

**Waves of words:
Ancient Asia-Pacific connection
with North Australia**

Rachel Hendery¹

University of Western Sydney

Patrick McConvell

The Australian National University

Abstract

In the 19th and (for most of the) 20th centuries, Europeans saw the Pacific as a sea of static, isolated islands. Recently Pacific Studies scholars have argued instead that it is interconnected and dynamic, a place where the sea forms roads, not barriers (see e.g., Hau'ofa 1993; Kirch 2002; Teaiwa 2007). Australia sits amidst these roads, and its languages and cultures, like those of the Asia-Pacific region, still hold traces of significant historical interactions. Uncovering, collating and understanding these traces will allow us not only to better understand our region's past, but also to understand how long-term intercultural contact plays out. In this article we argue that this kind of research requires us to draw together threads from a variety of fields: linguistics, anthropology, archaeology and genetics. We discuss the challenges and advantages of doing so, in particular the need to develop shared 'languages' for description and analysis. Such comparison of linguistic with non-linguistic patterns of change sheds new light on the story of Oceania's past as well as societal consequences of political, cultural, economic and technological change.

Keywords: Pacific history; historical linguistics; lexical typology; anthropology; archaeology

Introduction

Pacific and Island Southeast Asian peoples have been involved in intense voyaging and social and cultural interaction for thousands of years. Australia did not sit alone in the middle of this busy highway; it was most likely an important part of the Asia-Pacific network, yet this perspective is absent from much of the linguistic and anthropological literature. This results, at least in part, from the way that linguistic, anthropological and archaeological research takes place primarily in siloed disciplines (with some notable exceptions, for example, McConvell and Evans [eds, 1997], Pawley et al (eds, 2005), and more recently, Ballard [2010]). Influence on these disciplines from the more interdisciplinary fields of Pacific History and more generally, Pacific Studies, is limited. In this paper we will address the relationship between linguistics, anthropology and archaeology in Oceania and argue that bringing together evidence from these different disciplines is essential if we are to move forward on uncovering Australia's Pacific past and relocating it within trans-Pacific networks of material, cultural and linguistic exchange. We begin by outlining what we have to gain from doing

¹ **Corresponding author:** Rachel Hendery (R.Hendery@westernsydney.edu.au)

so, then discuss the various challenges in such interdisciplinary research, and conclude by suggesting some immediate ways forward.

The idea of the Austronesian language family which spread widely from Taiwan from about 4000 years ago is associated in the view of many with Lapita pottery styles and has rightly been important in guiding modelling of Oceania's past, mainly in terms of language family trees with splits between branches (sub-groups). Work on the contribution of Melanesian Papuan languages to the formation of the Oceanic branch which spread east across the Pacific, together with detailed studies of interaction between specific Austronesian and Papuan languages such as Takia and Waskia (Ross 2001) has, however, brought to prominence the other process in linguistic and cultural history, with its own separate modelling—that of diffusion or 'borrowing' based on interaction rather than inheritance. Our focus is on this second type of interaction between Australian peoples and languages and Austronesian and Papuan peoples and languages. Recent research has revealed Australian genetic signatures in the group which colonised the Pacific around 3000 years ago alongside Asian (Austronesian) and Papuan (Skoglund et al. 2016:512). From that time on, contact between Australia and eastern Indonesia and the Pacific was possible and likely due to the development of ocean-going boats and voyaging, and now evidence is accumulating of the reality of such contacts and their linguistic and cultural consequences at various times and places in the late Holocene.

Determining the extent and nature of early relationships between the first peoples of Australia and the Asia-Pacific region, however, is only possible by bringing together, comparing, and modelling linguistic, anthropological, archaeological and genetic evidence. Doing so and thus better understanding the prehistory of Australia as a networked agent in a complex web of Oceanic interaction also brings benefits for linguistics, anthropology and archaeology as disciplines. It does so, for example, by improving our understanding of the relationship between language change and socio-cultural change and feeding this back into improvements to linguistic and anthropological theory, and by allowing us to discover what kinds of social configurations underlie different linguistic outcomes in language contact situations. The differences in intensiveness of contact and equality that accompany trade, intermarriage and migration, conquest or slavery, for example, are thought to produce different kinds of borrowings or 'imposition' of linguistic words and features (see, for example, Van Coetsem 1988, 2000).

These kinds of evidence can drive exciting new theories about the prehistory of Oceania, but this work so far has been fragmented. Tantalising pieces of the puzzle exist in occasional physical artefacts, in shared cultural practices and technologies, and in the diffuse paths of words that have widely spread throughout the region. Within linguistics, the spread of such words tells us that relationships existed, but it is sometimes difficult to uncover the details. Within anthropology, shared cultural practices or similar technologies are suggestive, but could be coincidental. Within archaeology, physical artefacts cannot so easily be dismissed, but there can be competing theories about their origins. It is only in bringing these pieces of evidence together that we are able to provide more complete stories about cultural contact that predates the historical record.

More specifically, linguistics can assist with interpretation of archaeological or anthropological evidence for cultural contact because of what it can tell us about the nature of the contact, and also because it can help us provide relative dating of interactions that can be compared to archaeological dates. Because sound change is regular, examination of the sound changes that have or have not affected the borrowed words, compared to sound changes that have affected the rest of the language, can indicate the approximate dates and orders of word borrowings, and can therefore help us date periods of interaction. This is known as linguistic stratigraphy (McConvell 1990). Examination of grammatical changes (or lack thereof) in the languages in question also help us to understand the duration and intensity of the contact (for example, Ross 2013), since some

kinds of linguistic structure appear to change more readily, while others tend only to change after very long intensive periods of contact such as pervasive multilingualism (Van Coetsem 1988: 25). We can therefore assume different kinds and durations of contact took place between two unrelated languages that only share a few words and even fewer structural features, versus two unrelated languages that have converged to be grammatically almost identical (for example, the ‘metatypy’ found in Takia and Waskia (Ross 2001)).

Even considering strong evidence of regular contact in the Australia-Pacific region, such as the relationships between Sulawesi and Northern Australia (see for example Evans 1992; Macknight 2013; and Urry and Walsh 1981), the nature of the contact only becomes clear when we bring together evidence from both linguistics and anthropology. These Sulawesi-Australian relationships seem to have been developed through trepanging activity by ‘Macassans’ (probably speakers of various Austronesian languages, not only Makassarese). These relationships were regular, intensive, and long-lasting (Clark and May eds 2013). A pidgin may have developed, cultural features such as ceremonial exchange practices diffused (Urry and Walsh 1981:99) and words borrowed in ways that give us windows into the specific cultural interactions (for example Makassarese *barambarang* [goods] > Yolngu Matha *barrambarra* [clothes] [Zorc 1986:45], suggesting trade in clothing, a semantic narrowing of the kind discussed in McConvell and Ponsonnet [2013:194-5]). Some words eventually spread a long way inland (Evans 1997:260; McConvell 1990:23), for example the word *burruburru* (scabies) in Jingilu (Pensalfini 1997), comes from the Makassarese and Buginese *puru-puru* (pimples, pustules) (Zorc 1986:45), a word which also exists in a number of Arnhem Land and Top End languages for skin ailments and smallpox. Jingilu is more than 500km inland from the North Arnhem land coast.

Archaeological and anthropological evidence suggests a number of other paths of interaction between Australia and the Pacific, for example, with early Austronesian movement through areas north and east of Australia (which introduced the dingo), contacts in and across the Torres Strait (see McNiven et al 2006 for pottery and Brady 2010 for rock art), and Papuan/Cape-York contact evidenced by canoe technology (see Balme 2013) and shell fishhooks suggesting wide networks of technological dissemination reaching as far south as Sydney (Attenbrow 2010), the details of which are archaeologically ambiguous but might be clarified by integration with linguistic data. There is intriguing recent evidence for contact between Norfolk Island and New South Wales (White et al. 2014). Strong linguistic and archaeological indications of contact between Pacific islands, perhaps Vanuatu, and northern Australia (particularly Lizard Island) from at least 2000 Before Present (BP) are also emerging (see Tochilin et al. 2012; Sheppard et al. 2015).

In the same area of north Queensland there are also words in Aboriginal languages such as *jabul* in Kuku Nyungkul meaning much the same as *tabu* (taboo) in the Oceanic branch of Austronesian (Hershberger and Hershberger 1986:51). A peculiarity of these *tabu* words in this area of Queensland is that they have a final liquid *rr* or *l*, as in southern Vanuatu but unlike most other Austronesian cognates. This points to contacts across the Coral Sea, and archaeological finds include evidence of Austronesian presence around 2000 years ago (McConvell 2015b). The spread of this term and its diversification in Australia also argues for an early arrival in Australia. This opens up the field of studies of non-material concepts which have travelled (diffused) between the major linguistic families in the region, including Australia.

Another, much later, Australia-Pacific relationship that is often mentioned in the literature but not yet fully understood is the spread of Pacific Pidgin English and its influence on the early development of Australian Kriols/creoles. Evidence shows that the pidgin used on ships and in early colonial encounters around the Pacific diffused via New South Wales Pidgin, then played a role in the development of Australian creole languages that are still widely used by tens of thousands of people today (Clark 1979; Baker 1993; Amery and Mühlhäusler 1996). South Sea

Islanders were probably the vector for Pacific Pidgin in the origin of the Torres Strait creole known as Broken (Shnukal 1983). Pacific Pidgin English may have been a vector for some of the Wanderwörter (widely diffused words) we find shared among Pacific and Australian traditional languages, but not all—for instance the tabu words mentioned above date back to a period significantly before European colonisation. Some have undergone sound changes that suggest they have been present in the languages for much longer than several hundred years (see Ross 1992:365), and others correlate with evidence from archaeology or plant genetics that sheds light on the approximate dating of the diffusion of the objects or plants to which the words refer. Both the more ancient and the recent colonial relationships between Australia and the Pacific are thus able to be untangled in the process of excavating the more ancient layers of linguistic and cultural diffusion.

Domains that are ripe for this co-investigation of linguistic, anthropological and archaeological evidence in Oceania are material culture such as fish hooks and canoes; plants, for example taro, sweet potato, yam, bamboo and kava; exchange practices; chiefly systems; kinship systems; and religious and spiritual practices including concepts such as tabu and mana. There are connections among these domains as well, for example plant terms are used metaphorically in kinship in both Austronesian and (probably independently) in some Australian languages (see McConvell 2015a).

While co-investigation of material culture and associated word histories is not new – it has a long tradition known as the Wörter und Sachen approach – we would argue that this is only the beginning of the possibilities that true interdisciplinary research offers for the region if further points of connection, common language and ways of communicating can be discovered. For example, one of the key points of connection between the above-mentioned disciplines is mapping. Linguistics, anthropology, archaeology and history all make increasing use of maps in visualising and interpreting their own discipline’s evidence, and maps from the other disciplines are one of the most accessible forms of communication among them. Mapping of linguistic features (one aspect of typology, or ‘what’s where why’ [Bickel 2007]) has a long history, and has experienced increased attention in recent years with advances in digital mapping and modelling (see for example the World Atlas of Linguistic Structures Online [Dryer and Haspelmath 2011] with its interactive typological maps and downloadable datasets). ‘Diachronic typology’, or ‘what’s where when and why’ (Hendery 2012), is a newer and growing area of interest (see Givón 2012; Fleischer et al. 2015; Evans 2016). Mapping of words, on the other hand, has most commonly been practised by dialectologists, and lexical typology or semantic typology is still under-researched (Evans 2011, Koptjevskaja-Tamm 2016:4; McConvell and Ponsonnet 2013). Mapping of the diffusion of words through a region has even less frequently been attempted. Mapping of cultural practices or features is likewise rare but does exist (see discussion in Dousset In Press). Rarer still is the layering of these with linguistic features or terms so as to better understand relationships between language and culture. However, in recent years examples such as the AustKin project (Dousset et al. 2010) have illustrated how such an approach can illuminate a region’s history. The AustKin project maps kinship terms from Australian languages against social category systems and marriage rules to understand changes in the linguistic and/or anthropological systems and how these changes reflect migration and/or contact (see Hendery and McConvell 2013; Keen 2013; Koch 2013; Koch 2012; McConvell 2012; McConvell and Dousset 2012; McConvell 2013; McConvell and Bowern 2011; Simpson 2013).

If we consider mapping as not only a method, but a language that has developed and is understood by members of all of the above-mentioned disciplines, we can see the advantage, and indeed the necessity of developing more such common languages that work for analysing and communicating data from linguistics, anthropology, archaeology, and history. With common forms

of notation, analysis, terminology, and visual metaphors the different kinds of evidence discussed above can become accessible to us and our students, and can also be layered and connected in ways that would otherwise not be possible. Ontologies, visualisations, statistical methods, and systems of metadata would all benefit from interdisciplinary attempts at developing commonalities, or at the very least, multidisciplinary literacies. Discussions around this kind of interdisciplinary common 'language' are taking place mainly within the data science and digital modelling spaces, rather than in mainstream linguistics, anthropology and archaeology. Within these conversations, valuable directions are found in the long humanities tradition of 'thick mapping' (Presner et al. 2014) which allows many theoretical and empirical layers to be brought together; and in the expanding Digital Humanities community of 'Linked Pasts' (the construction of digital ecosystems of linked open data from history, geography, archaeology and cultural heritage [see Isaksen et al. 2014]). Much of this conversation is currently focused around the ancient and classical world, Enlightenment Europe and other regions and periods of European history, yet such approaches could offer the Oceanic context a much deeper and more integrated understanding of the region.

Moving toward more integrated linguistic, anthropological and archaeological study of Oceania in this way is not without significant challenges, of course. Not only does it require the development of a common language, as already mentioned, along with building interdisciplinary literacies into our education system, but it will also require increased acceptance of humanistic and social science work conducted in teams rather than the 'lone wolf' scholar that is still currently the prevailing stereotype for a linguist or anthropologist (perhaps less so for archaeologists). Furthermore, it brings the risks of importing inappropriate perspectives on our disciplines as we adopt new metaphors. We can see this already as the humanities and social sciences increasingly adopt models and methods from the physical sciences along with their underlying assumptions that may in fact not be appropriate to our objects of study. For example, in the past decade high profile papers in scientific journals have modelled language change using Markov chain models, models from molecular evolution (Pagel et al 2007), and equations borrowed from physics (Montemurro et al 2011; see also Loreto and Steels 2007 for the claim that language change is merely physics). Phylogenetic linguistic studies use methods from biological research (for example Gray et al. 2010). Simulation of language change borrows models from cellular automata (Beltran et al 2009), economics (Jäger 2008), and epidemiology (Gong et al. 2012). In this context it becomes increasingly urgent to ask, to what extent it is appropriate to treat features of human society such as language or cultural practice as though they are mechanical systems or biological organisms? Similarly, simply importing ways of thinking about linguistic data into archaeology or vice versa risks bringing along underlying assumptions that may not be appropriate. This is not necessarily a deal breaker. As Box and Draper (1987: 424) put it: "All models are wrong, but some are useful". But a key question for the future will be how to determine which kinds of models are still useful when we move beyond analysis of the data with which we are most familiar.

The next steps therefore, we would argue, are to begin from the assumption that linguists, anthropologists and archaeologists in the region can and should pool resources, ideas, data, and develop new ways of working together. This will allow us to find stronger evidence for those Oceanic relationships that have been proposed but are not yet solidly proven (for example, between Vanuatu-Northern Australia); to determine pathways of transmission across the wider Oceanic region for linguistic features, cultural practices and material culture that have thus far received attention only for smaller regions; and to connect the disparate strands of evidence from linguistics, anthropology and archaeology into a coherent 'big picture'. The deeper and more integrated study of these links could revolutionise our understanding of the region.

References

- Amery, R. and P. Mühlhäusler. 1996. "Pidgin English in New South Wales." In Atlas of languages of intercultural communication in the Pacific, Asia, and the Americas, edited by S. A. Wurm, P. Mühlhäusler, and D. T. Tryon, 33–52. Berlin/New York: Mouton de Gruyter.
- Attenbrow, V. 2010. "Aboriginal fishing in Port Jackson, and the introduction of shell fish-hooks to coastal New South Wales, Australia." In *The nature history of Sydney*. 16-34. Mosman: Royal Zoological Society of NSW.
- Baker, P. 1993. "Australian influence on Melanesian Pidgin English." *Te Reo. Journal of the Linguistic Society of New Zealand*, 36: 3–67. *number?*
- Ballard, C. 2010. "Synthetic histories: possible futures for Papuan pasts." *Reviews in Anthropology* 39(4): 232–257.
- Balme, J. 2013. "Of boats and string: The maritime colonisation of Australia." *Quaternary International* 285: 68-75.
- Beltran, F. S. et al. 2009. "Forecasting a language shift based on cellular automata." *Journal of Artificial Societies and Social Sciences*, 12(3): <<http://jasss.soc.surrey.ac.uk/12/3/5.html>>
- Bickel, B. 2007. "Typology in the 21st century: major developments." *Linguistic Typology*, 11: 239–251.
- Box, George E. P. and Norman R. Draper. 1987. *Empirical model-building and response surfaces*. New York: Wiley.
- Brady, L.M. 2010. *Pictures, patterns and objects: Rock-art of the Torres Strait Islands, Northeastern Australia*. Melbourne: Australian Scholarly Publishing.
- Clark, R. 1979. "In search of Beach-la-mar: Towards a history of Pacific Pidgin English." *Te Reo. Journal of the Linguistic Society of New Zealand*, 22: 3–64.
- Clark, M. and S. May (eds). 2013. *Macassan history and heritage: Journeys, encounters and influences*. Canberra: ANU E-Press.
- Dousset, L. 2018. "Systems in geography or geography of systems? Attempts to represent spatial distribution of Australian social organisation." In *Skin, kin and clan: Dynamics of social categories in Australia*, edited by P. McConvell, P. Kelly and S. Lacrampe, 43–85. Canberra: ANU Press.
- Dousset, L. et al. 2010. "Developing a database for Australian Indigenous kinship terminology: The AustKin project." *Australian Aboriginal Studies*, 1: 4256.
- Dryer, M.S. and Haspelmath, M. eds., 2011. *The world atlas of language structures*. Leipzig: Max Planck Digital Library.
- Evans, N. 1992. "Macassan loanwords in top end languages." *Australian Journal of Linguistics*, 12(1): 45–91.
- Evans, N. 1997. "Macassan loans and linguistic stratification in western Arnhem Land". In *Archaeology and linguistics: Aboriginal Australia in global perspective*, edited by P. McConvell and N. Evans, 237–260. Melbourne: Oxford University Press.
- Evans, N. 2011. *Semantic Typology*. In *The Oxford handbook of linguistic typology*, edited by J. Jung Sung, 504-533. Oxford: OUP.
- Evans, N. 2016. "Typology and coevolutionary linguistics." *Linguistic Typology*. 20 (3): 505-520.
- Fleischer, J., E. Rieken and P. Widmer. 2015. *Agreement from a diachronic perspective*, Berlin: Walter de Gruyter.
- Givón, T., 2012. "Toward a diachronic typology of relative clauses." In *Relative clauses in languages of Americas: a typological overview*, edited by B. Comrie and Z. E. Fernández, 3–25. Amsterdam: John Benjamins.
- Hau'ofa, E. 1993. *A new Oceania: Rediscovering our sea of islands*, School of Social and Economic

- Development, The University of the South Pacific in association with Beake House
- Gong, T., L. Shuai, M. Tamariz, and G. Jäger. 2012. “Studying language change using price equation and Pólya-urn dynamics.” *PLoS One*. 7(3): e33171. DOI:10.1371/journal.pone.0033171
- Gray, R. D., Drummond, A. J., and Greenhill, S. J. 2009. “Language phylogenies reveal expansion pulses and pauses in Pacific settlement”. *Science*, 323(5913), 479-483.
- Hendery, R. 2012. *Relative clauses in time and space: A case study in the methods of diachronic typology* Amsterdam, John Benjamins.
- Hendery, R. and P. McConvell. 2013. “Mama and papa in Indigenous Australia.” In *Kinship systems: change and reconstruction*, edited by P. McConvell, I. Keen, and R. Hendery, 217–238. Salt Lake City: University of Utah Press.
- Hershberger, H. & R Hershberger. 1986. *Kuku-Yalanji Dictionary*. Darwin: SIL-A Hershberger AB.
- Isaksen, L. et al. 2014. “Pelagios and the emerging graph of ancient world data.” *WebSci 14: Proceedings of the 2014 ACM conference on web science*. ACM, 197–201.
- Jäger, G. 2008. “Applications of game theory in linguistics.” *Language and Linguistics compass*, 2(3): 406-421.
- Keen, I., 2013. The evolution of Yolngu and Ngarinyin kinship terminologies. In *Kinship systems: change and reconstruction*, edited by P. McConvell, I. Keen, and R. Hendery, 132–162. Salt Lake City: University of Utah Press.
- Kirch, P. V. 2002. *On the road of the winds—An archaeological history of the Pacific Islands before European contact*. Berkeley: University of California Press.
- Koch, H. 2012. “Loanwords between the Arandic languages and their western neighbours: principles of identification and phonological adaptation.” In *Selected Papers from the 44th Conference of the Australian Linguistic Society, 2013*, edited by L. Gawne and J. Vaughan, 311–334. Melbourne: Australian Linguistic Society
- Koch, H. 2013. “The reconstruction of kinship terminology in the Arandic languages of Australia.” In *Kinship systems: change and reconstruction*, edited by P. McConvell, I. Keen, and R. Hendery, 163–186. Salt Lake City: University of Utah Press.
- Loreto, V. and Steels, L. 2007. “Social dynamics: Emergence of language.” *Nature Physics*, 3(11): 758–760.
- Macknight, C. C., 2013. “Studying trepangers.” In *Macassan history and heritage: Journeys, encounters and influences*, edited by M. Clark and S. May, 19-40. Canberra: ANU E-Press.
- McConvell, P. 1990. “The linguistic prehistory of Australia: Opportunities for dialogue with archaeology.” *Australian Archaeology*, 31(1): 3-27.
- McConvell, P. 2012. “Omaha skewing in Australia: Overlays, dynamism and change.” In *Crow-Omaha: New light on a classic problem of kinship analysis*, edited by T. R. Trautmann and P. M. Whiteley, 243–260. Tucson: University of Arizona Press.
- McConvell, P. 2013. “Proto-Pama-Nyungan kinship and the AustKin project: Reconstructing proto-terms for ‘mother’s father’ and their transformations.” In *Kinship systems: change and reconstruction*, edited by P. McConvell, I. Keen, and R. Hendery, 192–216. Salt Lake City: University of Utah Press.
- McConvell, P. 2015a. “Language and culture history: the contribution of linguistic prehistory.” In *The Routledge handbook of language and culture*, 218–220. London: Routledge
- McConvell, P. 2015b. “Tabu: Austronesian Contact with North Queensland.” Presentation to Queensland Indigenous Languages Workshop. University of Queensland.
- McConvell, P. and C. Bower, 2011. “The prehistory and internal relationships of Australian languages.” *Language and linguistics compass*. 5(1): 19–32.
- McConvell, P. and L. Dousset, 2012. “Tracking the dynamics of kinship and social category terms with AustKin II.” In *Proceedings of the EACL 2012 Joint Workshop of LINGVIS and UNCLH*.

- Avignon: Society for Computational Linguistics. 98–107.
- McConvell, Patrick and Nicholas Evans, eds. 1997. *Archaeology and linguistics: Global perspectives on ancient Australia*. Melbourne: Oxford University Press.
- McConvell, P. and M. Ponsonnet. 2013. “Results and prospects in the study of semantic change: A review of from polysemy to semantic change (2008).” *Journal of Language Contact*, 6(1): 180–196.
- McNiven, Ian J., et al. 2006. “Mask Cave: Red-slipped pottery and the Australian-Papuan settlement of Zenadh Kes (Torres Strait).” *Archaeology in Oceania*, 41(2): 49–81
- Montemurro, M.A. et al. 2011. “Universal entropy of word ordering across linguistic families.” *PLoS ONE*, 6(5): p.e19875.
- Pagel, M., Q. D. Atkinson and A. Meade. 2007. “Frequency of word-use predicts rates of lexical evolution throughout Indo-European history.” *Nature*, 449(7163): 717–720.
- Pawley, Andrew, Robert Attenborough, Jack Golson and Robin Hide, eds. 2005. *Papuan pasts: Cultural, linguistic and biological histories of Papuan-speaking peoples*. Canberra: Pacific Linguistics.
- Pensalfini, R. 1997. *Jingulu grammar, dictionary, and texts*. PhD. thesis, MIT.
- Presner, T.S., D. Shepard and Y. Kawano 2014. “Thick mapping in the digital humanities.” In *HyperCities: thick mapping in the digital humanities*, edited by T. S. Presner, D. Shepard, and Y. Kawano, 44–65. Cambridge: Harvard University Press.
- Ross, M., 1992. “The sources of Austronesian lexical items in Tok Pisin.” *The language game: Papers in memory of Donald C. Laycock*, edited by T. Dutton et al., 361–384. Canberra: Pacific Linguistics.
- Ross, M., 2001. “Contact-induced change in Oceanic languages in north-west Melanesia.” In *Areal diffusion and genetic inheritance: problems in comparative linguistics*, edited by A. Y. Aikhenvald and R. M. W. Dixon, 134–166. Oxford: OUP.
- Ross, M. 2013. “Diagnosing contact processes from their outcomes: The importance of life stages.” *Journal of Language Contact*, 6(1): 5–47.
- Ross, M., A Pawley., and M. Osmond. 1998-2016. *The lexicon of Proto Oceanic*, volumes 1-5. Canberra: Pacific Linguistics.
- Sheppard, P. et al. 2015. “A Solomon sea interaction sphere?” In *The Lapita cultural complex in time and space: expansion routes, chronologies and typologies*, edited by C. Sand, S. Chiu, and N. Hogg, 63–80. Noumea: Institut d’archéologie de la Nouvelle-Calédonie et du Pacifique.
- Shnukal, A. 1983. “Torres Strait Creole: the growth of a new Torres Strait language.” *Aboriginal History*, 7(1/2): 173–185.
- Simpson, J. 2013. “Warumungu kinship over time.” In *Kinship systems: change and reconstruction*, edited by P. McConvell, I. Keen, and R. Hendery, 239–254. Salt Lake City: University of Utah Press.
- Skoglund, P. et al. 2016. “Genomic insights into the peopling of the Southwest Pacific” *Nature* 538: 510-27.
- Teaiwa, K. M. 2007. “South Asia down under: Popular kinship in Oceania.” *Cultural Dynamics*, 19(2–3): 193–232.
- Tochilin, C. et al. 2012. “Sourcing temper sands in ancient ceramics with U–Pb ages of detrital zircons: a southwest Pacific test case.” *Journal of Archaeological Science*, 39(7): 2583–2591. Urry, J. and M. Walsh. 1981. “The Lost “Macassar Language” of Northern Australia.” *Aboriginal History*, 5: 91. *number?*
- Van Coetsem, F., 1988. *Loan phonology and the two transfer types in language contact*, Dordrecht: Foris
- Van Coetsem, F., 2000. *A general and unified theory of the transmission process in language contact*,

Heidelberg: Winter.

White, P, C. Reepmeyer and G. Clark. 2014. "A Norfolk Island basalt adze from coastal New South Wales." *Australian Archaeology* 79(1): 131-136.

Zorc, R. D. 1986. Yolngu-Matha dictionary. Batchelor: School of Australian Linguistics.

Author biographies

Rachel Hendery is Associate Professor of Digital Humanities at Western Sydney University. As a linguist, she works on language contact and change, particularly in Australia and the Pacific, and how new digital tools and techniques allow us to research these in new ways. She is lead CI on the ARC project *Waves of Words: Mapping and Modelling Australia's Pacific Past*, and CI on the further projects *Howitt & Fison's Archive: Insights into Australian Aboriginal Language, Kinship and Culture*, and *Mapping Print; Charting Enlightenment*.

Patrick McConvell is a linguistic anthropologist with special interests in kinship and linguistic prehistory. He has taught anthropology at Charles Darwin and Griffith Universities, and now is an adjunct associate professor at The Australian National University and Western Sydney University. He has worked with Australian Aboriginal people especially in the north-central region of the Northern Territory, and the Kimberley and Pilbara of Western Australia. Recent publications are *Southern Anthropology – A History of Fison and Howitt's Kamilaroi and Kurnai* (Palgrave-MacMillan, 2015) with historian Helen Gardner, and *Skin, Kin and Clan: The Dynamics of Social Categories in Indigenous Australia* (ANU Press, 2018) edited with Piers Kelly and Sebastien Lacrampe.