



In the Dalabon language of Arnhem Land, the noun root *malk* can mean ‘place, country’, but also ‘season, weather’ as well as ‘place in a system’, e.g. one’s ‘skin’ in the overarching system of kin relations, or the point on a net where the support sticks are fixed. The verb root *wonan* basically means ‘hear, listen’ but is regularly extended to other types of non-visual perception, such as smelling, and to thought and consideration more generally. Combined with *malk*, it means ‘think about where to go, consider what to do next’. The generous polysynthetic nature of Dalabon — where *polysynthetic* denotes a type of language which can combine many elements together into a single verbal word to express what would take a sentence in English — gives us the word *ngurrhalmalkwonawoniyan*. I have chosen it to introduce this essay because of its ambiguity between ‘let’s listen, let’s attend carefully to this country, to this path’ and ‘let’s think about where to go next’.

Australia is a paradoxically appropriate place for the flowering of linguistic research we have seen here in the last few decades: a predominantly monolingual country with a deep multilingual past, located at the epicentre of the world’s linguistic diversity among trading partners speaking languages of the most varied types. During its first forty to fifty millennia, indigenous cultures developed a diverse mosaic of over three hundred languages in which high levels of multilingualism were the norm and

which evinced great interest in language in all its forms, leading to such ‘monuments to the human intellect’ as the initiation language Damin on Mornington Island that I will say more about below. But, in contrast to our neighbour Aotearoa, these languages are all but invisible, and inaudible, in the public sphere. We are at last witnessing long-overdue moves to introduce the study of indigenous languages into schools, though the states doing this — New South Wales leading the charge — are, paradoxically, among those in which the effects of centuries of linguistic dispossession have taken the heaviest toll.

A common objection to the introduction of indigenous languages in schools is their purported lack of utility — wouldn’t it be more useful to study Chinese, Japanese, Spanish etc.? These objections are simplistic. The human brain has evolved to be multilingual and readily absorbs the learning of multiple languages. Multilingualism is certainly the default human condition in terms of current worldwide demography, was arguably our primal human state if we extrapolate from the small groups of hunter-gatherers who are our best simulacrum of early social organisation, and is part of the long tradition of humanist scholarship both in Europe and elsewhere. So there is no need to choose — each new language you learn makes it easier to learn the next. Indeed, a case can be made that a supple training in one or

(above)  
Detail, recording  
the Kaytetye ‘Elder  
Sister’ sand story  
(p. 39).

more indigenous languages provides both the analytic sophistication and the hermeneutic subtlety to reinforce the study of whatever other language(s) one may study. A common and wistfully-expressed view of the place of Latin in traditional school curricula — that it teaches the student how to think, how to parse, how to be succinct — can be made with equal force for indigenous languages. Kayardild, the language I wrestled with for my PhD, weighs in with twenty cases to Latin's six, the same freedom of word order that classical poets could exploit, and a terseness that allows one to express something like '(watch out), lest it get away from the one belonging to your opposite-sex sibling' in a single word, *kularrinkarranmulanharranth*. I've used Kayardild as an example, but any reasonably well-documented Australian language contains enough grammatical complexities to wrinkle a Latin master's parsing brow for years.



But before returning to the topic of Australian languages in all their cultural wealth, let's back up to my earlier phrase 'epicentre of linguistic diversity'. These words are not chosen lightly. Of the world's roughly 7,000 languages, over a fifth are spoken in our region — some thousand on the island of New Guinea (both sides), 250–400 in Australia depending on the measure (and these are languages, not dialects — counting the latter sends the figure much higher), over 130 in Vanuatu (the world champion in Gross Linguistic Product at close to one language per 2,000 speakers). And among the world's top dozen countries measured by number of endemic languages, half are in our neighbourhood —

#1 Papua New Guinea, #2 Indonesia, #4 India, #5 Australia, #10 Philippines and #12 Vanuatu.<sup>2</sup> The sheer linguistic prodigality on the island of New Guinea alone is comparable to that of Eurasia as a whole, from Ireland to Japan, from Siberia to Sri Lanka — and this statement broadly holds up whether one counts the number of languages, the number of language families, or the amount of 'disparity' in language structures. Languages like Iau (in West Papua) with nine tones sit cheek by jowl with others with no tones at all, and the language with the largest sound inventory in the western Pacific (Yéli-Dnye on Rossel Island) is just a couple of hundred kilometres from that with the smallest, Rotokas on Bougainville Island.

This voluptuous linguistic landscape is one reason for the thriving linguistic scene in Australia, which got started when R.M.W. Dixon FAHA founded the Department of Linguistics in the (then) Faculties at the Australian National University, early in the 1970s. But I think that for many linguists working in Australia there are other more personal motives — a wish for a more authentic view of who we are in this part of the world, grounded in the intricate and diverse cultural products of fifty millennia of human occupation and the mosaic of world-views these have elaborated. Add to this the fact that so many non-indigenous Australians grow up with an aching sense of unconnectedness to their land, stemming from the invisibility and inaudibility of Aboriginal culture and the peremptory way its insights were briskly swept aside by the British colonisation process. This makes linguistic research — and one day, I hope, the broader cultural and educational awareness that grows from it — an opportunity to create a type of culture that so far we have failed to nourish in this country.<sup>3</sup>

I spent a lot of my childhood in the bush around Canberra, whether after school in the bush behind Campbell or on long camping trips. Nonetheless, I am probably typical of non-indigenous Australians in the shallowness of what I learned about my environment, and in the mismatch between my monoglot English upbringing and the inchoate feelings I held for my surrounds. In northern Australia, on the

(far left)

Pluto Bentinck,  
one of my  
Kayardild teachers.  
Mornington Island,  
1982.

PHOTO: NICHOLAS EVANS



other hand — a place where I have spent less time, and in a less formative period of life — almost every plant and bird now bears a vivid charge. Not only have I carefully been taught their names, in Dalabon or Bininj Kun-wok or other local languages, but also their uses, what their flowering says about the availability of food resources, and a whole rich panoply of myth.

(right)

Maggie Tukumba,  
my principal  
Dalabon teacher.

PHOTO: SARAH CUTFIELD



The web of life, in languages like this, is mirrored in the web of words, from different verbs for the distinct hopping gait of every different macropod species, male, female and child, to retriplied nouns for ecozones dominated by a particular plant (e.g. Kunwinjku *mi-djoh-djo-djo* 'mixed scrub with wattle, *acacia difficilis*, dominant' from *an-djoh* 'acacia *difficilis*'). This is mingled with a rich affective lexicon for the sensations and emotions the landscape brings out — words such as, from Dalabon, *karddulunghno* 'smell of first rains', or from Iwaidja, *angmarranguldin* 'change in environmental conditions, bringing back memories and inspire longings for an absent person or place through the recollection of the smell of the sea or of a dying bushfire as the wind turns.'

There is also the intriguing phenomenon of 'sign metonymies',<sup>4</sup> which signal the fact that one natural phenomenon is a guide in space or time to the presence of the other — e.g. in Gun-djeihmi *alyurr* denotes the Leichhardt's grasshopper (*Petaside ephipigera*), two herb species which it eats (*Pityrodia jamesii* and *Cleome viscosa*), and whose location is thus

the best way to track these grasshoppers down, and the lightning spirit, which starts to manifest itself in the first monsoonal storms at the same time as the herbs are ready for these grasshoppers to eat. At the time of the first lightning storms, Leichhardt's grasshopper is said to don its sumptuous orange and blue outfit and go looking for the lightning; local cave paintings depict lightning spirits with axes on their heads representing the grasshopper's antennae. Howard Morphy FASSA FAHA and Ian Keen<sup>5</sup> have described the central place in Yolngu symbolic thought held by *likan*, a word which literally means 'elbow' but extends to mean 'joint, connection' — close to what would be called *tropes* in the Western tradition — and the way that 'likan names' are used, in contexts of art and ceremony, to indicate more allusive readings to the culturally knowledgeable. Elsewhere in Australia distinct biota will be referred to as 'mates' or 'kin' on the basis of a number of shared characteristics.<sup>6</sup>

These examples don't just illustrate how learning an indigenous language brings with it a vast network of knowledge about the natural world. They also show the extent to which indigenous cultures were fascinated by



(far right)

*Alyurr*: Leichhardt's  
grasshopper, herb  
and lightning man.

PHOTOS: PETER COOKE  
(GRASSHOPPER); MURRAY  
GARDE (LIGHTNING MAN).

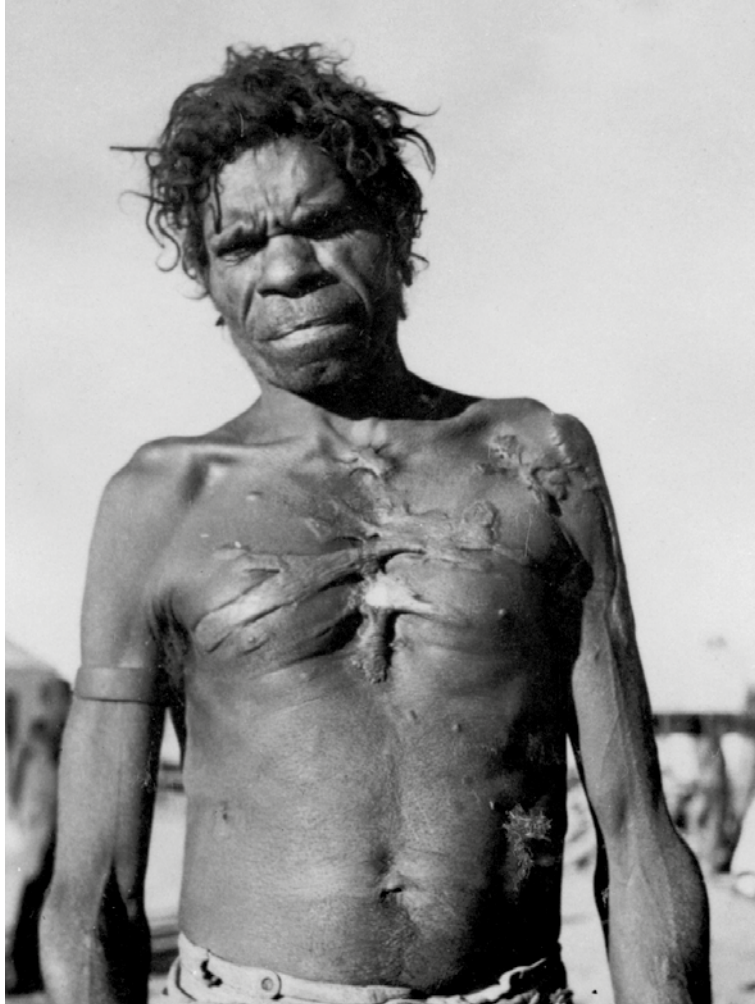
language and developed a range of metalinguistic terms (like *likan*), practices and products. Few aspects of indigenous culture better illustrate the intellectual sophistication of indigenous Australian traditions than some of the special auxiliary linguistic systems they created.<sup>7</sup> Many of these were linked to initiation rites — to make clear that the passage to adulthood was not just a matter of physical trials<sup>8</sup> and self-discipline, but also of attaining a new understanding of how language articulates with the world.

Take the problem of antonymy. Giving ‘up’ as the opposite of ‘down’ or ‘tall’ as the opposite of ‘short’ are trivial. But most semantic textbooks remain mute on the question of where antonymic oppositions stop — an errant omission in a world seeking to decompose all representation to binary code. What is the opposite of mother — father, or child? Or worse, of ‘red kangaroo’, or ‘countryman’, or ‘(s)he’? The antonym of ‘deaf’ is evident, but what about ‘see’?

The special register known as Jiliwirri,<sup>9</sup> learned by Warlpiri initiates, is as far as I know the only case in the world’s intellectual history of a thoroughgoing investigation of antonymy applied to the entire lexicon. To speak it, you must replace all lexical items (though not grammatical affixes other than pronouns) with their opposites. As the following example shows, to convey the proposition ‘I am sitting on the ground’, you use a Jiliwirri utterance which would translate literally into everyday Warlpiri as ‘someone else is standing in the sky’. Jiliwirri has been used to investigate antonymy in Warlpiri lexical semantics, including such non-obvious issues as whether the perception verbs ‘see’, ‘hear’ etc. have antonyms, and how one determines antonyms for natural species names like ‘red kangaroo’.

- 1a. *ngaju ka-rna walya-ngka nyina-mi*  
 I PRES-I ground-LOCATIVE sit-NONPAST  
 ‘I am sitting on the ground.’ (ordinary Warlpiri)
- 1b. *kari ka-ø nguru-ngka karri-mi*  
 other PRES-(s)he sky-LOCATIVE stand-NONPAST  
 ‘I am sitting on the ground.’ (Jiliwirri)

Even more spectacular is a special initiation register known as Damin,<sup>10</sup> which was taught to Lardil men on Mornington Island as part of their initiation as *warama* (second degree initiates).<sup>11</sup>



Damin is said to have been created by an ancestor known as Kaltharr (Yellow Trevally fish), and has a rich inventory of sounds, supposed to echo what ‘fish talk’ would sound like. In fact, its phoneme inventory is unique among the world’s languages and employs types of sound not found anywhere else, such as the ‘ingressive lateral fricative’ (phonetically written  $\text{ɬ}↓$  as in the word  $\text{ɬ}↓\text{i}$  ‘fish’), made like a Welsh *ll* (roughly *thl*) but breathing in. There are also a range of click sounds, like those found in Southern Africa.

Because grammatical affixes are simply taken over from everyday Lardil, it is only the lexical roots that display these special sounds, as can be illustrated by the following sentence equivalents from everyday Lardil (2a) and Damin (2b): Damin substitutes  $\text{ŋ}!aa$  for *ngada*, *didi* for *ji-* and  $\text{ɬ}↓\text{i}$  for *yak-*, but leaves the grammatical suffixes intact.

- 2a. *Ngada ji-thur yak-ur*  
 I eat-FUTURE fish-FUTURE.OBJECT  
 ‘I will eat fish.’
- 2b.  $\text{ŋ}!aa\ diidi\text{-}thur\ \text{ɬ}↓\text{i}\text{-}ngkur$

However exotic its phonetics, it is the semantic structure of Damin which represents a true tour-de-force in metalinguistic analysis. Since the time of Leibniz philosophers and semanticists in the Western intellectual tradition have been

(above)

Popgun, one of the Demiinkurlda or ‘Damin-possessors’.

PHOTO TAKEN AT THE MORNINGTON ISLAND MISSION BY NORMAN NELSON IN 1936.

seeking an ‘alphabet of human thought’ which would allow all meanings to be decomposed into a small stock of elements, a quest continued here in Australia through epic work by Anna Wierzbicka FASSA FAHA and Cliff Goddard FAHA, and their students. Damin comes close to achieving this goal — out of nowhere in terms of prior philosophical traditions, and without drawing on any tools of written logical notation. It maps the many thousand lexical items of everyday Lardil onto around 200 words by a combination of highly abstract semantics, extended chains stringing together meaning extensions,<sup>12</sup> paraphrase, and supplementation by hand signs.

Thus in the above example, *ŋ!aa* does not simply correspond to *ngada* ‘I’. Rather, it can denote any group including ego. Now everyday Lardil has eight ways of translating English ‘we’ — given by the three-dimensional binary matrix of ‘inclusive’ (i.e. we, including you) vs ‘exclusive’ (we, but not you), ‘dual’ (two) vs ‘plural’ (more than two) and ‘harmonic’ (referents in even-numbered generations with respect to each other, such as siblings, or grandkin) vs ‘disharmonic’ (odd-numbered generations such as parent and child or great-grandkin). This exuberant semantic specificity in the everyday language is mapped onto the sober, highly abstract Damin word *ŋ!aa* ‘I, we, here’, opposed to *ŋ!uu* ‘you, (s)he, they, there’. Integration with gesture is an important part of what makes communication possible in Damin — as well as ‘there’, *ŋ!uu* can also mean ‘north’, ‘south’, ‘east’ and ‘west’ in Damin. The distinction between these is indicated by pointing in the

attempts at semantic decomposition of verbal predicates which linguistic philosophers began experimenting with in the 1960s. Thus the Damin verb *didi* takes in, among many other correspondents, *jitha* ‘eat’, but also all actions producing a physical change on their object, such as *barrki* ‘chop’, *betha* ‘bite’, *bunbe* ‘shoot’, and *kele* ‘cut’. Another word *diidi*, which sounds similar but has a long vowel, includes all actions of motion and caused motion, such as *waa* ‘go’, *jatha* ‘enter’, *murrwa* ‘follow’, *jidma* ‘lift’, and *kirrkala* ‘put’. Sometimes the motion is to be understood metaphorically, such as a change in possession (*wutha* ‘give’, *wungi* ‘steal’), a transfer of information (*kangka* ‘speak’), or the movement of food from outside to inside the body (*jitha* ‘eat’). The net effect is to produce a totally indigenous analysis of the semantics of the entire vocabulary into a small number of elements, and Hale justifiably refers to Damin as a ‘monument to the human intellect’.<sup>13</sup> Elsewhere he has drawn attention to the fact that its association with rituals outlawed by the missionaries in power on Mornington Island meant that its transmission was interrupted well before the transmission of everyday Lardil, as well as to the invisibility of this achievement to the outside world:

The destruction of this intellectual treasure was carried out, for the most part, by people who were not aware of its existence, coming as they did from a culture in which wealth is physical and visible. Damin was not visible for them, and as far as they were concerned, the Lardil people had no wealth, apart from their land.<sup>14</sup>

ANY REASONABLY WELL-DOCUMENTED AUSTRALIAN LANGUAGE CONTAINS ENOUGH GRAMMATICAL COMPLEXITIES TO WRINKLE A LATIN MASTER’S PARSING BROW FOR YEARS.

appropriate direction while uttering the word — in the process giving a valuable insight into how a type of language functions in which the communicative load is more evenly distributed between speech and gesture.

As another example of how Damin semantics works, the rich particularity of verbs in the everyday language are mapped onto highly general designators in Damin, reminiscent of

The digital era is opening many possibilities for linguistic research. As Maggie Tukumba once remarked to me in Dalabon, on seeing a video we had made of her husband, the late George Jangawanga singing a song-cycle, *kahnjuhdeknolodjihminj!*, ‘new technology has arrived’.<sup>15</sup> One effect is simply to make it possible to capture so much more of the life of any given language, and its speakers. With economical





(above, left)

Recording the Kaytetye 'Elder Sister' sand story. Carol Thompson, Myfany Turpin and Tommy Thompson, near Artarre community, Northern Territory, July 2011.

PHOTO: JENNY GREEN

(above, right)

Tommy Thompson narrates the 'Elder Sister' story, near Artarre community, Northern Territory, July 2011.

VIDEO STILL:  
JENNY GREEN

equipment — a good digital sound-recorder and a video camera — we can now record hundreds of hours of speech, in ways that vividly bring to life the speakers' gestures, faces and other aspects of their verbal art. It is impossible to overstate the advantages of this accompanying visual record. For one thing, we 'hear' around 10% of speech with our eyes (google the 'McGurk Effect' if this is news to you). This means that even at the most basic level of transcription, our accuracy is improved when we can see what people are doing with their lips, tongue etc.

Then there is gesture. For most of human history, language has been multimodal, with speech indissolubly wedded to gesture, until it was 'reduced' to writing. Languages, and the way we use them for most of our lives, evolved in this multimodal crucible. I mentioned above how many of the words of Damin remain unclear in their meaning without gestural disambiguation. There are no longer any *Demiinkurlda* (Damin-possessors) left alive, so we are lucky that Ken Hale, linguist extraordinaire, recorded the language with such insight and phonetic accuracy but, however great he was as a linguist, he was very much a product of his time in focusing on the flow of sound alone. Two other investigators — artist and pilot Percy Tresize and anthropologist David McKnight — made movie recordings of Damin which will allow us to truly penetrate the workings of this system (a project that has yet to be undertaken) — for example,

by showing how the generic word  $\uparrow\downarrow i$  for 'fish' would be accompanied by simultaneous gestures that were different according to whether one meant a parrotfish or a sole, for example.

As another example of this speech-gesture integration, when I was working on Iwaidja I couldn't help feeling a little bit disappointed that it lacked certain structures I was used to finding in other Australian languages. To express the notion of instrument, for example, Kayardild has a rich set of case suffixes, whereas in Iwaidja you just plonk the word for the instrument next to the activity, e.g. 'he.hunted fish bark.torch' for 'he went out for fish using a bark torch'. It was only when I looked at a video recording of an Iwaidja story that I became aware that the speaker, Khaki Marrala, was making a holding gesture above his head at the very moment of saying 'bark torch' — an enlightening example of how far spoken language and gesture can be interwoven into a single expressive whole.

The rich possibilities of multimedia recording are finally putting the pieces of the scattered communicative act back together again. I'd long been interested in what 'multiple semiotic systems' can tell us, for example by drawing on the sorts of symbolism discussed in Nancy Munn's *Walbiri Iconography*, which puzzled me by presenting the same shared symbol in Warlpiri sand-drawing (e.g. three straight lines for both 'rain' and 'track') as I had encountered in the mysterious Kayardild polysemy 'foot, track, rain'

(right)

Elizabeth Marrkilyi Ellis filming *mirlpa* (sand story telling) with Jennifer Green and Inge Kral, Tjukurla, 2012.

PHOTO: INGE KRAL



for the word *jara* (seemingly based on the fact that, for trackers, rain erases the smudgy mess of old tracks and presents a fresh new surface). But such work suffered, of technological necessity, from being confined to static symbols rather than the dynamics of actual use. One of the most exciting lines of research here in recent years has been Jenny Green's<sup>16</sup> research on story-telling traditions in Central Australia, which make use of prepared ground, 'story wires' to mark the ground and leaves and other props to represent characters. Performances integrate gestures, strokes with the story wire to sketch schematised characters and places on the ground, songs, and vivid speech. Typically, Green captures this with two time-aligned video cameras, one mounted vertically above the emerging scene, and another focussed on the story teller's speech and gestures. More recently, work by Lizzie Marrkilyi Ellis,

Inge Kral, Jenny Green and Jane Simpson has begun to examine not just the verbal art of an accomplished Ngaanyatjarra storyteller like Ellis herself, but also the way it is being transposed into the modern technological setting by teenage girls adapting traditional sand-drawing techniques to touch screens.

New annotation software, like EUDICO Linguistic Annotation (ELAN), also makes it much easier to transcribe what you've recorded, by time-linking sound files, video files, and layers of transcription in a linguist-friendly way. Just a couple of decades ago, when we worked by playing back audio-tapes, we were very much the victim of what we expected to hear — it's natural to bracket out the little unlearned bits that you're not ready to process yet, and just write down the bits you recognise. Now, by offering a visual sound-trace at the same time as you listen,



there's nowhere to hide, and every bit of sound must be accounted for. Programs like ELAN are also revolutionising the way linguists make their discussions of language accountable to real data, by making it possible to search almost instantly through a whole transcribed corpus, or to link an example sentence to a sound file in a digital repository like PARADISEC (<http://www.paradisec.org.au/>) — a vital step in ensuring the verifiability of linguistic claims.

This leads to another promising avenue for future research, the use of linked digital files to build the equivalent of Talmudic or Koranic commentary, or of classical commentaries on Chinese texts.<sup>17</sup> The task of translating a text from an indigenous language is strewn with all the hermeneutic challenges familiar to classical philology, made even more difficult by the vast gulf in cultural assumptions and the lack, in almost all cases, of recorded commentary or versions of the same text. But it is becoming easier and easier to play back versions of key texts, interspersing commentary or alternative

languages. For a language like Greek, the *Thesaurus Linguae Graecae*, assembled in the mid 1970s, offers around 50 million words. Not only does this exhibit a rich and varied range of genres and authors, it also contains enough linguistic mass, so to speak, that we can answer most questions about the language which we would like to ask. Compare this to the situation with indigenous languages, or underdocumented languages from elsewhere in the world. For a relatively well-documented Australian language, we are usually lucky to have more than twenty or thirty hours of (currently) transcribed linguistic material — and taking the rule of thumb of around 10,000 words per hour of corpus,<sup>18</sup> this is a mere 200–300,000 words. A resourceful and hard-working PhD student writing their thesis on a previously undescribed language is doing well to transcribe 8–10 hours of material, i.e. 80–100,000 words. The Australian language with the largest corpus is probably Warlpiri, which has benefited from around sixty years of research by a star-studded cast, but even there

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versions, whether from the original speaker or another. Though we're not there yet, we are on the brink of developing software that will put this interpretive quest in the hands of young indigenous scholars wanting to explore their oral traditions in more depth, one that captures the whole philological process of interpretive dialogue with texts of the past, but now in oral form. Here again I would stress the analogies with how classical languages were studied. Another of the objections to enshrining the study of indigenous languages in the school curriculum is — 'what's the point of learning a language that there are so few people to talk it to?' But overvaluing talking (and writing), at the expense of listening (and reading), is a dangerous cultural imbalance that undercuts the patience and empathy that grow from interpretive philology.

A final development of the digital era which I'd like to mention concerns our need to build larger corpora for small, underdocumented

the total corpus is probably less than a million.<sup>19</sup> Figures like this demonstrate that our corpora for these languages occupy a very small piece of shelf-space in Borges' great library of Babel — a few slim volumes, as it were, and a handful of pamphlets. Yet time and again, during my fieldwork in Australia and Papua New Guinea, I have been impressed by the vastness of what people transmit, and create, in their languages.

At this technological moment it is becoming feasible to record around 500 hours of linguistic material in the course of a year or two's fieldwork, thanks to the miniaturisation, fidelity and portability of our recording devices. But transcribing it is another matter — we encounter the dreaded 'Transcription Bottleneck', with its tyrannical ratio of 100 hours of transcription time for a single hour of recorded material (on average). We will only begin to bring our knowledge of the languages of our region to the depth they merit when we can speed this up. At present the massive powers of machine



learning, being developed apace by tech giants like Google, can only work if trained on vast amounts of already-transcribed data, so they can't just be ported over to the study of small languages. We hit the Catch-22 that until we have more transcribed data we can't train the algorithms that would help us transcribe more data. But one of the initiatives of CoEDL — our new Australian Research Council-funded Centre of Excellence for the Dynamics of Language — is to develop a Transcription Acceleration Program (TAP). This aims to accelerate the process of transcription, through adept use of such methods as concentrating on the commonest collocations, sound-banking hundreds of occurrences of these across multiple speakers, and dynamically offering these to linguists transcribing texts in a way that allows the program to learn from the 'false positives' and 'false negatives' it offers. Our goal is not to completely mechanise transcription — which remains one of the most pleasurable and insight-generating experiences in the life of the field linguist — but to shift the balance between chore and discovery by taking care of the more predictable parts of this task with greater efficiency.

Through these examples I hope to have shown how linguistics continues its role as the most scientific of the humanities, and the most humanistic of the sciences, but with many new twists flowing from an ever-greater appreciation of the richness of indigenous languages on the one hand, and a quickening pace of technological advance on the other. Within Australia we have been most fortunate to see growing recognition of the importance of linguistic study, most recently through the welcome decision of the Australian Research Council to fund CoEDL. By bringing together linguists, psycholinguistics, anthropologists, computer scientists, evolutionary biologists and philosophers of language, we hope to forge a new approach to language that does justice to our extraordinarily diverse quarter of the logosphere.<sup>20</sup> One that at the same time melds the insights of traditional humanist scholarship — the hard-won understandings that can only be obtained through years of sharing people's lives through their language — with the

new lines of investigation we hope to open up through 'big data for small languages'.

Less than twenty of the continent's original languages are now being transmitted to children, pointing to a further great loss on top of the shocking losses we have already experienced. With unprecedented interest in the humanistic and scientific value of indigenous languages, and resources for recording and analysing them that were unthinkable even a decade ago, preservation of what remains becomes urgent. Few challenges for the humanities in our part of the world are as exciting, or engage as deeply with who we have been over fifty millennia, who we have failed to be over two centuries, and who we might be in the time to come. 'We' can be translated into Dalabon by many different prefixes, according to whether it is exclusive or inclusive, dual or plural, and my uses of 'we' in the preceding sentence deliberately take in many of these. In my title, I chose the inclusive plural form *ngûrrah-*. So: *ngûrrahmalkwonawoniyan!* I conclude by citing some further words from my teacher Maggie Tukumba, *Kenbo yilah-dulu- burlhkeyhwoyan, mak kaduluwanjingh, bah kadjahlng-ngongno kanh duluno, kanh drebuy njelng yilaye-yenjdjung*: 'Then we'll bring out the meaning of things, not just one idea, but all sorts of meanings, including the true subtleties of what we say.' ¶



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He has written comprehensive reference grammars of previously undescribed Australian languages (Kayardild, 1995 and Bininj Gun-wok, 2003), dictionaries of Kayardild (1992) and

Dalabon (2004, with Francesca Merlan and Maggie Tukumba), and edited or coedited ten books or special journal issues on a range of linguistic problems (language and archaeology, polysynthesis, reciprocal constructions, insubordination). His crossover book *Dying Words: Endangered Languages and What They Have to Tell Us* (2010) has been translated into French, German, Japanese, Korean and Chinese. He has served as an interpreter and anthropological consultant in several Aboriginal native title claims, and written background interpretations for a number of artists based on Mornington Island. Based at the Australian National University, he holds an ARC Laureate Professorship (Project: *The Wellsprings of Linguistic Diversity*) and directs CoEDL, the ARC Centre of Excellence for the Dynamics of Language.

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2. For details see Ch. 1 of Nicholas Evans, *Dying Words: Endangered Languages and What They Have to Tell Us* (Maldon: Wiley Blackwell, 2010).
3. Of course there were exceptions, like Lieutenant William Dawes, the only member of the First Fleet to make progress with the Sydney language, as so magnificently depicted in Kate Grenville's novel *The Lieutenant* (2008). But his abiding friendships with his teacher Patyegarang and other indigenous people led to his banishment. To commemorate the significance of the Patyegarang/Dawes dyad as a symbol of the deeply transformative power of language learning, CoEDL has established the Patji-Dawes award to honour outstanding language teachers — see <http://www.dynamicsoflanguage.edu.au/education-and-outreach/dawes-award/>. Also relevant here is Peter Sutton's thoughtful essay on friendships between anthropologists

and their indigenous teachers in his *Politics of Suffering* (2011).

4. See Nicholas Evans, 'Sign Metonymies and the Problem of Flora-Fauna Polysemy in Australian Linguistics', in *Boundary Rider. Essays in Honour of Geoffrey O'Grady*, ed. by D. Tryon and M. Walsh (Canberra: Pacific Linguistics, 1997), pp. 133–53.
5. Ian Keen, *Knowledge and Secrecy in an Aboriginal Religion* (Oxford: Clarendon Press, 1994); Howard Morphy, *Ancestral Connections* (Chicago: University of Chicago Press, 1991).
6. Athol Chase and John Von Sturmer, 'Anthropology and Botany: Turning over a New Leaf' in *Papers in Australian Linguistics No. 13; Contributions to Australian Linguistics*, ed. by Bruce Rigsby and Peter Sutton (Canberra: Pacific Linguistics, 1980).
7. I have been unable to source the phrase 'intellectual aristocrats of the primitive world', often attributed to Lévi-Strauss but without a traceable citation (see e.g. [http://austhrutime.com/intellectual\\_aristocrats.htm](http://austhrutime.com/intellectual_aristocrats.htm)). However, another quote of his applies well, with only slight modification: 'les Australiens, arriérés sur le plan économique, occupent une place si avancée par rapport au reste de l'humanité qu'il est nécessaire, pour comprendre les systèmes de règles élaborés par eux de façon consciente et réfléchie, de faire appel aux formes les plus raffinées des mathématiques modernes.' For 'mathématiques modernes', modern mathematics, I would substitute 'modern semantics'. This quotation is from Claude Lévi-Strauss, *Race et histoire* (Paris: Denoël Folios essais, 1952), pp. 48–9. I am grateful to Ian Keen, Nic Petersen and Maïa Ponsonnet for helping me (fruitlessly, as it transpired) to track down the original quote, and to Laurent Dousset for finding the substitute given here.
8. On Mornington Island, as over much of Australia, first-degree initiates are circumcised, while second-degree initiates are subincised by making a cut along and through the underside of the penis as far as the urethra, a bit like preparing a Kransky sausage for pan-frying. There are many anthropological theories about the significance of this ritual, but the Lardil themselves explain it simply by saying that Kaltharr the Yellow Trevally ancestor was himself subincised. I had the good fortune to have been circumcised at birth, and managed to talk my way out of undergoing the second trial by promising to obtain a second-degree initiation within my own culture (i.e. submitting my PhD) within a time frame agreed upon with senior Mornington men. The deadline worked.
9. Kenneth L. Hale, 'Notes on a Walpiri Tradition of Antonymy', in *Semantics*, ed. by D.D. Steinberg and L.A. Jakobovits (Cambridge: Cambridge University Press, 1971), pp. 472–82.



10. More properly transcribed as Demiin, literally 'that by means of which one asks', i.e. 'means of enquiry', but I use the transcription Damin because of its wider currency in the literature.
11. Kenneth L. Hale and David Nash, 'Damin and Lardil Phonotactics', in *Boundary Rider: Essays in Honour of Geoffrey O'Grady*, ed. by Darrell Tryon and Michael Walsh (Canberra: Pacific Linguistics, 1997), pp. 247–59; David McKnight, *People, Countries and the Rainbow Serpent* (Oxford: Oxford University Press, 1999).
12. Nicholas Evans, 'Multiple Semiotic Systems, Hyperpolysemy, and the Reconstruction of Semantic Change in Australian Languages' in *Diachrony within Synchrony*, ed. by Ünter Kellerman and Michael Morrissey (Bern: Peter Lang Verlag, 1992), pp. 475–508.
13. Kenneth L. Hale, 'The Logic of Damin Kinship Terminology' (Appendix by Ellen Woolford), in *Languages of Kinship in Aboriginal Australia*, ed. by Jeffrey Heath, F. Merlan and A. Rumsey, Oceania Linguistic Monographs 24 (Oceania, University of Sydney, 1982), p. 32.
14. Kenneth L. Hale, 'On Endangered Languages and the Importance of Linguistic Diversity', in *Endangered Languages: Current Issues and Future Prospects*, ed. by Lenore A. Grenoble and Lindsay Whaley (Cambridge: Cambridge University Press, 1998), pp. 192–216.
15. Her coinage here is formed by wrapping the Dalabon affixal sequence *kah-...-minj* 'it has become' around the imported words *new* (as Dalabon *njuh*) and technology (as Dalabon *deknolodjih*; in both cases the *h* is a glottal stop as between the two parts of *oh-oh!*).
16. Jennifer Green, *Drawn From the Ground: Sound, Sign and Inscription in Central Australian Sand Stories* (Cambridge: Cambridge University Press, 2014).
17. Nicholas Evans and Hans-Jürgen Sasse, 'Searching for Meaning in the Library of Babel: Field Semantics and Problems of Digital Archiving', in *Proceedings of the Paradisec Workshop on Digital Archiving* (2004), ed. by Linda Barwick and Jane Simpson. Online publication available at [http://www.paradisec.org.au/EvansSasse\\_paper\\_rev1.pdf](http://www.paradisec.org.au/EvansSasse_paper_rev1.pdf) (also: <http://ses.library.usyd.edu.au/handle/2123/1509>).
18. This figure is from Gary Simons, 'The Rise of Documentary Linguistics and a New Kind of Corpus' (Manila: 5<sup>th</sup> National Natural Language Symposium, De La Salle University, 2008), based on estimated speaking speeds of 100–200 words per minute; a less generous figure of 4,000 words per hour of spoken corpus comes from the Chintang corpus. Balthasar Bickel and Fernando Zuñiga, 'The "word" in polysynthetic languages: phonological and syntactic challenges', in *The Oxford Handbook of Polysynthesis*, ed. by Michael Fortescue, Marianne Mithun and Nicholas Evans (Oxford: Oxford University Press, forthcoming) report around a million orthographic words from 258 hours of transcriptions.
19. I am grateful for David Nash and Mary Laughren for discussions of how much material we have here. The estimate of under a million words — probably 950,000 — is based on there being around 100 hours of transcribed material from Ken Hale's work, and another 30 hours transcribed material produced inside the Warlpiri schools program (at 5,000 words/hr average, giving around 650,000 words), plus 142,000 words written/composed in Warlpiri, a further 136,000 for the Warlpiri Bible translation, and another 10,000 words of further material, such as the bilingual 'Warlpiri Doors' material and the bilingual texts in Peggy Rockman Napaljarri and Lee Cataldi, *Yimikirli, Warlpiri Dreamings and Histories: Newly Recorded Stories from the Aboriginal Elders of Central Australia* (San Francisco: Harper Collins, 1994). Taken together this comprises 938,000 words; this could be expanded to a million relatively straightforwardly by adding transcriptions of the 5-minutes per day, 5-days per week ABC news in Warlpiri over the last three years, and transcribing Warlpiri subtitles to a range of video material, but so far this is a task for the future.
20. The useful term logosphere was coined by the American linguist Michael Krauss: just as the 'biosphere' is the totality of all species of life and all ecological links on earth, the logosphere is the whole vast realm of the world's words, the languages that they build, and the links between them.