learners EFL needs and provides a heuristic for TBNAs in other contexts where needs-based instruction is beneficial.

Keywords: Task-based Language Teaching, Task-Based Needs Analysis, Analysis of target discourse

## Language revitalisation

Gulwanyang Moran and Mark Richards	Power, place, and space: Working in multidisciplinary teams in languages revitalisation
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Historically, and too often still today, research on Indigenous peoples, languages and knowledge systems is underpinned by ethnocentric attitudes privileging western epistemology (Tuhiwai-Smith, 2008). Within this colonial mindset there has often been little room for the aspirations of the peoples who belong to their languages. This power imbalance has been at play in the field of linguistics in Australia since the experience of colonisation. Non-Indigenous researchers who inherently benefit from this power imbalance aren't always aware of it and First Nations Peoples who don't are acutely aware of its absence.

However, the landscape is changing and many First Nations Peoples in the languages revitalisation space are reclaiming power and asking non-Indigenous linguists to take a back seat, and reflect on both place and space. Decolonisation of research in the sphere of language revitalisation requires genuine collaboration with the communities whose languages are at the centre of the investigation (Leonard, 2017). This involves research 'with' and 'by' First Nations Peoples rather than 'for' or 'about' them, necessitating the establishment of long-term relationships through direct personal involvement (Grinevald, 2003; Czaykowska-Higgins, 2009).

In this presentation we will first discuss the proximity of power, place and space within the language revitalisation context in Australia. We will discuss current projects that attempt to respond to these three concepts by privileging the knowledge and sovereignty of First Nations Peoples and of their languages and cultures within multidisciplinary teams. We will reflect on the challenges and our shared learnings and offer suggestions to better incorporate power, place and space when working in multidisciplinary teams.

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Marcela Huilcán	The role of digital technology in language reclamation processes: an analysis of the language attitudes of Indigenous language speakers in New South Wales and central-south Chile.
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Studies have shown that the digital presence of Indigenous languages has been growing through learning and language documentation platforms (Galla, 2016). The digital presence of Indigenous languages on online platforms, which is an example of how Indigenous communities are reasserting their linguistic rights (Bradley,

2002), represents a new dawn for these communities whose languages have been confined to very few domains, lowering -for decades- their instrumental value and prestige. In the last few years, there has been an increasing interest in using digital technologies to favour the maintenance and revitalisation of minoritised languages (e.g. Bird et al. 2020; Galla, 2018). Previous research indicates that one of the aspects that make speakers lose pride in their language is the idea that it is not enough for every aspect of daily life (Galla, 2018), suggesting that the presence of these languages in digital domains might favour feelings of pride and show that Indigenous languages have a place in a modern and digital world. Despite these positive potentials, what is the role that the community of speakers perceive in these digital tools? And if technology is having a positive impact on language reclamation processes, what is exactly this role and what represent for Indigenous communities?

From a sociolinguistic perspective, this paper will address these and other questions by analysing the language ideologies (Woolard & Schieffelin, 1994; Woolard, 2020) and attitudes of Indigenous language speakers (Sallabank, 2013, 2015) in Australia and Chile. The communities taking part in this study are Aboriginal language speakers in NSW and Indigenous language speakers located in the central-south area of Chile. Both areas were severely affected by early colonisation encounters and correspond to linguistic areas that have been understudied in the sociolinguistic field. Looking into the underlying language attitudes and ideologies in the tripartite dynamic: language, technology, and language reclamation, I will present the preliminary findings on the data collected from around 100 participants. The analysis follows a mixed methods approach (quantitative and qualitative) based on the data from a pre-survey and post-survey (mediated by the use of a collaborative digital language tool), and in-depth interviews.

The study of language ideologies and attitudes is highly relevant to understanding what is the particular role of digital technologies in the context of revitalisation, as perceived by the communities themselves, and what these tools represent for them. This way we will be able to understand what is the future of Indigenous languages in the digital world and how we can best contribute to making this digital space a decolonial territory.

#### Keywords

Indigenous languages, language attitudes, language ideologies, digital technologies, language reclamation.

Brandon Wiltshire, Steven Bird and Rebecca Hardwick	Rethinking Language Revitalisation Program Design
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Language revitalisation programs seek to reverse decades of language shift in Indigenous communities. However, attempts to revitalise languages have not necessarily produced desired results (Roche, 2020). As more Indigenous communities engage in efforts to strengthen their ancestral languages, there is a need to design effective programs that make use of limited resources. To do this, we need to understand how programs work and what outcomes they produce. In this paper, we conduct a realist evaluation of language revitalisation programs in Australia to shed light on how and why programs work, for whom, and in which circumstances.

Communities strengthen their ancestral languages through a variety of language revitalisation methods. Even though there are multiple ways of revitalising Indigenous languages, little is known about which strategies produce the best results (cf. Obiero, 2010). Language programs tend to target language learning as

the main outcome. However, Indigenous communities may seek more than just increases in language proficiency, such as identity and wellbeing outcomes (Marmion et al., 2014). Speaking traditional languages is argued to improve wellbeing and strengthen identity, which has been linked to positive health outcomes (Caxaj & Gill, 2017), yet this connection is not well understood (Grenoble & Whaley, 2021). We seek to better understand what extra-linguistic outcomes language revitalisation programs produce as well as what outcomes communities desire.

Informed by our realist synthesis of the literature, we conduct a realist evaluation of language revitalisation programs through interviews with people involved in language programs in different parts of Australia. Realist evaluation seeks to unpack causal explanations for how and why a program works, for whom it works, and in which circumstances it works (Pawson & Tilley, 1997). Moreover, we investigate different methods of testing and refining program theory. Mainstream methods of realist evaluation tend to use traditional interview styles that may not be appropriate in Indigenous contexts. Working with the Miriwoong community in the East Kimberley region of Western Australia, we explore alternative methods of theory testing, including informal discussions and yarning.

In this paper, we discuss preliminary findings from our realist evaluation as well as discuss how evaluation might be done effectively and respectfully in Indigenous communities. We propose theories on how language revitalisation programs can strengthen communities and promote commitment in addition to increasing proficiency. More importantly, we argue that these extra-linguistic outcomes should be explicitly targeted in program design and celebrated alongside language learning outcomes in order to produce more effective and sustainable revitalisation efforts. We present our theories that may help communities improve the implementation of current and future programs in accordance with their aspirations. We propose that language revitalisation may not be a mere reversal of language shift, but instead a new path forward that fosters more resilient Indigenous communities (cf. Budrikis, 2021; Leonard, 2017).

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Breen (1980) characterises the resources of salvage studies as ranging from living speakers to ‘usually very inadequate’ studies by early untrained philologists, while acknowledging that ‘intermediate types’ exist (1980: 181). Yagara, the traditional language of the present-day Brisbane region, presents an unusual ‘intermediate type’ in that its documentation consists largely of narrative texts. Extracting morphological data from these texts therefore has relied on large spreadsheets and statistical analysis. These results shed unexpected light on other Yagara resources, such as word lists, suggesting that the strengths and failings of our process may have implications for the study of languages with sparser textual resources.

In 1855, Reverend Ridley elicited 8 pages of Bible stories with rough translations, including over 1200 Yagara words, from a speaker of the Turrbal dialect of Yagara. Apart from these stories, Yagara resources consist of word lists, isolated sentences, and audio recordings of words with no morphosyntactic context. The Bible stories, then, provide the bulk of the morphological information on Yagara.

To extract morphological structure from the Bible stories, we first searched the stories for words listed in the Yagara word lists and sentences. We identified any additional syllables which could represent affixes, entered these in a spreadsheet, and looked for syllables that occurred in particular sequences. This process alternated with reconsideration of our interpretations of Ridley’s transcriptions, including the statistical analysis of sequences; and reanalysis of the morphology of the word list entries. We also compared our work with the affixes apparent in the words and sentences from other sources and in surrounding languages.

Ultimately, we identified 34 suffixes and 2 clitics. We glossed the Bible stories in their entirety, comparing the interpretations of the suffixes with the rough translations provided by Ridley.

Example (1) is typical of the glossed texts, with Ridley’s original transcription on the fourth line. This process also allowed us to provide the first interlinear glosses for 194 of the remaining 197 sentences from other sources, as well as insight into the composition of the morphologically complex Yagara words in the word lists.

(1) **ngunyal gin mara-di many**  
 3SG.NOM girl hand-LOC take  
 He grasped the girl’s hand,  
*wunnal kīn murradi māni:*

**ngunyal yaa-ba-ri ngunyana gin balga-ra**  
 3SG.NOM say-RTP-PST 3SG.ACC girl come-DEST  
 while saying to her, ‘Girl! Come!’  
*wunnal yambari wunnana: yari: ‘kin! Bulkurai!’*

**nguru wira-bi-nya=bu**  
 spirit return-BACK-PRS=EMPH  
 The spirit returns!  
*ṅūru wīrepinebu:*

Working from the Yagara Bible stories has highlighted the limitations and affordances of a text-based corpus. The size of the corpus made spreadsheets and statistical analysis particularly effective methods. On the other hand, the project also revealed the morphological value of smaller data sets, even lists of words and place names, which contained more morphological complexity than the collectors of the lists apparently

recognised.

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## DAY 3 – Friday 2 December

### PLENARY 3

Alison Wray	Propositional Density: Oversimplicity? Anglocentricity? Or a way to predict Alzheimer's?
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Propositional (or Idea) Density is a measure of semantic complexity in text. In the mid-1990s, research comparing elderly nuns with and without Alzheimer's Disease (AD), found that those with AD had lower propositional density scores in short autobiographical texts they'd written as young adults. In 2010, a life-long study of medics found something similar: those with Alzheimer's scored lower for propositional density in their medical school admission essay. These findings raise the possibility that early adulthood language patterns can predict Alzheimer's.

But how much sense does that make? How reliable are propositional density measures? Why would early adulthood patterns be stable enough to predict old age outcomes? Are the risks of Alzheimer's really set so early? If propositional density is a genuine predictor of Alzheimer's, how would it work for languages with a different morphosyntactic structure to that of English? What else might explain these results?

This presentation will not solve the mystery, but I aim to turn over a few stones, attempting to better understand the relationship between patterns in individuals' language and the long-term trajectory towards cognitive decline.

## Semantics

Grace Ephraums and Patrick Das	Does Lack Lead to Want? An Analysis of the Nominal "Deprivative" in four Australian Languages
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Some Australian languages contain a nominal marker that is multifunctional. It can be said to express two propositions at once. The first of these is the LACK of the marked nominal entity, and the second is the sense that the WANT of this entity is the reason for the occurrence of some event.

By investigating four Australian languages (Yuwaalaraay-Gamilaraay [ISO:kld], Ngiyambaa [ISO:wyb], Wanyjirra [ISO:gue] Yankunytjatjara [ISO:Kdd,Wati]), we put forward the first cohesive analysis of this marker, which we here call the deprivative (following Goddard, 1983). Our study analyses the deprivative's first proposition (LACK) to clarify the nature of the negation, and whether it can be classified as negative possession. The second proposition (WANT) is also investigated to determine whether the deprivative assigns a malefactive role to the nominal participant.

With that analysis, we then consider whether the assignment of the malefactive role constitutes a similar grammatical pathway to what is attested in Saliba (Margetts, 2004), Toqabaqita (Lichtenberk, 2002) and others. Our study contributes to an improved understanding of negation, possession, and their grammaticalization pathways in the Australian context.

Keywords: Australian languages, comparative syntax, noun phrase syntax, typology, morphosyntax, negation, possession, malefactive

Kurun-na	kuya	ngara-nyi,	anku-tjiratja
spirit(NOM)-1sg(NOM)	bad(NOM)	stand-PRES	sleep-DEPRIV(NOM)

Yankunytjatjara [ISO:Kdd,Wati]  
Goddard, 1983:132

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Juliet Stanton	Semantics of case markers hosted by NP predicates in Australian languages
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Many Australian languages have morphosyntactically versatile case markers which may occur on noun phrases (NPs), subordinate clauses, and main clauses (Dench & Evans, 1988; Evans, 2007). Previous studies find versatile case markers have a central meaning which is further specified by the morphosyntactic category of their host: case markers hosted by NPs have meanings that pertain to time-stable entities, such as physical location; case markers on clauses have meanings that pertain to dynamic events, such as temporal structure (Aikhenvald, 2008).

However, in many Australian languages with versatile case markers, NPs not only refer to time-stable clausal arguments; they also function as clausal predicates. If the morphosyntactic context of a case marker constrains its semantics, what meanings of case markers are found with NPs which function as clausal predicates in Australian languages? Do case markers hosted by NP predicates behave as if they are attached to NP arguments or clauses, or both?

In this paper I report on a study of the semantic differences between spatial case markers attaching to NP arguments, subordinate clauses, and NP predicates in 30 Australian languages as described in reference grammars. I find that a spatial case marker which has scope over a NP argument has a local meaning, whereas the same case marker attaching to a subordinate clause has a temporal or logical meaning extended from its local meaning. For example, a Martuthunira locative in (1) indicates physical location when it attaches to a NP argument *parla*, and it indicates temporal concurrence when it attaches to a subordinate clause with a verbal predicate *piyuwanpalha* in (2).

Comparable semantic parallels between nominal and clausal case markers are found in many other languages (Aikhenvald, 2008; Genetti, 1986; Ohori, 1996; Schmidtke-Bode, 2009). I also find that when it comes to NP predicates in Australian languages, spatial case markers can have temporal/ logical meanings. In (3), the locative attaching to *piyuwa*, which belongs to a subclass of Martuthunira nominals which may function as clausal arguments or clausal predicates (Dench, 1994, pp. 52–55), has a temporal/logical meaning translated ‘now that’. The temporal/logical use of spatial case markers with NP predicates has not previously been discussed in the literature.

I conclude that spatial case markers attaching to NPs can have meanings that pertain to dynamic events when the NP functions as a clausal predicate. This conclusion refines the idea that a case marker’s meaning is specified according to the morphosyntactic category of its host. Moreover, this study may have implications for understanding possible diachronic situations leading to the widespread use of case markers as subordinating affixes (T-complementisers) in Australian languages: the temporal/logical use of spatial case markers on NP predicates in verbless clauses may represent a bridging context leading to the temporal/logical use of the same case markers on predicates in verbal clauses.

#### EXAMPLES

- (1) *ngayu*                      *tharnta-a*                      *nhuwa-lalha*                      [*parla-ngka*]  
 1SG.NOM                      euro-ACC                      spear-PST                      [hill-LOC]

‘I speared a euro in the hills.’

Martuthunira, Pama-Nyungan, from Dench (1994, p. 75), (4.45)

- (2) [*ngunhaa*                      *pilakurta*                      *piyuwa-nga-lha-la*                      *wii*]                      *ngana-rru*

[that(NOM)    carpenter    finish-INCH-PST-LOC    if]    who-NOW

*kana,*    *yilhi-i*    *mir.ta*    *wii*    *murnta-lalha*    *ngurnaa*  
 RHET    chip-ACC    not    if    take    from-PST

‘When that carpenter is dead and gone, who will there be?, if no-one got the chips from him.’  
 Martuthunira (Dench, 1994, p. 242), (10.7)

(3) *kartu*    *karnkanpa-lha*    *ngaliya-a*    *nganarna-wu-la*  
 2SG.NOM    get.smart-PST    1du.exc-ACC    1pl.exc-GEN-LOC

*puliyanyja-ngara-la*    [*piyuwa-la*]    *yirla*  
 old.person-PL-LOC    [finished-LOC]    only

‘You’re getting smart with us two only now that our old people are finished.’  
 Martuthunira (Dench, 1994, p. 76), (4.54)

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David Felipe Guerrero-Beltran and Margaret Carew	Not happening yesterday: tense and modality interactions in Gujngaliya (Maningrida, NT)
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In the last decades, the languages of the Maningrida family (Northern Territory, Australia) have received attention due to their typologically unusual tense system. Verbal tense markers contrast in terms of contemporary (C) and precontemporary (PC) opposing values (see: Author, 2022a). Unlike past vs present systems, C and PC contrast in relation to non-linear time scales (see Table 1). In particular, events occurring during the hesternal past domain (yesterday) receive regularly the same tense marking as those occurring in the present, such as *na* ‘see’ in example (1). Nevertheless, the influence of the C vs PC tense opposition in the

expression of irrealis events (i.e. suppositions, negation, willingness, etc.) is barely mentioned in the existing literature on Maningrida languages.

We will present a first analysis of the interactions between the contemporary vs precontemporary realis marking and the past vs non-past irrealis marking in Gu-jingaliya. This language (also referred to as Burarra/Gun-nartpa) [iso639-3 bvr] is a non-Pama-Nyungan language from the Maningrida family spoken by about 2000 people in the multilingual area of Maningrida (Arnhem Land, Northern Territory) (Vaughan, 2018). The data for this analysis come from Author (2013, 2022b)'s, England et al (2014)'s, and Glasgow & Glasgow (2008, 2011)'s corpora, synthesised and segmented on the *bvr-flex* project from FieldWorks Language Explorer (FLEX), which consist of about 300.000 tokens. Based on previous descriptions (Green, 1987; Glasgow, 1984; Author 2016), we used simple and complex concordance tools to analyse the distribution patterns and contrast of tense and modality markers, and unmarked verbal stems from different conjugational classes. We tested about 100 verbal stems tested in terms of their morphosyntactic features of tense and modality marking.

In Gu-jingaliya, the 'realis' and 'irrealis' domains are contrastive within verbal morphology. Verbal suffixes from the irrealis domain present a paradigmatic contrast between past irrealis marking (*-rna*), non-past irrealis markers (*-n* or *-rda*), and unmarked irrealis. Past irrealis marking covers past negation, contrafactual conditionals, and past modals. Example (2) presents an instance of past negation. Non-past irrealis marking is semantically tighter than its past counterpart. It expresses aversive meanings and non-past conditionals, such as in example (3), but it has no relation to negative polarity or expectation of realisation. The morphologically unmarked irrealis is used instead, covering non-past negation, purposive/future, and directive readings, such as the unmarked verb *digirrga* 'walk around' in (4).

Data revealed a partial influence of the C vs PC opposition in irrealis constructions. Non-past irrealis marking is strongly incompatible with the hesternal past domain, showing an asymmetry between irrealis and realis status in terms of C vs PC oppositions. However, even if past irrealis marking is used by default to express past irrealis events, it is not the case within the hesternal domain. In the analysed corpus, the instances of past irrealis events take the unmarked irrealis form when the event relies on the hesternal domain. Example (5b) presents a past negative construction in which *rro* 'burn' and *ni* 'sit' are unmarked. The temporal framing within the hesternal domain is explicit in the preceding construction in (5a). This shows a partial symmetry with the realis status domain in terms of tense oppositions.

It remains unclear whether the partial tense symmetry between realis and irrealis domains is highly systematic in the language or not. The number of examples of hesternal past irrealis constructions was limited in the corpus to present definite results. Therefore, further collaborative and experimental research is relevant to have a better understanding of tense and modality interactions in Gu-jingaliya.

Table 1. Timescales of precontemporary and contemporary oppositions in Gu-jingaliya

Timescale	Contemporary	Precontemporary
Hodiernal (today)	Now	Earlier today
Pre-hodiernal (Before today)	Yesterday	Before yesterday
Remote (All time until now)	Recently	Long ago

(1)	<i>yi+rrawa</i> <away+camp: yesterday> 'yesterday I saw her.' (Green, 1987, p. 50)	<i>ngu-na-cha</i> INC.A-see-C	
(2)	<i>like</i> <i>gala</i> <i>bulay</i> like.Eng    NEG      far	<i>a-yu-rra-rna</i> MASC-lie-C-PST.IRR	<i>a-workiya-ma</i> MASC-do_always-PST.IRR
(3)	<i>nyi-rr-rra-n</i> EXC.A-AUG.O-spear-NPST.IRR	<i>a-ni-ngi-n</i> MASC-sit-C-NPST.IRR	
(4)	<i>gala</i> <i>mola</i> <i>a-burr-digirrga</i> NEG      again      MASC-AUG-walk_around(IRR)		

‘There’s noone wandering around (they’ve all passed away).’  
(T07B-29\_106\_England Banggala)

- (5) a. *yi-rrawa* *marnnga* *waykin* *jiny-ji-rra* *a-molami-ya*  
 <away+country: yesterday> sun on\_top FEM-stand-C MASC-recover-C  
 ‘Yesterday, at the afternoon, he recovered.’
- b. *gala* *mola* *an-garla*  
 NEG again MASC-meat
- a-rra a-ji an-mola wupa  
 MASC-burn(IRR) MASC-stand(IRR) MASC-again inside  
 ‘The fever left him.’ (Lit. ‘Again, his meat was not burning inside.’)  
 (Adapted from: Glasgow & Glasgow, 2008, p.228\_John 4:52)

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## Pragmatics

Catherine Roberts	Managing the sensitivity of utterances about absent others in Australian English multiparty conversation
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'Gossip' is, at minimum, talk about absent others. But a key claim about 'gossip' is that it centres on 'sensitive topics' where an absent party has engaged in norm-violating behaviours such as "fights, drunkenness, divorces and other discord." (Haviland 1998, p.57). Therefore, if we are interested in identifying and characterizing 'gossip' as a type of communicative activity, considering 'sensitivity' in talk about absent others is a useful first step. This talk will investigate whether and how interlocutors display sensitivity to their utterances in stretches of talk about an absent party. It adds to the existing small literature on 'gossip' in conversation within the framework of Conversation Analysis, including Aslan (2021), Bergmann (1993) and Eder and Enke (1991). The data considered is from a corpus of informal conversations between groups of three to six acquaintances who are long-term residents of small, remote communities. These regions have small populations with dense overlapping social networks. I consider how participants prospectively and retrospectively mark utterances as 'sensitive'. I examine cases where the interlocutors interact with the recording equipment to highlight sensitivity, and one case where a first-name person reference is avoided to keep comments about this absent party 'off-record'. I look at how allusive talk is a strategy to manage sensitive utterances and how membership of small communities with shared common ground affords allusive talk. I reference lexical, syntactic and prosodic features of turn design, as well as the physical embodiment of participants such as their facial expressions and gestures. These orientations to sensitivity mark some utterances as 'hearable' for particular people and not others, thus, reflecting participant orientation to deontic rights and responsibilities (Antaki and Kent, 2012; Kent, 2012; Stevanovic and Peräkylä, 2012). I conclude that interlocutors display sensitivity to not only who should be saying 'what' but also who should be hearing such utterances.

There has been burgeoning interest in the crosslinguistic expression of caused motion events and concepts such as PUT, PLACE and REMOVE over the last decades (e.g. Narasimhan et al. 2012). This has recently expanded to include directed caused accompanied motion events ('directed CAM events'), in which the agent of the caused motion accompanies the theme along the same path, as expressed, e.g. by concepts such as BRING and TAKE (Hellwig et al. 2022; Margetts et al. 2022; Margetts et al. (eds.) 2022). However, there has been surprisingly little scholarship on this semantic domain in English, particularly through a typological lens. Previous literature has mostly examined solely the prototypical English CAM verbs bring and take (e.g. Hockett 1982; Coe 1973; Preston 1984), although English clearly has a rich vocabulary of CAM verbs, from schlep to smuggle to herd and cart (see Levin 1993; Dixon 1992).

This presentation draws upon the Braided Channels collection from the Australian National Corpus which mostly comprises oral histories and personal narratives embedded in conversation. We identified and annotated over 700 tokens of directed CAM events using ELAN (Wittenburg et al. 2006) to investigate the linguistic landscape of these events in Australian English and how they compare with the typological patterns described by Hellwig et al. (2022) for a cross-linguistic sample.

Our data shows that the archetypal directed CAM verbs bring and take do indeed predominate in English, accounting for just over half of all tokens. Indeed, at first blush, Australian English might appear a pinup of typological normality: the corpus data reveals that CAM expressions follow the robust cross-linguistic tendency to focus on goals (56% of CAM events) (e.g. "he brought the brumbies to Windorah") rather than sources (expressed for 18%) (e.g. "she flew out from Birdsville"), as has been noted in previous works (e.g. Ikegami 1987; Creissel 2006; Stefanowitsch 2018; Kopecka et al. 2021). But beyond this a maybe more unexpected picture emerges, showing that over 10% of directed CAM events involve verbs which are specific about the manner of motion ("The old ladies would walk us halfway") or manner of caused motion ("we truck a lot of cattle in Dajarra"). About a further 10% are expressed by multi-verb constructions which follow similar patterns as described for languages with verb serialisation (e.g. Crowley, 2002, Hellwig et al. 2022) ("I'd have

to get this bloody blue velvet bag and dump it there”). And close to another 10% of directed CAM expressions involve comitative constructions (“He used to come down with stock”). Startling is also the behaviour of CAM verbs which take animate themes: the verb *muster* is reserved for livestock while the verb *herd* is only ever found to refer to Aboriginal people, who are “herded up [...] and put on reserves” or “herded up and shot”.

The linguistic landscape of caused accompanied motion events can act as a mirror for the historical, physical (and social) landscape of rural Australia: the inventory of CAM verbs and their uses are a reflection of a way of life where livestock must be moved across vast and often inhospitable distances, where “water has to be carted”, and older speakers recount a time when “white pastoralists drove Aboriginal people off the land”. This paper primarily situates Australian English CAM verbs within the typological framework of previous cross-linguistic studies, but also acknowledges its inextricable relationship with the physical and social landscape of its speakers.

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## KEY WORDS

- Australian English
- Caused motion
- Event encoding
- Three-participant events
- Corpus-based typology

Haoyi Li	Aesthetics and art discourse in Ganalbinju: a Western Yolŋu perspective
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Paintings, song and dance ('art'), are salient multimodal means of expression in Yolŋu society, from first European documentation by Donald Thomson to contemporary communities today. Studying the discourse around art takes the lens of language to provide insights into a Yolŋu understanding of artistic expression as one aspect of Yolŋu ontology and cosmology.

Simultaneously, an understanding of Yolŋu artistic practices and aesthetics through ethnographic observation gives extra contextualisation to linguistic analyses of salient discourse features, such as metaphors and metonymies, narrative types and colour terms. Key research questions in this study are: (1) What kinds of linguistic structures are prevalent in discourse around art and aesthetics? (2) How do these findings shed light on Yolŋu conceptualisations and discourse structures?

Yolŋu culture and ceremony has been the subject of significant research – encompassing visual art (Morphy, 1991), ceremonial sand sculptures (Keen, 1997), dance (Tamisari, 1998) and song (Curkpatrick, 2013). Across literature about Yolŋu, the use of metaphor is a common theme identified by scholars that unifies Yolŋu ontology and their multimodal modes of artistic expression. Within linguistics, metaphors and the use of body-part metaphors in Australian linguistics are well studied (e.g. Walsh, 1996; Turpin, 2002; Gaby, 2008; Ponsonnet, 2017) but a gap remains in the Yolŋu context, and in particular Western Yolŋu languages remain largely understudied. As such, this research aims to provide a perspective from Western Yolŋu, particularly focusing on the sub-language Ganalbinju and their clan designs, to advance a linguistic description of the discourse around art and aesthetics.

Primary data collection was undertaken through seven months of fieldwork in two Yolŋu communities between 2021-2022. The majority of data collection occurred in one western community, Ramingining, where Ganalbinju and related Western Yolŋu dialects are major community languages. Subsequently a short period of data collection was undertaken in Gapuwiyak, a central Yolŋu community where Ganalbinju is not a dominant language but comparative uses of language and understandings of art could be found. The data consists of elicited stories of Ganalbinju paintings using a mix of Djambarrpuyŋu (the main lingua franca within Yolŋu Matha), Ganalbinju and English; some fluent dialogues between speakers; as well as multimodal recordings of singing, Yolŋu sign language, and painting.

Preliminary findings of salient linguistic structures in the Yolŋu art discourse include the rich use of metaphors, primarily using body-part terms, in the description of art practices and aesthetics. Narratives elicited from visual prompts of Ganalbinju paintings are highly varied, but across all instances speakers predominantly discuss three main themes: (1) the depicted ancestral beings, (2) relation to place, and (3) relations between the painting and artist, the speaker, and their kin. Furthermore, the overall set of elicited narratives follow a general 'inside-outside' (Morphy, 1991) paradigm of Yolŋu epistemology consistent with the literature, where a complex of metaphors with maḡayin (sacred) mapping onto INSIDE and birrkṇaṇ (public) with OUTSIDE were found. A subset of the discourse around art and aesthetics involving colour terms suggest that colours may not be a salient cultural concept, but instead terms centre around duration, natural references, and materiality. Finally, the semantics of art terms in both Ganalbinju and English borrowings show an alignment with the dialect chain of Yolŋu languages, where regional differences exist between Western Yolŋu and Central/Eastern Yolŋu languages.

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Maslathif Dwi Purnomo	Stance taking Acts in Indonesian Presidential Addresses; A Political Discourse Analysis of Joko Widodo
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This study aims to analyse the stance taking by President Jokowi in his presidential addresses presented from 2015 to 2019. This study applies the stance triangle proposed by Du Bois (2007) as a framework for analysing every stance taken by Jokowi. The stance-taking process is carried out by analysing each component of the stance triangle, namely evaluation, positioning, and alignment in Jokowi's presidential addresses. The data in this study were taken from video recordings uploaded to the YouTube website by national television stations in Indonesia. The data selection uses the theme technique by typing keywords according to the theme into the search menu on the YouTube website. Furthermore, to download data and process it, this study uses the NVivo software by classifying it according to the coding and categories determined by the researcher. As a result, 17 evaluation categories and 18 types of positioning were found in Jokowi's speech, as well as an explanation of the alignment that calibrated the positioning with an evaluation of the central issues presented in the addresses. From the 18 positionings found, specifically they can be grouped into 6 focused stances, which further can be seen that stances which focus on educational problems are as the general stances which have 5 times frequency realized in several actions regarding education.

**Keywords:** Stance-taking acts, Stance triangle, evaluation, positioning, alignment

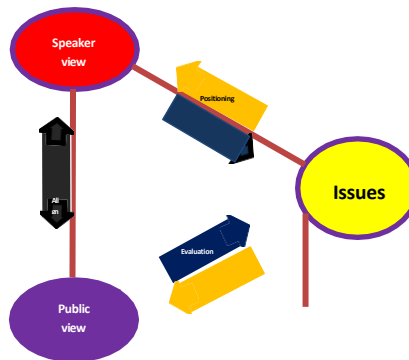


Diagram 2. The triangle in presidential addresses

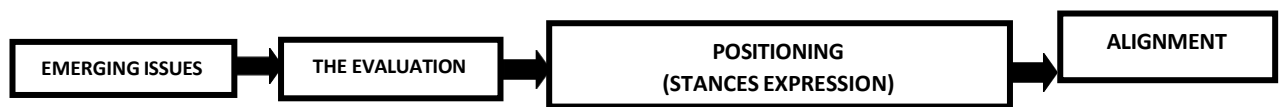


Diagram 3. The process of stance triangle realization in presidential addresses

Table 1

The frequency of evaluation in Jokowi's presidential addresses from 2015v to 2019

Years	Central Issue	Area of Evaluation	Frequency	Overall Frequency
2015	Nationality	Indonesian resources	1	4
		Hard work and optimism	2	
		Government performance	1	
2016	Social justice	People's prosperity	1	6
		economic challenges	1	
		Global challenges	2	
		Infrastructure building	1	
		Hard work and optimism	1	
2017	Global Challenges	Indonesian unity	1	4
		Economic equity	1	
		Democracy consolidation	1	
		Indonesian's character building	1	
2018	Social justice	Infrastructure buildings	1	3
		Indonesian education insurance	1	
		Healthy living insurance	1	
2019	Unity in diversity	People cooperation	1	2
		Political parties' role	1	
<b>Total</b>			<b>19</b>	<b>19</b>

Table 2

The frequency of positioning in Jokowi's presidential addresses from 2015 to 2019

Years	Central Issue	Area of Evaluation	Stances/Positioning	Frequency
2015	Nationality	Indonesian resources	Multi-card distribution	5
		Hard work and optimism	Spirit for the nation	
		Government performance	Cabinet reshuffle	
			Infrastructure building	
			Economic building transformation	
		People's prosperity	Expanding access to productive	
		economic challenges		

2016	Social justice	Hard work and optimism	economy	4
		Global challenges	Service, synchronization, and ease of investment	
			Strengthening the vocational education system	
Infrastructure building	Equitable infrastructure development			
2017	Global Challenges	Indonesian unity	Invitation to work together	1
		Economic equity		
		Democracy consolidation		
		Indonesian's character building		
2018	Social justice	Infrastructure buildings	Equitable infrastructure development	4
		Indonesian education insurance	Preparing the next generation of the nation	
			Competitive university graduates	
Healthy living insurance	National welfare insurance program			
2019	Unity in diversity	People cooperation	Stunting rate downgrading	4
			Expanding access to health	
			Utilization of technology	
		Political parties' role	Expansive strategy	
<b>Total</b>				<b>18</b>

Table 3

Stance categorization and its frequency in Jokowi's presidential addresses from 2015 to 2019

No	Stance focus or categorization	Stance realization	Frequency
1	Educational issues	Multi-card distribution,	5
		Strengthening the vocational education system	
		Preparing the next generation of the nation	
		Competitive university graduates	
		Utilizing technology	
2	Infrastructure issues	Infrastructure building, equitable,	3
		infrastructure development	
		expansion of infrastructure development	
3	Economic problems	economic building transformation	3
		expanding access to productive economy	
		service, synchronization, and ease of investment	
4	Government performance issues	Cabinet reshuffle,	2
		expansive strategy	
5	Health issues	The national welfare insurance program	3
		stunting rate downgrade	
		Expanding access to health	
6	Indonesian character	spirit for the nation,	2
		invitation to work together	

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In this paper, I report the findings from a study on referential choice in narrations produced by adult speakers of Murrinhpatha, a non-Pama-Nyungan language spoken in the Northern Territory of Australia. Like many other Australian languages, the frequent syntactic omission of arguments in Murrinhpatha, alongside the ability to encode subject and/or object information on the verb, makes Murrinhpatha an interesting case-study of referential choice. This paper contributes to the area of reference and referential choice, which is an essential ability in human communication (Arnold and Zerkle, 2019). This area is however underexplored in the Australianist literature to date (but see Heath, 1983; Bower, 2008; Stirling, 2008; Nicholls, 2009). It also adds to the Murrinhpatha literature on referential choice by examining new data from adults' narrations, which has not been explored thus far (see Blythe, 2009 and Davidson, Wigglesworth and Kelly, 2021 for investigations on adults' conversations and children's narrations respectively).

Data for this paper comes from 17 video-prompted and spontaneous narrations, consisting of about 800 utterances (verbal clauses and nonverbal utterances which include referring expressions). Referents in these narrations were identified and coded based on their form (lexical NP, pronoun, demonstrative, classifier noun or syntactic omission), animacy (human or non-human) and their mention (first or subsequent mention). I focused on referential choice in three distant contexts: referent introduction, referent maintenance and referent re-introduction, which are the contexts most often discussed in works on referential choice (see Aksu-Koç and Aktan-Erciyas, 2018).

Examination of the data revealed the following key observations: 1) syntactic omission is the typical referential choice for maintaining referents that have already been introduced, but omission is also sometimes used on the first activation of a referent; 2) when referents are re-activated in discourse, this is usually (but not necessarily) achieved by the use of overt referring expressions and 3) verbal morphology and semantics have an impact on the choice between syntactic omission and other overt referring expressions, regardless of the position of the mention (first or subsequent). These findings suggest that the widely-assumed models of referential choice, namely the so-called topic continuity model and the cognitive model (e.g., Givón, 1983; Ariel, 1990; Gundel, Hedberg and Zacharski, 1993), are not an ideal predictor of referential choice in Murrinhpatha adults' narrations. The heart of these models is that the more accessible (or continuous) a referent is, the more reduced form of referring expression for this referent tends to be used, and vice versa (e.g., Ariel, 2001; see also references in Arnold and Zerkle, 2019). This correlation between referring expression form and referents' accessibility or topic continuity, however, is not observed in many Murrinhpatha examples, e.g., the most reduced referring expression form, namely syntactic omission, is often used to introduce a discourse-new referent, which has low accessibility. The findings thus reinforce the claim that topic continuity and referents' accessibility are not the sole consideration in making referential choice (Huang, 2000; Gatt, Krahmer, van Deemter and van Gompel, 2014:904 and references therein).

In this paper, I seek to explain the referential choice patterns in the data from other perspectives, such as discourse structure and verbal morphology and semantics, which arguably can explain examples that the topic continuity model and the cognitive model fail to explain. This may shed light on future research into referential choice in typologically similar languages, such as those which utilise extensive use of syntactic omission in discourse, and those which encode subject and/or object information on the verb.

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Ekaterina Levina	Verbs in possessor ascension alternation: the case of German
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This presentation contributes to our knowledge about the meaning of verbs that participate in body-part possessor ascension alternation (PA alternation), offering a new account that yields a predictively stronger semantic delimitation of these verbs than found in prior work (e.g., Levin 1993, Dowty 2001).

In PA alternations considered here, verbs appear in two syntactic frames: the attributive possessive frame (1a) and the accusative external possessive frame (1b). There have been several attempts to isolate the verbs in question. For English, Levin (1993) attributes the ability of verbs to appear in the PA alternation to the entailment of physical contact. Dowty (2001) builds on Levin’s view, proposing a further semantic condition: the result state for the body part in the attributive possessive frame must entail the same result state for the possessor. Although providing new observations, these accounts still do not make adequate predictions for either English or German verbs. Presenting new evidence, I will argue that, in German, we can predict the syntactic behavior of a verb in PA alternation (i) by determining the specificity of the result state entailed by the verb (cf. Beavers 2011) (ii) and by redefining the underlying possessive relationship as physical attachment to an animate possessor. I show that the physical attachment must be such that it provides the possessor with the *level of sentience* required by the verb. This last claim is consonant with numerous cross-linguistic observations that the use of external possessives is related to the expression of affectedness understood as a physical or psychological effect on the possessor (cf. Wierzbicka 1988, Chappell & McGregor 1996, Heine 1997 among many others).

Levin's (1993) physical contact account makes correct predictions for *break* verbs. However, I show that it makes incorrect predictions for verbs like *injure* (cf. (2)): both *break* and *injure* may involve physical contact, but they do not entail it, nonetheless *injure* appears in possessor ascension alternation. *Carve* verbs, which entail physical contact but don't participate in possessor ascension, also challenge Levin's account.

I argue that Dowty's (2001) account is also problematic in several ways. It is, for instance, challenged by cases such as the one in (3) where the result state of *hand* in (3a) entails the same result state for *girl*: (3a) entails (3b). Nonetheless, the external possessive (3c) is ungrammatical, which Dowty's account fails to predict. Another shortcoming of Dowty's approach is that it builds upon the erroneous assumption that propositions expressed in alternating frames (e.g., (2a) and (2b) with *verletzen* 'injure') have identical truth conditions. Example (2) shows the opposite: unlike (2b), (2a) does not entail physical connectedness of the possessor and possessee. Therefore, the nature of possessive relationships in possessor ascension alternation also requires reconsideration. Instead of the body-part relationship, which does not necessarily entail physical contiguity, I propose to capture the relationship in question as a physical attachment of a possessee to an animate possessor. This allows to explain both the unavailability of alternations involving disconnected body parts, and the availability of the alternation for connected non-body parts (4a).

Besides the observations provided above, examples (4a) and (4b) show that the use of the external possessive frame is conditioned by the interplay of the possessive relationship with verbal semantics. I argue that this interplay must be modulated by *sentience*, i.e., the ability of the possessor to perceive the physical action described by the verb.

Unlike prior authors working on this alternation, I include in my analysis additional verb classes that, although semantically close to alternating verbs, do not participate in the alternation. These are for instance *carve* verbs and resultatives (e.g., (5)). I also analyze the complex issue of (weak) definiteness within prepositional phrases containing possessee in the external possessive frame. I conclude that the meaning of verbs participating in the possessor ascension alternation should be captured as follows: given that the possessive relationship (physical attachment) provides the level of sentience required by the verb, the verb (i) must entail an action that can be physically perceived and (ii) must not entail a specific result state which is understood as *a quantized change* in the undergoer participant (cf. Beavers 2011). The proposed approach captures the shared meaning of verbs that appear in both attributive and external possessive frames, and also allows us to account for cases problematic for previous approaches outlined above. The new account thus both predicts which verbs participate in the alternation, and better describes the semantic significance of choosing a particular form within the alternation.

#### Examples:

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|--|---|
| <p>(1) a. <u>Attributive possessive frame</u><br/> <i>Peter küsste ihre Wange.</i><br/>         Peter kissed her cheek</p>   | <p>b. <u>Accusative external possessive frame</u><br/> <i>Peter küsste sie auf die Wange.</i><br/>         Peter kissed her on the cheek</p>  |
| <p>(2) a. <i>Peter hat Pauls Arm verletzt / gebrochen.</i><br/>         *<i>gebrochen.</i> Peter has Paul's arm injured / broke<br/>         Paul<br/>         broke Paul's arm.'</p>                | <p>b. <i>Peter hat Paul am Arm verletzt /</i><br/>         Peter has<br/>         on the Arm injured / *broke 'Peter injured /<br/>         'Peter injured / *broke Paul on the arm.'</p> |
| <p>(3) a. <i>Die Katze zerkratzte die Hand des Mädchens.</i><br/>         the cat scratched up the girl's hand<br/>         the girl 'The cat scratched up the girl's hand.'<br/>         girl.'</p> | <p>b. <i>Die Katze zerkratzte das Mädchen.</i><br/>         the cat scratched up<br/>         'The cat scratched up the</p>   |
- a. \**Die Katze zerkratzte das Mädchen an der*

*Hand.* the cat                    scratched up the girl  
    on the hand 'The cat scratched up  
 the girl.'

(4) a. *Peter hat Paul am Arm/Rucksack gepackt.*  
 Peter has Paul at the arm / backpack  
 grabbed 'Peter grabbed Paul at the arm /  
 backpack.'

b. *Peter hat Paul am Arm/\*Rucksack berührt.*  
 Peter has Paul at the arm/ \*backpack  
 touched 'Peter touched Paul at the arm /  
 \*backpack.'

(5) a. *Peter küsste sie wach.*  
 Peter kissed her awake  
 'Peter kissed her awake.'

b. *\*Peter küsste sie auf die Wange wach.*  
 Peter kissed her on the cheek awake  
 int.: 'Peter kissed her awake on the cheek.'

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Ruihua Yin	Quantifying sonority sequencing in large typological databases
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Background: The sonority sequencing principle (SSP) has played a central role in phonology. It is proposed as a fundamental governing principle of syllable structure and is used to explain many related phonological behaviours (Clements, 1990; Prince & Smolensky, 1993/2004; Steriade, 1982). The SSP dictates phonotactics within a syllable to form a rise-fall contour in terms of sonority. However, the SSP has always been challenged by disagreements over 1) the definition of sonority, 2) and accordingly, a plethora of sonority hierarchies proposed 3) the attestation of clusters that go against the SSP (typically regarded as sC clusters), as well as 4) many experimental works that show contradictory results from sonority sequencing projection (Beckman, 1997; Harris, 2006; Ohala & Kawasaki, 1997). In response to these challenges, counter-examples and findings to the SSP have been formulated as 1) sonority constraints as being violable (e.g., \*SonSeq) (Kager, 1999), 2) intervening markedness constraints that dominate sonority constraints (Zec, 2007); 3) morphological-phonological rules applied at a later stage of derivation (Clements, 1990); or 4) due to extra-syllabicity or extra-prosodicity (e.g., /s/ in sC) (Clements & Keyser, 1983), among others. However, the SSP is essentially tested empirically by consonant clusters that cross over sonorants and obstruents (e.g., /rt-, -tr/) found in languages like Leti, Ewe, as well as by long clusters like /mc'vrtneli/ found in Georgian (Blevins, 2006). These empirical challenges are aggravated by the recent establishment of complex syllable structures (Easterday, 2019), where all sonority profiles are broken down, which puts serious challenges to the sonority role in phonology. It has yet remained unclear whether such increasing empirical challenges can be incorporated into the existing theoretical formulations mentioned above. In the face of such challenges, the current study aims

to clarify the empirical status of the SSP, or sonority constraints prediction, at large typological corpora, to shed light on the formal status of the SSP or sonority theory.

Methods: 1) Permissible consonant clusters in each language from 496 languages were obtained from two large lexical databases, CLICS2 (List et al., 2018) and AusPhon (Round, 2017); 2) all long consonant clusters (CCC, CCCCC etc.) were broken up into two-length clusters, e.g., /mc'vrtnl-/ into /mc'-, c'v-, vr-, rt-, tn-, nl-/ to calculate sonority contours in long clusters; 3) permissible sonority contours in each language were calculated by adopting a 'universal' scale ([gl>nas>liq>obs]) in which sonority is defined through binary features (Clements, 1990); 4) SSP-conforming, sonority plateau, and SSP-violating language attestations and consonant cluster attestations were counted, respectively; 5) associations between two adjacent sonority classes were conducted to investigate whether the occurrence of one sonority class type is to be affected by the occurrence of another sonority class; and lastly 6) we adopted two assumptions on complex segments, especially with respect to affricates and prenasalised stops as forming sequences (termed as split method in the Figure 1 and 2 below) vs., one complex segmental unit (termed as merged method).

Results: Of a total of 496 languages, languages that conform to the SSP account for 51.0%. 30.3% of these languages show sonority plateaus and 18.7% of languages show violations. Looking at the total numbers of consonant clusters (total 4189), 46.2% of these conform to the SSP, 42.8% show plateaus and 11.1% of clusters violate the SSP. A significant association between two adjacent sonority classes is attested, albeit small in magnitude, whether counted by languages ( $\chi^2(9, N=4189)=271.71, p<.001, V=.15$ ), or by consonant cluster attestations ( $\chi^2(9, N=875)=68.67, p<.001, V=.16$ ), suggesting given some sonority class, some particular sonority class is more (less) likely to occur. Specifically, perceptually-articulatorily favoured clusters are found to be statistically more likely to occur, whereas disfavoured ones are less likely so (see the Figure 1 and 2 below).

Discussion: Clusters that go against sonority profile are found to be common and diverse. However, despite common counterexamples, the SSP still stands as a strong cross-linguistic tendency. In the meantime, some consonant clusters like LO, GL, NO, LG, NG and OL are found to be statistically more likely to occur, even they form SSP-violating clusters; while some GG, LL, OO, NL and OG are statistically less likely to occur, even they are SSP-conforming clusters (Figures 1 and 2 below). Among these, only some clusters have empirical evidence that they are articulatorily (LG) (Jun, 1995) or perceptually (OL) (Ohala & Kawasaki, 1997) favoured, and some like NL (Henke et al., 2012), LL or NN (OCP-type constraint) (Goldsmith, 1976) have evidence that they are articulatorily-perceptually disfavoured. Therefore, the finding from the current study is largely in line with sonority constraint prediction, but also calls for more empirical grounding of perceptual-articulatory constraints to account for cross-linguistic consonant cluster patterns, as well as further investigations into the attested counter-examples in their phonological behaviours to shed light on their formal status of sonority constraints.

Aboriginal English in Victoria is an L1 variety, with evident differences from the mainstream variety. Like L2 Aboriginal English, it is more variable than the mainstream when it comes to various linguistic features, likely because there are fewer standardising pressures on speakers (see e.g. Mailhammer 2021). This has been observed in Victoria most recently for voice quality (Loakes & Gregory 2022) and consonant production (Loakes et al. under review).

In this research we report on the vowel quality of Aboriginal English in Victoria from a phonetic perspective, and also discuss some previously unreported regional variation. The speech of 33 Indigenous Australians (Aboriginal English speakers) is compared to that of 28 Mainstream Australian English (MAE) speakers, from two rural locations in Victoria. The regions are Warrnambool in the south-west, as well as Mildura in the north-west. We extend on previous work in this area (Loakes et al. 2016) by discussing F1/F2 vowel spaces from controlled speech in these two locations, with data from considerably more speakers and by including regional variation in the analysis.

We show:

- Vowel quadrilaterals for both male and female speakers of Aboriginal English in Victoria are less expanded than mainstream Australian speakers from the same regions, especially in the peripheral corners (similar to Butcher & Anderson 2008 for L1 speakers); and
- Aboriginal English speakers in Victoria are not always participating in the same changes observed in the mainstream variety (and some changes are progressing at different rates).

This research adds to the growing knowledge we have of mainstream Australian English speech in rural locations in Australia, as well as descriptions of L1 Aboriginal English.

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Despite decades of scholarly inquiry, the identification of phonetic variants which specifically characterise

the speech of gay men has proved elusive. Investigations have produced findings that are often inconsistent and at times contradictory. For example, mean F0 and F0 range have been observed to correlate with sexual orientation (Linville, 1998; Baeck et al., 2011), but in numerous cases, including Gaudio's (1994) seminal study of 8 American English speaking graduate students (gay=4; nongay=4), such a correlation has not been observed (Munson et al., 2006; Kachel et al, 2018). Similarly, in some studies, measurements of /s/ sibilance such as segment duration (Podesva et al., 2002) and centre of gravity (CoG) (Linville, 1998) were found to be higher in gay speech than straight speech in certain phonetic contexts, while other studies have not produced comparable findings (Munson et al., 2006). As a correlate of *perceived-as-gay* speech, investigations of F0 have also yielded conflicting results: Gaudio (1994) found no link between mean F0 and listeners' labelling of a speaker as gay, while more recently Drager (2021) found that listeners rated speakers more gay in a guise manipulated to have higher pitch. Highly sibilant /s/ has been more reliably observed as a sociophonetic cue for gayness (Campbell-Kibler, 2011; Levon, 2014; Pharaoh et al, 2014), though its strength as an index of gayness seems to vary according to phonetic context.

While Taylor (1998) observed a high correlation between gay men's speech and fronted /s/ in his investigation of Wellington's New Zealand English speaking gay community (but none between sexual orientation and F0 measures), as far as we are aware there have been no studies of the phonetic correlates of perceived male sexual orientation in Australian English (AusE).

The data presented here are measurements of acoustic features of 24 utterances: 8 sentences produced once each by three male AusE speakers (hereafter M1, M2 and M3). These were originally recorded as stimuli in a matched guise task. Among the results of that perception study were that listeners rated M2 the most rural, uneducated and straight sounding of the three, and M3 the most urban, educated and gay sounding, with M1's mean ratings falling between the others.

Listeners were not, however, asked to provide a rationale for their ratings. As a result, in order to explore some potential cues that they may have been relying on when allocating ratings, and motivated by the above literature, we examined each speaker's utterances for F0 range and /s/ CoG. The F0 range of each utterance was measured in PRAAT (Boersma & Weenink, 2022) by highlighting the entire utterance, selecting the *get minimum pitch* and *get maximum pitch* options, and subtracting the former from the latter. /s/ CoG was measured by extracting each token of /s/, measured from the beginning to end of frication, then calculating CoG using the method in Hoole (n.d.), which provided the measurement in Hz. The distributions of F0 range for each speaker are displayed in Fig 1, and of CoG for each speaker in Fig 2. Simple linear regression models, consisting of speaker as predictor, and F0 range and /s/ CoG as responses respectively, revealed that M3's F0 range and /s/ CoG were significantly greater than those of the other two speakers.

These data are therefore consistent with extended pitch range and /s/ sibilance acting as potential cues for "gay" (and/or "urban" and "educated") in male AusE speakers' voices. While no definitive conclusions can be drawn from these findings, they provide a *prima facie* justification for the future examination of F0 and /s/ CoG as sociophonetic variables in future examinations of the speech of AusE speaking gay men and perceived-as-gay Australian accented speech.

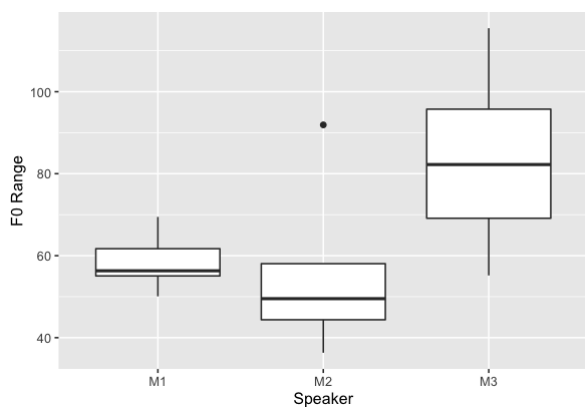


Figure 1.

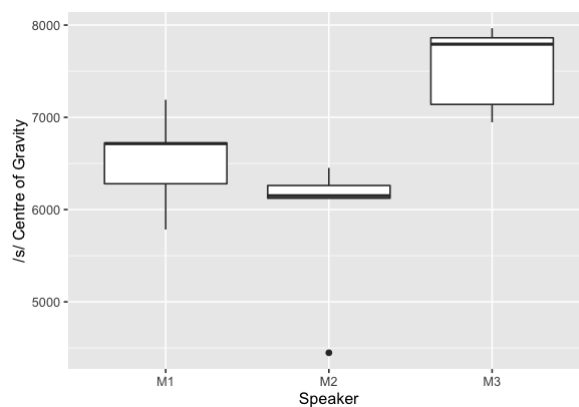


Figure 2.

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Conor Clements, Joshua Penney, Andy Gibson, Anita Szakay and Felicity Cox

Phonological and lexical conditioning of trap vowel length in communities of varying linguistic diversity

The open front vowel /æ/—known as the TRAP vowel in Wells' (1982) lexical sets—is a vowel that shows a high degree of durational variability, as attested in various North American and British varieties of English (Labov, 2007; Kettig, 2016). A descriptive analysis of /æ/ in Australian English (AusE) (Blake, 1985) seems to show a phonologically and lexically conditioned lengthening effect, but research in this context is otherwise sparse. There is also no investigation of how this effect may manifest among speakers from linguistically diverse

backgrounds, who are increasingly contributing to language change in AusE (e.g., Grama et al. 2019).

This study addresses these gaps through an acoustic analysis of TRAP vowels as produced in a picture-naming task by teenagers from several areas of Sydney of varying linguistic diversity, taken from the Multicultural Australian English corpus (Cox, 2018). We seek to: a) describe phonologically and lexically conditioned factors affecting TRAP duration; and b) compare the durational complexity in TRAP of “mainstream” speakers—residing in postcodes where fewer than 20% of 2016 Census respondents reported speaking a language other than English—to speakers residing in “diverse” (where between 20% and 70% of residents speak a LOTE) and “super-diverse” (where above 70% of residents speak a LOTE) areas. Of the 92 participants (40 m; 52 f), 23 participants resided in a “mainstream” area (mainly Sydney’s Northern Beaches), while 29 resided in a “diverse” area, and 39 in a “super-diverse” area—the latter two categories consisting of postcodes across the Inner West, Western and South-Western regions of Sydney. This analysis tested 23 TRAP words with stop codas /p b t d k g/ and nasal codas /m n ŋ/ (see Table 1). Notable amongst the words are *mad* and *sad*, which are suggested to belong to a group of TRAP words with a lexically conditioned long vowel (Blake, 1985; Kettig, 2016).

Initial descriptive analysis showed that TRAP in *sad* and *mad* and coda /g m n/ words were longest. To investigate this further, analysis was conducted via linear mixed effects models using the lme4 package in R (Bates et al., 2015; R core team, 2021). The model included vowel duration as the dependent variable, fixed effects for coda voicing/nasality (voiceless stop, voiced stop, nasal), coda place of articulation (bilabial, alveolar, velar), speaker diversity group (described above), and word length. All two-way interactions between coda voicing/nasality, place of articulation and speaker diversity group were also included with random intercepts for speaker and word. Significant interactions were found between voicing/nasality and place of articulation ( $F(4,14.03) = 4.63, p = .014$ ) as well as between voicing/nasality and speaker diversity group ( $F(4,2161.73) = 12.32, p < .001$ —see Fig. 1). This shows that TRAP duration in AusE is sensitive to a following coda consonant, and suggests the speakers in the mainstream group display greater variability in TRAP duration than their counterparts. All groups had shorter TRAP vowels when the coda is a voiceless stop than when it is a voiced stop or a nasal; however, the extent of this phonological conditioning appears to be weaker for speakers from more diverse neighbourhoods. Once variation according to the place of articulation and voicing/nasality of the coda consonant is controlled for in the model, the lexical items *sad* and *mad* were found to have among the highest random intercepts, while other coda /d/ items did not, suggesting that their lengthening is lexical in nature rather than phonological.

Overall, these findings show TRAP duration is sensitive to phonological and lexical conditioning, though this may be adopted differently depending on the degree of language and dialect contact in a speaker’s community. We hope this research will contribute to future investigations of AusE that incorporates speaker data reflective of the level of linguistic diversity present in modern Australia.

voicingNasality\*diversityGroup effect plot

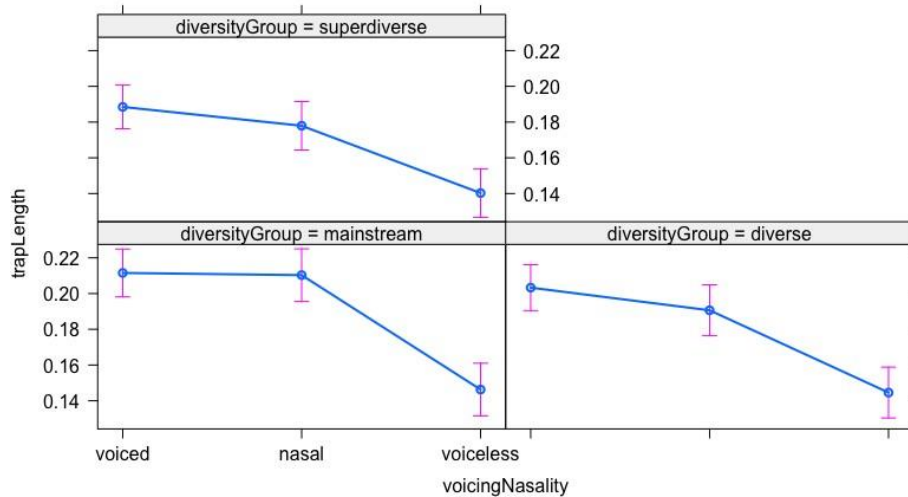


Fig. 1: Plot displaying the interaction between coda voicing/nasality and speaker diversity group.

	Voiceless stop	Voiced stop	Nasal
Bilabial	cap, tap	cab, crab	jam, lamb
Alveolar	bat, cat, hat	dad, lad, pad, mad, sad	can, man, pan
Velar	back, black	bag, flag	bang, hang

Table 1: list of words tested in this study

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## Sociolinguistics

Isabelle Burke, Howard Manns and Kate Burridge	“Getting a bit brahms” and “a roo short in the top paddock”: idiomatic expressions, rhyming slang and taboo in Australian English
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Linguists have long observed that idiomatic expressions and phrases are highly transportable commodities for constructing and substantiating identity (Spitulnik 1996). Portions of these texts are often reproduced by speakers outside of their original domain and these are known as “public words”. In Australian English, public words - in the form of idiomatic expressions and rhyming slang - are especially popular. The inventiveness of Australian idiom has national cultural prominence, attracting attention from lexicographers, the media, and the general public. However, there has been little scholarship devoted to its social function in Australian society.

This paper draws upon a nation-wide survey developed to investigate characteristic Australian words and expressions across 13 categories, eliciting responses to prompts such as “something very good”, “an attractive person”, “a stupid person”, or “nonsense”. In addition to collecting age, gender and postcode data, the survey also provided space to provide a metapragmatic commentary on the word or phrase supplied (e.g. “this was big in the 80s” or “self-consciously ocker”). The survey attracted over 2,300 responses.

In keeping with those areas usually associated with creativity in the lexicon, results show that both types of expressions - idiomatic and rhyming slang - spike around taboo and face-threatening topics. These include stupidity (*a few kangaroos loose in the top paddock, a stubby short of a six-pack*), intoxication (*Brahms and Liszt, pissed as a fart, full as a goog*), unattractive people (*a face like a dropped pie*), as well as various parts of the body (*Jatz crackers, map of Tassie*). This contrasts with words and phrases that do not creep too close to the realm of taboo, such as words for good (e.g. *bonzer*) or attractive people (e.g. *a looker*).

These expressions then appear to diverge along two paths: a) they are continually reinvented with communal national creativity, as in the hybrid idiom *a few roos short in the top paddock*, combining *a few sheep short in the top paddock* with *a few kangaroos loose in the top paddock*; or, b) elements of the phrase are elided - especially those elements that rhyme with the taboo word (e.g. “getting a bit Brahms” ([and Liszt]=pissed).

We close by placing these findings within their broader social context, including discussions of such expressions by lexicographers/popular media, and the functions of public words in other parts of the world.

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James Walker	To Have and To Be: Presentational Constructions in English
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Presentational constructions are a strategy available to speakers to introduce new referents into the discourse context. In variationist studies of existentials in English, most attention has been paid there BE constructions (BE-existentials) with plural reference, which show variation between plural (1a) and singular (1b-c) agreement (e.g. Meechan & Foley 1994; Cheshire 1999; Krejci & Hilton 2017). These studies show

considerable variation in terms of the number of tokens provided by each speaker, suggesting that BE-existentials co-vary with other strategies for fulfilling the same discourse function. One candidate, noted in studies of English-based creoles (cf. Meyerhoff & Walker 2013), is existential constructions with have (got) and a generic subject (you or they) (2) (HAVE-existentials).

- (1) a. We had to hang our food because there were bears. (4: 774)
- b. It helps being in the city where there is other kids around. (70: 193)
- c. There’s black bears, I believe there’s brown bears. (6: 59)
- (2) a. You’ve got the infrastructure, you have the entertainment. (71: 27)
- b. They even got commercials about that crap now too. (95: 24)

This paper looks at presentational constructions in English, widening the variable context of English existentials by examining the distribution and sociolinguistic conditioning of BE- and HAVE-existentials in a corpus of spoken English collected in Toronto, Canada (Hoffman & Walker 2010). Extracting over 4,000 tokens from sociolinguistic interviews with 70 speakers stratified according to ethnic background, generation and sex, we coded each token for a series of social and linguistic factors and examined their contribution to the variation through mixed-effects regression (Johnson 2009) and recursive partitioning.

While generation and ethnolinguistic background contribute to the choice of existential, the direction of effect in each group does not lend itself to an explanation of influence from the relevant heritage language, and this effect is not significant if the individual speaker is included as a random effect. Four linguistic factor groups are significant, with HAVE-existentials favoured in present temporal reference contexts, with definite referents and mass nouns, and with not-negation. We argue that these linguistic effects reflect preferences for particular discourse strategies.

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Heba Bou Orm and Catherine Travis	I feel like a change is on the way: Epistemic marking in Australian English
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The large amount of work on complement-taking predicates in English has identified a set of highly frequent, relatively fixed cognition-verb constructions that function as epistemic markers. Among this set of “propositional attitude predicates” (Noonan 2007: 124), *I think* and *I guess* are the most widely used across varieties of English, including American (e.g. Thompson & Mulac 1991; Thompson 2002; Torres Cacoullos & Walker 2009; Kärkkäinen 2010), British (Kaltenböck 2013), and Australian English (Rodríguez Louro & Harris 2013; Rodríguez Louro 2015). Here, we present quantitative analyses of a set of epistemic markers in

Australian English and examine the introduction of a new form, *I feel like*, which has received little attention to date (though it has been observed in other varieties, e.g. Canadian English (Brook 2020)).

The data come from spontaneous speech corpora of Australian English, recorded with different age groups at two time points: an earlier set of recordings made in the 1970s and 1980s with Elderly Australians, Adults and Teenagers, born in the 1900s, 1930s and 1960s respectively (Horvath 1985; NSW Bicentennial Oral History Project 1987); and contemporary recordings made in the 2010s with Adults and Young Adults born in the 1960s and 1990s (Travis 2014-2022). The data represent a total of approximately 1.5 million words from sociolinguistic interviews with 259 native speakers of Australian English from Sydney, stratified according to sex, social class, and ethnicity.

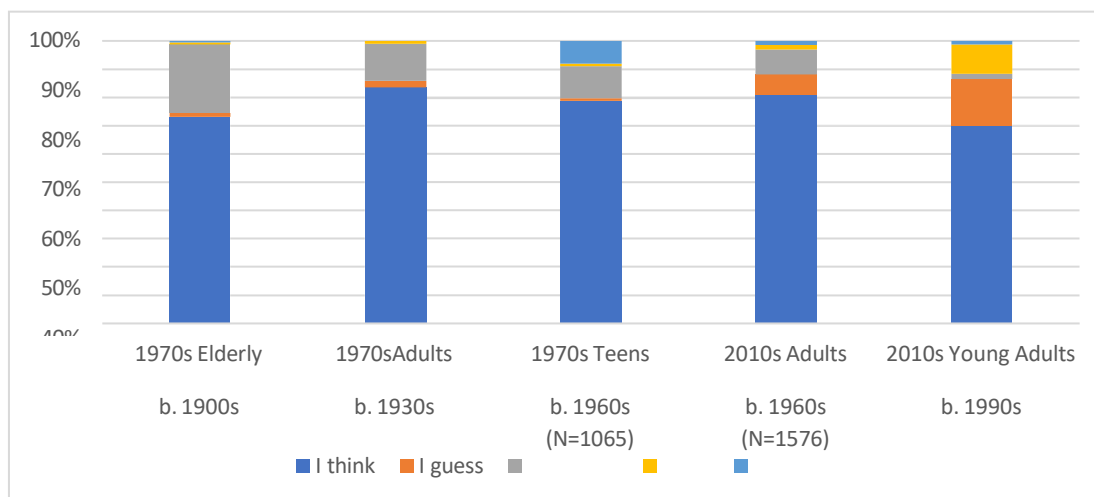
Approximately 6,000 propositional attitude predicates with first person singular subjects, present tense and positive polarity were extracted (cf., Thompson 2002: 138), representing a total of 10 distinct types (*I think, guess, suppose, feel, reckon, believe, imagine, assume, presume, bet*), of which, the first five account for 99% of all instances. Figure 1 presents the relative rate of use of these most frequent forms over time. Consistent with previous reports for Australian English (Rodríguez Louro 2015: 212), *I think* holds its place at each time point as the overwhelmingly dominant form, and *I guess* takes on greater use relatively late, here from the 2010s Adults. But we also see that *I suppose* declines over time, being a robust member of the system in the 1970s but virtually absent for the 2010s Young Adults; *I reckon* makes an appearance for the 1970s Teenagers only (and in particular, for Italian males); and *I feel* emerges for the 2010s Young Adults.

Broader consideration of the development of epistemic *I feel* reveals that *feel* was widely used as a complement-taking predicate in the 1970s, at which time it showed a high degree of syntactic flexibility, occurring with a range of subjects and tenses; positive and negative polarity; and variable use of complementiser *that* (see examples (1) and (2)). It is with the 2010s Young Adults that the 1sg, present tense, positive polarity construction *I feel* takes hold, and in particular, with the complementiser *like*, (3), potentially propelled by the meteoric rise of *like* for this age group (cf., D'Arcy 2012).

- (1) *there is a sort of tendency to uh -- to feel people are more -- fair dinkum if they speak -- uh, in a more Australian way.* [SSDS\_AAM\_021\_Jim]
- (2) *... I felt that ... there were more dignified ways of doing it,* [Bcnt\_AEF\_079\_Gladys]
- (3) *I feel like I can tell when someone's been raised in a rural environment.* [SydS\_AYF\_028\_Nina]

Perhaps reflective of its newer development, *I feel like* today retains its status as a main clause, nearly always preceding the clause it marks, unlike *I think* and *I guess* which are regularly used parenthetically. Zooming in on the alternation between these forms in initial position for the Young Adults, we find that the increase in both *I feel like* and *I guess*, relative to *I think*, is led by women, and among the women only, *I feel like* is associated with lower, and *I guess*, with higher social classes, suggesting that each may be finding its niche in the system via social differentiation

Figure 1 Distribution of most frequent propositional attitude predicates over time



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## Phonology of Australian languages

Peter Nyhuis	Phonologically-conditioned but non-optimising reduplicant shape in Wubuy
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In many languages that make use of reduplication, the shape of the reduplicant may vary from one context to another. Where the distribution of these different shapes is phonologically conditioned, it is often argued that the choice of one or the other pattern should be optimising, in the sense of avoiding marked structures in the output (e.g. Saba Kirchner 2010; Spaelti 1997).

Wubuy, a polysynthetic Gunwinyguan language of Southeast Arnhem Land, Australia (Heath 1984), provides crucial counter-evidence to this claim, of a kind which has so far not featured in the theoretical or typological literature on reduplication. In this language's only productive reduplication pattern, the shape of the reduplicant alternates according to the sonority of the initial segment of the base, to which it attaches as a prefix. Where the base-initial segment is a stop, the reduplicant is a light monosyllable (CV-); where the base begins in a sonorant, the reduplicant is a minimal disyllable (CVXV-). The vowels in the reduplicant are always short, no matter the length of their correspondents in the base, and in the disyllabic pattern the second vowel must have the same quality as the first. Thus the base in (1), *puri*, reduplicates as *pu-puri*, while the base in (2), *wultani*, reduplicates as *wultu-wultani*.

The shape alternation is sensitive *only* to base-initial sonority: it is not affected by the number of syllables in the base, nor by any feature of the base beyond the initial segment. Outside of reduplication, the language shows no preference for stop-initial morphological or prosodic constituents to be monosyllabic, nor for sonorant-initial constituents to be disyllabic — cf. the stop-initial prefixes *pa-* '2sg', *para-* '2sg>3pl', and the sonorant-initial prefixes *wa-* '1sg>2sg.Irr', *wara-* '3pl>3pl'.

We therefore have no grounds for construing the alternation as a repair for some marked structure. That being so, it is difficult to capture the alternation within parallel OT approaches to reduplication (e.g. McCarthy & Prince 1993), which are still dominant in the phonological literature — these all typically assume that one reduplicant shape allomorph is the 'unmarked' default, and that 'marked' deviations from this default emerge when the constraints that enforce it are violated in deference to some higher-ranked constraint on well-formedness. In the Wubuy case, no such higher constraint is apparent, and without it, any constraint ranking that produces one reduplicant shape must globally prohibit the other. This problem holds irrespective of whether one employs reduplication-specific devices (McCarthy & Prince 1993, 1995) or eschews them (Saba Kirchner 2010; Spaelti 1997; Urbanczyk 2001).

Instead of driving allomorphy through markedness, this paper argues that morphological operations must be able to subcategorise for the phonology of their host. While other authors have argued for phonological subcategorisation in the context of a stratal or otherwise layered approach to phonology (e.g. Inkelas & Zoll 2005; Kiparsky 2009; Paster 2006; Yu 2007), in this paper I present an analysis of Wubuy reduplication couched in Relational Morphology (Jackendoff & Audring 2020), a declarative, schema-based theory with a monostratal phonological component that relates full surface word forms to each other according to shared parts of structure. Reduplication is treated as a relation between shared parts within the same word, as in (3,4). The formalism provides a natural way to restrict morphological operations to phonologically-defined classes, without requiring a default allomorph and without assuming either allomorph repairs the other. Stop-initial and continuant-initial stems are organised into distinct paradigms for the purposes of reduplication, which turns out to have desirable consequences for other areas of Wubuy morphophonology. In this way, we can embrace all the facts of the Wubuy reduplicant shape alternation while committing even more fully to the

surface-oriented spirit of OT than level-ordered approaches allow.

- (2) a. wini-puri  
3duM.R-sit.Past2  
'Those two (men) sat' (34.1.1)
- b. wini-pu-puri 3duM.R-  
Red-sit.Past2  
'Those two (men) sat' (34.2.2)
- (3) a. wini-wulta-ŋi  
3duM>Resid.R-cut-Past2  
'They two (men) cut it (Resid)' (17.1.3)
- b. wini-wultu-wulta-ŋi  
3sgM>Resid.R-Red-cut-Past2  
'They two (men) cut it (Resid)' (17.1.4)

(4) *Sister schemas for verbal reduplication: monosyllabic stop-initial class*

- a. Morphosyntax {  $V_a, Pro_x$  }<sub>y</sub>  
Phonology [...[+syll]<sub>x</sub> [[-son]V(:)<sub>β</sub> ...]<sub>a</sub> ]<sub>y</sub>
- b. Morphosyntax {  $V_a, Pro_x, Distr_y$  }<sub>z</sub>  
Phonology [...[+syll]<sub>x</sub> [[-son]V<sub>β</sub> [[-son]V(:)<sub>β</sub> ...]<sub>a</sub> ]<sub>y</sub> ]<sub>z</sub>

(5) *Sister schemas for verbal reduplication: disyllabic sonorant-initial class*

- a. Morphosyntax {  $V_p, Pro_x$  }<sub>y</sub> 1 <sup>l</sup>  
Phonology [...[+syll]<sub>x</sub> [ <sup>-syll</sup> VC(C)V<sub>δ</sub> ... ]<sub>v</sub> ]<sub>y</sub>  
+son
- b. Morphosyntax {  $V_p, Pro_x, Distr_y$  }<sub>z</sub> 1 <sup>l</sup>  
Phonology [...[+syll]<sub>x</sub> [ <sup>-syll</sup> VC(C)V<sub>δ</sub> [ <sup>-syll</sup> V(:)C(C)V(:)<sub>δ</sub> ... ]<sub>v</sub> ]<sub>y</sub> ]<sub>z</sub>  
+son +son

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Brett Baker and Mark Harvey	Incipient initial dropping in Wubuy
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Initial-dropping—the loss of word-initial consonants and sometimes syllables—is a phenomenon which has happened recurrently in several distinct regions of Australia: Cape York, the central desert, the Pilbara, and New England. The motivations for initial-dropping remain obscure, but one possibility is a connection with initial lenition, which has a partly overlapping distribution. A number of Australian languages have undergone historical lenition of initial stops to continuants (liquids, glides). Wubuy (a.k.a. 'Nunggubuyu': Heath 1984) exhibits several layers of both historical and synchronic initial lenition, which differ according to target segment, morphological conditioning, and frequency. Synchronically, there is deletion of initial /ŋ/ and /w/ from inflectional prefixes. Historically, both \*k and \*p were lenited (irregularly) to /w/, with neutralisation thereby of both the initial stop contrast as well as the contrast between /w/ < \*w and /w/ < \*k, \*p.

Nevertheless, several phonological processes distinguish synchronic w < \*k from w < \*p, showing that there is a phonological contrast between them, even though they are phonetically identical. We discuss the behaviour of one rule in particular, which deletes w<sub>1</sub> (w < \*k) but not w<sub>2</sub> (w < \*p) between low vowels across a morpheme boundary, as shown in (1) and (2), with long vowels as a result.

- (1) wara:pa:pa: [Heath 1980: 259, Text 50.5]  
wara-w<sub>1</sub>apa-w<sub>1</sub>apaa  
3pl/3pl-REDUP-wrap.PC  
'they wrapped them'
- (2) ŋimawa|gawa|ga: ~ \*ŋima:|ga:|ga: [Heath 1980:51, Text 7.4]  
ŋi-ma-w<sub>2</sub>a|ga=w<sub>2</sub>a|ga:  
3fem-VEG-REDUP-pound.PCONT  
'She pounded and pounded/kept pounding (VEG class object)'

An examination of the Wubuy text corpus (Heath 1980) demonstrates that 96% of the time, in fact, w<sub>1</sub> deletes in this context, providing a further source of evidence for the contrast for learners. This behaviour however makes w<sub>1</sub>-initial stems overlap in their behaviour with a-initial stems, which also feed the rule of vowel hiatus resolution

in the same way, as shown in (3) and (4):

- (3) ɲa:ŋtalaralii ~ ɲawaŋtalaralii [17/1/2013]  
ɲa-w1aŋta-lara-lii  
1sg-arm-hold.up.PRES 'I'm  
holding my arms up'
- (4) ɲa:pjɪ [Heath 1984: 95]  
ɲa-apjɪ  
1sg-jump.PP 'I  
jumped'

It appears that the number of a-initial forms in the lexicon has been increasing over time. This has come about partly through reanalysis of w1-initial forms as a-initial forms, at least in the last 20 years. But there are also vowel-initial forms derived from historical \*p, \*j and other segments, sometimes just in particular cells of paradigms (e.g. some inflected forms of the 'hit' verb \*pu- but not others). By merging w1 with a-initial stems, Wubuy thereby ends up with a contrast between w2 and a/w1, which is a better-supported contrast than the current three-way near merger (Labov 1994) of w1, w2, and a-initial forms.

This makes Wubuy one of the handful of examples so far identified of recent or current initial-dropping. Nevertheless, the three-way distinction between w1, w2 and a-initial stems appears to be relatively stable, despite the fact that it is gradually being eroded, one lexeme or even word-form at a time.

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Mitchell Browne and Jayden Macklin-Cordes	A statistical analysis of word-initial apical neutralisation in Warlmanpa
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In almost every Australian language which has an apical place of articulation contrast, this contrast is neutralised word-initially (Dixon, 2002, p. 568). The phonetic facts underlying this neutralisation vary considerably across languages. Instantiated realisations of this neutralisation include:

- (a) Generally retroflex, with few exceptions, e.g. Mara (Heath, 1981, pp. 49–50);
- (b) Variation between retroflex and alveolar, e.g. Wanyjirra and Jaru (Senge, 2015, p. 80; Tsunoda, 1981, p. 37);
- (c) Generally alveolar but some words variable or specified for place, e.g. Ngardi (Ennever, 2021, p. 45); and
- (d) Conditioned by following segments, e.g. Arrernte (Henderson, 2013, pp. 21, 137). This paper will investigate the realisation of word-initial apical consonants in Warlmanpa, a Ngumpin-Yapa (Pama-Nyungan) language.

Firstly, vowels preceding word-initial apicals in the Warlmanpa corpora (see Browne, 2021, pp. 19–22) will be analysed in Praat (Boersma, 2001), and used to code the place of articulation of the following consonant. Browne (2021, pp. 49–51) demonstrated that the F3 values of preceding vowels can be used as a reliable indicator of retroflexion of the following consonant, following Tabain et al.'s (2020) analysis of vowel formants in Arrernte, Pitjantjatjara, and Warlpiri (however, Butcher, 1995 notes that the actual articulation of the apical consonants are

often Mittelding articulations).

Secondly, each word-initial apical will be further coded for potential predictor variables, including:

- manner of articulation;
- speaker (in case of speaker variation);
- preceding vowel, preceding consonant place, preceding consonant manner, following vowel, following consonant place (in case of phonetic conditioning); and
- following consonant manner, and word (in case of lexical specification).

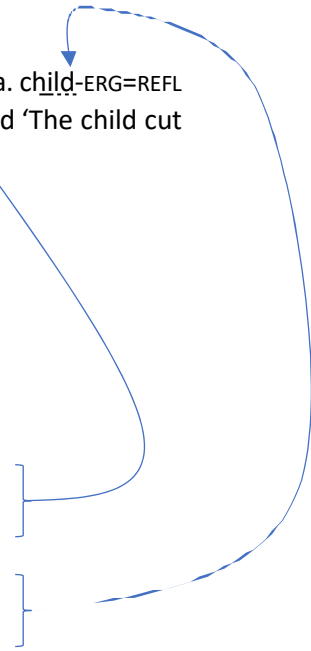
For example, in the utterance (1), the articulation of the word-initial apical (represented by ⟨t⟩ in Warlmanpa practical orthography) is the variable we are attempting to predict. The F3 and F4 values of the preceding /u/ will be measured and subsequently used to code an (indicative) place of articulation of ⟨t⟩. Then, the coded variables for this utterance are given in Table 1.

Thirdly, once collated, the data will then be analysed using a random forest algorithm (Kursa & Rudnicki, 2010), which will classify variables according to their predictive strength (i.e., allowing an understanding of what predicts an alveolar or retroflex articulation). The benefit of applying a statistical analysis to the data, such as a random forest algorithm, is that it allows for multiple variables to be significant. That is, it allows for the possibility that the articulation of apical consonants can be motivated by multiple factors with varying predictive strength. This paper contributes to the ongoing research of phonetics and phonology in Australianist linguistics, bringing a novel methodology to investigate a well-known but little-researched interaction between phonetics and phonology.

(1) Kurtu-ngu=nyanu      kuma-rnu      taka. child-ERG=REFL  
    cut-PAST      hand 'The child cut  
    herself on the hand.'

Table 1: Example variables and their values in (1).

Variable	Value in (1)
Manner	stop
Speaker	DG
Preceding vowel	u
Preceding consonant place	retroflex
Preceding consonant manner	nasal
Following vowel	a
Following consonant place	velar
Following consonant manner	stop



Boersma, P. (2001). Praat, a system for doing phonetics by computer. *Glott International*, 5(9/10), 341–347. <https://doi.org/10.1097/AUD.0b013e31821473f7>

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This paper presents a grammatical analysis of the basic locative construction (cf. Levinson and Wilkins 2006) in Kune while also accounting for Kriol/English language contact phenomena. Kune is a language variety belonging to the Bininj Kunwok linguistic chain spoken in central and western Arnhem Land, Northern Territory. The Kune variety in particular is spoken in the town of Maningrida and nearby homeland outstations. In this context – an intensely diverse and multilingual contact situation (Vaughan 2018a; 2018b; 2020) – Kune speakers are regularly exposed to, and often communicate, in varieties such as Kuninjku, Burarra, and Ndjébbana, as well as English and Kriol, an English-lexified creole spoken in northern Australia (among others).

Extensive contact situations have been shown to have some consequences for spatial grammar, such as in Gurindji Kriol and its source languages (Dunn, Meakins, and Algy 2021; Meakins 2011a; 2011b; Meakins, Jones, and Algy 2016) and for Ixcatec-Spanish and Ngigua-Spanish bilinguals in Mexico (Adamou and Shen 2017; Calderón, De Pascale, and Adamou 2019). Evans (2003) extensively documented spatial relations in the many language varieties of Bininj Kunwok in his landmark grammar. More recently, Marley (2020; 2021) dug even deeper into multilingualism, variation and change across the Bininj Kunwok language chain. As part of this study, she found that the extent of Kriol/English use (noun and verb borrowings) increased across generations. In light of these findings, this paper seeks to understand how and how often Kriol/English is incorporated into Kune in one domain of spatial grammar: topology (i.e., non-projective spatial relations). This is a first step towards building on previous documentation by including contact-influenced features in a description of Kune grammar.

The data employed in this study is sourced from a corpus of narratives, elicitation tasks and metalinguistic discussion created in consultation with over 30 speakers in 2021-2022, plus Kune examples provided in Evans' (2003) grammar. The analysis pays particularly close attention to a set of recordings of Kune speakers' responses to the Topological Relations Picture Series elicitation tool (Levinson and Wilkins 2006).

To demonstrate the results, I will first present an overview of the Kune basic locative construction – including use of adpositions, positional verbs, resultative constructions and locative case. From there, I turn to the diversity and variation in the use of Kune and/or Kriol/English forms. Finally, I will consider the prevalence of the use of these features through analysis of speakers' life histories and demographic information.

This study found that while Kune speakers primarily rely on traditional forms and constructions to express topological relations, the use of both Kriol adpositions (e.g. *wansaid* (1)) and locative case is not uncommon among some speakers. Kune has the locative affixes *ku-* (2), *-ka(h)* (3), and *-darrme* (1). However, some speakers make use of Kriol/English locative prepositions such as *la(nga)* in Kune constructions, as well as suffix *-wei* for static relations (4). In addition, some speakers display double locative case marking, using both the Kriol preposition *la* and Kune suffix *-kah* (5). This parallels observations of double marking for Gurindji Kriol, as described in Meakins (2011a, chap. 7). As opposed to the Gurindji Kriol case, however, this phenomenon is not age related, but seems to correlate with significant time spent in Kriol speaking communities.

## Examples

- |             |              |                |                          |              |                |                |
|-------------|--------------|----------------|--------------------------|--------------|----------------|----------------|
| <i>laik</i> | <i>duruk</i> | <i>ka-nini</i> | <i>kurrambalk-darrme</i> | <i>nuye,</i> | <i>wansaid</i> | <i>ka-nini</i> |
| like        | dog          | 3SG-sit.NP     | house-LOC                | his          | one_side       | 3SG-sit.NP     |

'Like the dog is sitting at his house, he's next (to it)' [20210915e\_RB\_055; TRPS\_M06]

2. *ngokngok*      *kaddum*      *ku-rrulk*      *ka-wern-werndi*  
 owl            up            LOC-tree        3SG-RDP-be\_up\_high.NP  
 ‘The owl is up in the tree’ [20210916c\_RB\_083]
3. *ka-name*                      *kom-no-kah* 3SG-  
 place/wear.NP                neck-PRT-LOC ‘She’s  
 wearing it on her neck’ [20220708a\_CaL\_066;  
 TRPS\_M51]
4. *ka-widju-widjung*            *apple, ka-mim-di*                      *bowl-wei*      3SG-  
 RDP-point.NP                                      3SG-fruit-stand.NP                      bowl-LOC      ‘It’s  
 pointing at the apple, (the apple) is in the bowl’  
 [20210915e\_RB\_011; TRPS\_M02]
5. *ka-djal-di*            *la*            *ngarre-no-kah* 3SG-  
 LIM-stand.NP LOC      grass-PRT-LOC ‘It’s just on the  
 grass’ [20210919d\_MM\_100]

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Northern Australian languages are known for a type of complex predicate formation called ‘coverb construction’ (CVC) (Baker & Harvey 2010, Bower 2014, Krause & Harvey 2021; Schultze-Berndt 2003), in

which an uninflecting coverb combines with an inflecting main verb. One of the languages with productive CVCs is Wagiman, spoken in the Top End. By far the largest number of CVCs are a contiguous string of exactly one coverb and one main verb, as illustrated by example (1) from Wagiman. Despite being non-configurational with relatively free word order (S. Wilson 1999:10, 67), the coverb and main verb must occur together within one prosodic unit and therefore form a single constituent of the clause. This contiguity confirms Behaghel's (1932:4) first law for the position of words in free-word order languages. There is a cross-linguistic tendency of constituent adjacency within a complex predicate (Krauß 2021:173, fn. 96; 179, fn. 99).

However, there are cases where other parts-of-speech can intervene the CVC, exemplified below with clitics (2), particles (3), demonstratives (4), and entire NPs (5). Our Wagiman corpus contains only 33 out of 4215 sentences with non-contiguous CVCs. Krauß (2021:178) calculates that only 6% of all CVCs are non-contiguous. Two issues arise from this observation:

- (a) If the syntax of Wagiman is indeed non-configurational, we would expect a much higher number of non-contiguous occurrences, as the coverb and the main verb are prosodic words on their own and should allow for more positional flexibility within the clause;
- (b) Complex predicates in Wagiman are a single phrasal constituent according to S. Wilson (1999:71), which should not allow any other words in between.

We argue for (a) that a CVC in Wagiman forms a conceptual unit with a tighter bond than, for example, a noun and its determiner, and for (b) that a CVC is in fact not a single constituent, but that it consist of two syntactically independent constituents, which are mutually dependent on each other. This is in line with Baker & Harvey (2010:15) who argue that a CVC (or 'merger construction' in their terms) consists of two inherently predicating constituents in which the arguments of each are merged. Krauß (2021:181-187) provides evidence that the coverb and verb in Wagiman are formed on different but adjacent levels in minimalist representations, allowing for other constituents to intervene. This proposal for (b) entails that non-contiguous CVCs in Wagiman are genuine complex predicates (*contra* A. Wilson 2006:16).

To support this argumentation, data from neighbouring languages with the same phenomenon will be used. These include Wardaman (Merlan 1994:253), Gurindji and Gurindji Kriol (Meakins 2010:13, 22), Jaminjung (Schultze-Berndt 2000:123), Wambaya (Nordlinger 2010:242-243), Bardi (Bowern 2006:19 fn. 3) Arrernte (Dras et al. 2012:7), and Bilinarra (Meakins & Nordlinger 2014:313). According to Singer (2016:31), Mawng does not allow any other element to intervene between the coverb and the inflecting verb.

### Examples

- (1) *Gayh-gunda telegram jowk-∅ ng-a-∅-ra-ng.*  
 DEM.DIST-ABL telegram send-PFV PST-1SG.AGT-3SG.PAT-throw-PST.PFV

'From there, I sent a telegram.' (Cook 1987:139)

- (2) *Neyenggorn gahan bijip-pa=ma g-a-yu.*  
 other DEM.DIST roll.up-IPFV=FOC PRS-3-be

'Not that one, that other one which is rolled up.' (LGL01.178)

- (3) *Gahan marluga g-a-yu minygu dup-pa guda-ubaw.*  
 DEM.MED old.man PRS-3-be always sit-IPFVfire-SPEC.LOC 'That old man always sits by the fire.' (Cook 1987:144)

- (4) *∅-ba-ni-nginy gay=giwu guk-ka mamin gahan jilimakkun.*  
 3PST-PL-BE-PST.PFV DEM.DIST=DU sleep-NPFV white.man DEM.DIST woman

'These two, the white man and that woman, were sleeping (there).' (HIL02.44)

- (5)  $\emptyset$ -ba-di-nya=giwu                      marluga      ngal-marttiwa=giwu      wilh-ma. 3PST-  
PL-come-PST.NPFV=DU old.man                      FEM-old.woman=DUAL walk-IPFV 'The old  
man and woman came walking.' (Cook 1987:243)

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Although Pitjantjatjara (Pama-Nyungan) is one of the most widely spoken traditional Australian Aboriginal languages, with over 3,000 speakers across a large region of Central Australia, many Anangu elders have expressed their concerns that their language is changing, weakening, or being mixed with other languages (e.g. Minutjukur et al., 2019). In this paper, I report on changes in young people's Pitjantjatjara, as well as areas of strength and continuity, based on an intergenerational corpus of >41,000 words recorded in Pukatja/Ernabella, South Australia between 2018-2022. Three topics in particular are highlighted: phonetic/phonological variation, case marking, and possession. Each of these displays different patterns of variation against a backdrop of strong language maintenance.

The area with the most radical divergence between generations of speakers is the **phonetics and phonology**. There are over a dozen identifiable changes, including an existing connected speech process of word-final vowel elision (1a-b) which is increasingly common among younger speakers and is being extended to new contexts (c-g); functional elements being grammaticalised as suffixes (2); and changes in the forms of particular common suffixes/clitics (3). Quantitative evidence for changing frequency in these variables is seen across apparent time in the corpus.

While many language contact situations in Australia have resulted in simplification or realignment of complex **case-marking** systems, this area of the grammar is generally stable in Pitjantjatjara. There is one interesting change in the use of the inclusory construction for ad hoc categorisation. Traditionally, this construction consists of a pronoun or name, followed by a pronoun referring to some superset (4a-b). Now, younger speakers are inserting common nouns in the initial slot, but with the proper name case marking (4c), with the sense of 'X and stuff'; most older speakers regard this as ungrammatical. This represents a complexification in the case marking system, and a new use of the inclusory construction which has not been documented previously in Pitjantjatjara or in other languages with comparable constructions (Mauri & Sansò, 2018; Singer, 2001).

Pitjantjatjara/Yankunytjatjara has been described as having an alienability distinction in the expression of **possession**, where the genitive is used for inalienables (5a), and a pattern of apposition/agreement is used for body parts (b) (Goddard, 1985). There have been claims that this distinction is being lost, with the genitive used for body parts by young people (Langlois, 2004; Naessan, 2008). There have been similar findings in other situations of language contact around Australia (e.g. Evans, 1995; Hercus, 2005; Schmidt, 1985). However, there is no evidence of such a change in Pukatja, and variation between the two possession constructions for body parts appears stable between generations. Rather, I show that the variation is motivated by subtle semantic and pragmatic factors such as affectedness, topicality, and empathy (O'Connor, 2007). In (5c), the speaker (in her 60s) uses the genitive construction for a body part, as the 'growing' specifically only involves the body part, whereas in (d), she uses the agreement strategy, as the possessor is equally involved in and affected by the event. In (5e), again by the same speaker, both constructions are used; the switch to the agreement strategy in the second clause may be an attempt to solicit empathy, emphasising the effect on the possessor.

While many previous studies of youth varieties or language change in contact situations in Australia show quite radical shifts to simplified or more English-like grammars, this is not the case in Pitjantjatjara, despite rapid social change in recent generations. Different trajectories of change among the phonetic/phonological variables suggest there is not a distinct youth variety but a range of individual innovations being instantiated and taken up at different times. The inclusory construction illustrates how a complex system can be simultaneously maintained and adapted, while the example of possession

demonstrates that not all variation in traditional languages is attributable to contact-induced change, even if one variant resembles an English equivalent. Overall, this paper highlights the mutually reinforcing benefits of integrating the study of variation into language documentation and description (Meyerhoff, 2017, 2019; Stanford, 2016).

### Examples

- (1) a. Between homorganic consonants: /puŋu-ŋka katu/ → [puŋuŋ katu] 'tree-LOC up'  
 b. Before a vowel: /ŋuŋcu-ŋku ampu-ŋu/ → [ŋuŋcuŋk ampuŋu] 'mother-ERG hug-PST'  
 c. Before heterorganic consonant: /uŋtu-ŋu niŋtajiŋa/ → [uŋtuŋ niŋtajiŋa] 'push-PST boy'  
 d. Resulting in a stop in the coda: /iŋi-ku pi:ta-ŋka/ → [iŋik pi:taŋka] 'baby-GEN bed-LOC'  
 e. Resulting in a cluster in the coda: /mauŋtaŋpa #/ → [mauŋtaŋp] 'separate'  
 f. Utterance finally: /mauŋtaŋpa #/ → [mauŋtaŋp] 'separate'  
 g. Resulting in monomoraic word: /cuŋpu paŋa/ → [cuŋp paŋa] 'bird ANAPH'

- (2) a. Grammaticalisation of plural *tjuŋa*: /ŋaŋpi cuŋa/ → [ŋaŋpiuŋa] 'leaf-PL'  
 b. Grammaticalisation of negator *wiya*: /ula-ŋca wiŋa/ → [ulaŋciŋa] 'cry-NMLZ-NEG'

- (3) a. /-lta/ → [=nta] 'and then'  
 b. /-nca/ → [-nta] action nominaliser  
 c. /-mila/ → [-ma] loanword verbaliser  
 d. /-pai/ → [-p̥] habitual

- (4) a. *palu tjana nyina-pai skuula-ŋka* b. *P-nya pula kunkun-ari-ŋgu*  
 3SG.NOM 3PL.NOM sit-HAB school-LOC NAME-NOM 3DU.NOM asleep-INCH-PST  
 'They go to school.' 'Those two including P fell asleep'  
 c. *puŋangkita-nya tjana-nya=ya anga-ma-na-nyi*  
 blanket-ACC(NAME) 3PL.ACC=3PL.ERG hang-LOAN-AUG-PRS  
 'They're hanging up blankets and stuff.'

- (5) a. *palu-mpa kita* b. *palu-ru kata*  
 3SG-GEN guitar 3SG-NOM head(NOM)  
 'his/her guitar' 'his/her head'  
 c. *Ka palu-m mangka kuŋu wara-ri-ŋgu. Munu palu-ru kuŋu wara-ri-ŋg.*  
 and.DS 3SG-GEN hair also long-INCH-PST and.SS 3SG-NOM also long-INCH-PST 'And his hair grew long too, and he grew tall too.'  
 d. *Ka palu-la mangka-ŋka nyaŋpi paka-ŋu.*  
 and.DS 3SG-LOC hair-LOC leaf rise-PST  
 'And a leaf grew on him/on his hair.'  
 e. *munu puntu ngana-m pikatjara-ri-ŋgu, puntu nganaŋa-nya pika-nta-nu, mai ngunti tjuŋa-ŋku*  
 and.SS body 1PL-GEN sick-INCH-PST body 1PL-ACC illness-HARM-PST food mistaken PL-ERG 'And our bodies became sick. Junk food made us/our bodies sick.'

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## PLENARY 4

Janet Fletcher	What 'SMALL' languages can tell us about INTONATIONAL typology
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The great number and diversity of languages spoken in the Australia-Pacific region afford a golden opportunity to explore the bounds of prevailing theories of prosodic and intonational typology. In the last fifteen years or so there has been a strong push to move beyond a simple classification of languages based on either lexical prosody (stress, tone, neither), or typologies based on the semantics of pitch (tone versus intonation languages). There has also been a surge of interest in seeing how under-resourced languages of our region can inform current views of phonetic and phonological typology. In this talk I discuss post-lexical prosodic typology within the auto-segmental metrical intonation framework and present three main prosodic case studies: Mawng (Australian, Non-Pama-Nyungan), Nafsan (Southern Oceanic), and Tahitian (Eastern Polynesian). These three languages show prosodic characteristics that illustrate three distinct profiles that are revealed by their behaviour under conditions of narrow focus.