

**POTTER  
INTER-  
DISCIPLINARY  
FORUM**

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INTER-  
DISCIPLINARY  
FORUM**

**Language**

## Language

Published by the Ian Potter Museum of Art following the event Language: Interdisciplinary Public Forum, held at the Old Quad on 19 October 2019. The forum was developed and presented in collaboration with the Centre of Visual Art, University of Melbourne: <https://art-museum.unimelb.edu.au/events/language>.

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Edited by Dr Kyla McFarlane, Senior Academic Programs Curator, Museums & Collections

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Ian Potter Museum of Art  
University of Melbourne  
Victoria 3010, Australia  
[potter-info@unimelb.edu.au](mailto:potter-info@unimelb.edu.au)  
[www.art-museum.unimelb.edu.au](http://www.art-museum.unimelb.edu.au)

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Fayen d'Evie and Benjamin Hancock  
*Essays in Vibrational Poetics // ~ ~ //*  
*Typographic Notes* (detail) 2021  
Photographs: Gregory Lorenzutti

## Contents

- 5 Introduction
- 7 One Language: A Step Towards 'Tomorrow Australia'
- 11 Apmere Angkentye-kenhe (a Place for Language) in Mparntwe  
Beth Sometimes, Amelia Kngwarraye Turner and Shirley Kngwarraye Turner
- 18 Visible Talk: Looking at Australian Indigenous Sign Languages  
Jennifer Green
- 27 Essays in Vibrational Poetics // ~ ~ //  
Typographic Notes  
Fayen d'Evie and Benjamin Hancock
- 38 Language Conflict in Belgium: Falling Apart to Stick Together?  
John Hajek
- 43 The Stasi and the Secret Language of Power  
Alison Lewis
- 49 What Might Be Obvious to Me May Not Be Obvious to Others  
Sam Petersen
- 55 Creativity, Machine and Poetry  
Jey Han Lau
- 60 Animal Communication and Language  
Mark A Elgar
- 65 Contributor Biographies



Apmere Angkentye-kenhe language blocks. Photograph by Beth Sometimes

## Introduction

Bringing together visual artists, performers and researchers from various disciplines, the Ian Potter Museum of Art's interdisciplinary public forums propose art-making as a form of knowledge creation, alongside other academic fields of inquiry. Each forum in this ongoing series seeks to address a pressing theme of our time from interdisciplinary perspectives, presenting these to a broad audience.

The series is a direct outcome of work by the Potter's Academic Champions Committee (ACC), a group of academics from various disciplines that meets regularly to discuss potential intersections between the Potter's programs and faculty teaching, research and engagement. This collaboration with academic colleagues and the creative community reflects the opportunity afforded by our university art museum—its place in the academy, its connections to history and its relationship with living artists. Held on 19 October 2019 at the Old Quad on the university's Parkville campus, our second forum engaged with the theme of language, in the UNESCO Year of Indigenous Languages. Contributors to the forum included Arrernte cultural leaders and experts in Indigenous sign languages, computing and information systems, language and linguistics, bioscience and more. Two creative contributions were commissioned for the forum: *What Might Be Obvious to Me May Not Be Obvious to Others*, a performance lecture by artist Sam Petersen, and an issue of *Essay in Vibrational Poetics*, part of a series of performed publications by Faye d'Evie and Benjamin Hancock.

The contributions in this publication follow the order of the event, which began with an expansive morning session on Indigenous languages of this continent and closed with Mark A Elgar, Professor of Evolutionary Biology and Animal Behaviour from the University of Melbourne, posing the question: 'Do animals have language?'

Brought together more than a year after the forum, several of the assembled texts update research findings and reflections presented on the day, while others take a different form. We extend our thanks to the many forum participants who have enthusiastically contributed to this outcome. As a long-term record of the event, it is intended to capture the spirit of its creative and research contributions and to reach new audiences.

Language: Interdisciplinary Public Forum was developed by Dr Kyla McFarlane, Senior Academic Programs Curator, Museums & Collections, in collaboration with ACC member Dr Danny Butt, Associate Director (Research), Victorian College of the Arts, Faculty of Fine Arts and Music, and Dr Suzanne Fraser, Coordinator, Centre of Visual Art (CoVA), University of Melbourne. Presented in collaboration with CoVA, the forum was a key event in the Potter's Inside Out program, aimed at shifting the audience experience by exploring the artistic opportunities that exist both inside and outside our galleries. This program was generously supported by Peter Jopling AM QC, Andy Zhang and Calvin Huang.

The full program and recorded sessions for this public forum can be viewed at <https://art-museum.unimelb.edu.au/events/language>.

## One Language: A Step Towards Tomorrow's Australia

Richard Frankland

Researchers: Dr Peter Lewis, Dr Melissa Razuki, and Gunditjimarara Alive coordinator Dr Sophie Couchman

I came up with a concept to try and draw us together as a nation because we're constantly not recognising the strengths of diversity. The idea was to initiate and introduce a lingua franca; that is, an auxiliary language to First Nations people. It doesn't mean we diminish the reclamation, revitalisation and maintenance of existing languages, or those that we're trying to reclaim. What it means is that we create an access point to the wealth and power of First Nations culture by having one language, one dance, one song.

Eventually, for this to be accessible to non-Aboriginal people, the idea is that we unravel the cultural tapestry of the nation, because it is not working. If it was working you wouldn't have 100 per cent of the youth in prisons in the Northern Territory being Aboriginal—you wouldn't have that if our cultural tapestry was working. You wouldn't have massive land issues. You wouldn't have chronic illnesses to the extent that they are. You wouldn't have the access point always being in the shape of the dominant culture.

We need to unravel that cultural tapestry and stitch it back together, and language is a pivotal part of that. There are pros and cons: a common language breaks down geographical barriers but it also endangers vulnerable languages. So, what, specifically, are the pros and cons?

### Pros

- A common language can break geographical barriers across Australia
- It creates a point of linguistic contact for all Australians, and within First Nations people

- It is a point of contact for other cultures; i.e., a tunnel, or funnel access point for other cultures into First Nations
- Nothing is more powerful than a fluently spoken common language to break down barriers of distrust, misunderstanding and apparent cultural incompatibilities
- A lingua franca can help and streamline communication in particular situations and in particular fields
- It is effective, but so long as one's native language remains the language one uses while communicating with one's own family and friends
- A First Nations lingua franca challenges the long assimilationist tradition, which opposes First Nations language and culture in education
- It is a neutral language and there are no power imbalances
- It increases knowledge about culture, beliefs and traditions of others
- When the young of any culture are taught to speak the lingua franca at an early age, they can become as proficient as any native speaker. In fact, if they are taught to speak more than just one or two languages, they can quite readily become more proficient than a native speaker of the lingua franca who knows only one language.

### **Cons**

- A common language can endanger vulnerable languages
- It puts precedence on one language; i.e., 'linguistic imperialism'
- It is constructed, and therefore lacks tradition
- It can risk monoculture and/or homogeneity
- The adoption of one natural language as the lingua franca implies that its native speakers are getting a free ride, benefitting without cost of the learning efforts of others

- The privilege given to one language fails to show equal respect for the various languages with which different portions of the population concerned identify
- The selection of a lingua franca is never neutral; it can be viewed as aggressive
- A lingua franca must be balanced with the need to speak in local languages and adapt to local cultures
- The native speakers gain greater opportunities as a result of competence in their native language becoming a more valuable asset.

### **Conclusion**

Early language adoption is critical, but established systems can work against this. For example, my language, Gunditjmarra, is taught at Haywood Secondary College, but it took a lot of effort and we had to get resources from outside the education system because of powerful lobbying for our languages not to be taught in schools. While we need to establish language curricula in schools and institutions, we also need renaming practices to broaden and familiarise language use. For example, Parks Victoria has agreed (though not in writing) to change the Latin names of plants to language names, so that we actually learn what they were used for. Things like this are simple. What's hard is to shift attitudes because people in powerful positions often see us as a problem, as opposed to a people facing a problem. So, we need to make sure organisations such as the Victorian Corporation for Aboriginal Languages are well resourced and well supported in a multitude of ways. That doesn't just mean money; it means resourced with people who have support and healthy attitudes.

Finally, we need many voices to change a national identity. It won't happen in the time of my generation but it will happen. We need to recognise that language is a key tool in reclaiming, rebuilding and reimagining a cultural authority that welcomes and honours First Nations people. What was, what is and what can be: we need to name

this type of venture, and I want to call it Tomorrow Australia. We need to be brave, we need to be courageous and we need to be visionary. We shouldn't be afraid of saying that in twenty years' time this is the Australia that we want. We need to plant seeds for our children and our children's children in the form of language, culture and the arts. The arts are a tool to do that. I think this is more about hope and opportunity than it is about a problem, and I think all of us, many of us, most of us, are on the same page. To me, I think Tomorrow Australia is inevitable and that we need to come together so that we can contribute. Language is a key tool in shaping who and what a nation can be.

[Apmere Angkentye-kenhe \(a Place for Language\) in Mparntwe](#)  
Beth Sometimes, Amelia Kngwarraye Turner and  
Shirley Kngwarraye Turner

Apmere Angkentye-kenhe began in 2017 as a one-off artist-led project exploring the potential for public conversations around Indigenous language to activate power shifts and unlearn certain colonial constructs. The huge amount of trust placed in the nascent idea by a group of Arrernte language custodians grew it into a more ambitious project, establishing a public place for teaching and activating the first language of the country where Alice Springs is now built. The social learning space opened for a third year of public activity in 2019. The energy harnessed in creating Apmere Angkentye-kenhe emerged from Arrernte people's inspiring history of resistance, cultural maintenance and survival work. It also relied on a complex collaboration to navigate settler colonial systems in present-day Central Australia.

*Awemele Itelaretyeke* (Listen to Understand) is an app produced in 2020 as a legacy of the project. It has been first and foremost created for the next generation of Arrernte people, to promote Arrernte language and knowledge in Mparntwe (Alice Springs). It houses all the audio recordings from the project: the 'fifty words everyone living in Mparntwe should know' and phrases, plus two audio tours, including the recent *Akertne-ntyeye awetyeke* (Listen from the top). To download for Android or iOS, search for 'Awemele Itelaretyeke' in the App Store or on Google Play.

At the Ian Potter Museum's Language forum, Arrernte educators and cultural leaders Shirley Kngwarraye Turner and Amelia Kngwarraye Turner and project artist Beth Sometimes shared their varied perspectives on current concerns for the project and reflected on its work so far. Images from the project are here accompanied by extracts from the reflections offered by Beth, Amelia and Shirley.

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**Beth:** Apmere Angkentye-kenhe takes place in that yellow shed there in Alice Springs, in Mparntwe, right in town *mpepe*, in the middle of town. To give a little background, that project came about when I was asking Arrernte people about an idea that I had to make a work around language. I'm an artist, and I was thinking about making a project around language that was going to be about multiple languages, but Arrernte people like Amelia and another woman who works on the project, Lowlee, said, 'Yeah, but we don't even have a place for Arrernte, right here in Mparntwe, Arrernte Country!' So, then the project really changed direction and became just about Arrernte language. As has been discussed, we live in a colonised country where English and whitefella culture has really taken over. So, a lot of the work that happens in Alice Springs is about training Aboriginal people to live better in that culture, but this little *apmere* is more training non-Arrernte people about living on Arrernte Country.

**Amelia:** Like Beth said, it's right in the middle of town because it's mainly about teaching non-Indigenous mob what language they can speak. But other mob are speaking their other languages, but not Arrernte, because, as you know, Arrernte is really hard to speak and also write. So, we started up that place. A couple of other ladies and myself used to do a session with the 'Fifty Word Challenge'. It's mainly for those workers in the government sector to come in when they have their lunch break, so they can learn just one phrase or word in Arrernte, which is good—and everybody really enjoyed it. Every person that I used to meet, that I used to teach, used to say a word in Arrernte, which is really good. And they'd say, 'Amelia, I'm still learning', which is really good. It's really helpful to see that non-Indigenous mob are learning our language, because we learn their language—this one I'm speaking. And it was really hard for me, too, to learn English, because English is a write down language and because we speak six or seven languages as well. When Beth came and approached me and my cousin I said, 'Why not?' They've got to learn our own language—Central Australian language, right in the middle of the heart of Australia: Mparntwe.



**Beth:** One of the things we created in the first year, in 2017, was a walking tour that starts at the shed and takes you around the little area of the CBD, and it's about teaching directions in Arrernte, and also other words and things you see that are important as you go around:

Lowlee: *Werte*, Lowlee here, I'm going to be your teacher today. *Ayenge awaye, ngenhe akaltyelanthyeyeke*. *Werte* means hello. *Ayenge* means me, and *awaye* means listen. *Ayenge awaye* (Listen to me). *Ayenge awaye. Unte apetyeme?* (You want to come along?) *Ingke impatye nhenhe araye* (Look at the footprints). *Kele ilerne alhetyekaye* (Okay, let's go).

So, every time you hear me say *ilerne alhetyeke*, that means we've got to keep walking. *Kele ilerne alhetyekaye iwerre nhenhele* (We'll keep walking on this road). *Iwerre* means road. *Iwerre nhenhele* means here, on this *iwerre nhenhele*, on this road. *Ingke impatye arrpenheke araye* (Look out for another footprint). *Thipe mapeke awaye* (Listen out for the birds).





**Shirley:** We want this *apmere angkentye*, for this language, because when I moved from a place called Santa Teresa—it's called Ltyentye Apurte, 70 kilometres east of Alice Springs—I learned, when I was eight, to speak English because I was a fluent Arrernte speaker. And when I first went to a preschool, I thought, for non-Aboriginal kids, that they could all understand my language, Arrernte. So, I was talking to these white kids too, and I was talking Arrernte to them at the preschool, and the teachers go, 'No, you've got to speak English here.' But it was really hard for me to speak English until I came to Alice Springs. And I'm now speaking English like what I'm talking now ... but still learning how to speak English. But talking more Arrernte back home with the kids.

*Apmere angkentye* is not only a place to sit down, it's like a home to us, and it's also for families to gather round. And because there's the main street, in the middle of the street there, everybody goes past—everybody just comes and sits down near the campfire there.



**Amelia:** That's Shirley and myself [in that photo], and this is all the government body workers that comes for our lunch-break sessions.

**Beth:** One of the new ideas that we're working on this year—it might be for next year [2020] now, but—is to invite groups, like the security companies that work in Alice Springs. They don't really have much training, or, from what you guys said, it doesn't feel like they have much training in where they are. A lot of them are migrants who come to live in Alice Springs and then get jobs working for security companies, and then they're in the public spaces of Alice Springs enforcing, basically, whitefella law onto people that are in the middle of town. And that can be really violent.

**Amelia:** We're going to do lessons with, like Beth said, the security persons there, and also trying to do it with the police as well—a bit like a cultural awareness program for both of those, the security mob and the police. Because as you know, there're a lot of young police that go up from interstate and don't really know how to approach an Elder person and how to talk to them. That's the one we're going to do, like a cultural awareness thing with them.

And also, as you see, there's a map of Alice Springs. It's just a map of where the places are. Right in the middle, where people are standing around, and there's two old men just telling the story to a visitor that just came into the centre there, to the house. And also, when you press the button, it just tells you the word of that place in Arrernte. Like Urlpatakeme: like that, yeah, that's Anzac Hill. Ankerre-ankerre is the Coolibah [Swamp]. Ntaripe is the [Heavitree] gap, when you go into the centre of Alice Springs. So, there are certain places around Alice Springs, some of them are sacred and some of them are not, so it's just to be aware when you're in Alice Springs. Those are some of the places that you probably will see.

**Beth:** Yeah, that map, I reckon, is a good little tool for social learning because you don't know who's going to walk into the shed any day. It could be some old Arrernte men, and in this picture these were, I think, young people doing a Tangentyere journalism training day or something. And they were walking past and coming in. And you just get different combinations of people, and they've got something they can touch and press and listen to that helps them talk about—they're talking about names. But what I often say to people about this project is, 'We're talking about language and learning language, but sometimes we're sort of secretly talking about power and who's being valued on Country'. And that kind of gives this other way to talk about it that's easier, in a way, than talking directly about power.



## Visible Talk: Looking at Australian Indigenous Sign Languages

Jennifer Green

When considering the richness and diversity of Australian Indigenous languages, perhaps the first thing that comes to mind are the many spoken languages. But less known is the fact that sign also holds an important place in the communication ecologies of Australia's First Peoples. Sign and speech together form part of the inheritance of the oldest continuous culture on earth.<sup>1</sup> Sign is mentioned in records that date back to early stages of colonisation, and descriptions of sign appear in the archival records of explorers, missionaries and ethnographers. One of the earliest, dating back to 1846, was made by the Lutheran missionary Clamor Wilhelm Schürmann, who observed that 'a great number of manual signs' were used without speech by the Indigenous peoples of Port Lincoln, in South Australia.<sup>2</sup> Some even discuss the possibility that the stencilled handshapes found in the ancient rock art of the Carnarvon Gorge in central Queensland are evidence of the use of distinctive handshapes for signing or signalling.<sup>3</sup>

The reasons for signing vary across the continent. Sign is used instead of speech when talking is either impractical or culturally inappropriate. Sign is employed in certain types of ceremonies in which speaking is disallowed, when giving directions, and for communication between people who are visible to each other yet out of ear-shot. Sign is useful when hunting (either because speaking could scare prey, or, in northern coastal regions, making a noise might attract crocodiles). In situations where speech could be regarded as impolite, sign provides an alternative that marks an attitude of respect and signals the circumspection required of certain topics. In some communities, sign is the main form of communication used by particular kin in the context of bereavement—used instead of speech during periods of 'sorry business'. In certain parts of Australia, widows traditionally observed speech bans during these periods of mourning (for up to a full year). Indigenous sign languages appear to have been most developed in regions such as Central Australia and western Cape York, where such restrictions on speech were in place.

To some extent sign may function as a lingua franca in contexts where multiple languages that are not mutually intelligible are spoken. Senior people, and in particular women, are the acknowledged experts, especially in some communities in Central Australia. That said, younger people sign as well, and new signs are developed to keep pace with sociocultural and environmental changes. For elderly people who are hearing- or speech-impaired, sign can become the most useful communicative resource available to them in later life. Whether Indigenous deaf people use traditional sign, or sign languages such as Auslan, is largely unexplored.



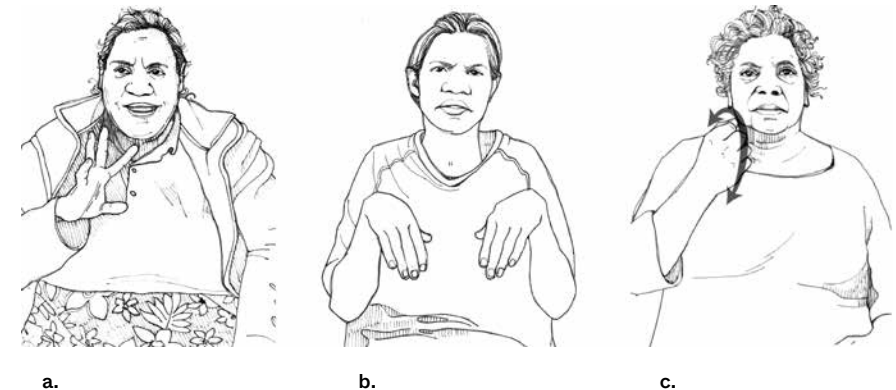
Some examples of 'new' Gurindji signs<sup>4</sup>

The question of how many Indigenous sign languages there are in Australia, and how distinct they are from each other, remains difficult to answer. Australian Indigenous sign languages vary in terms of their complexity and their relationships to the spoken languages of the communities in which they are found. Drawing on archival records and on fieldwork recordings made in the 1970s and 1980s, Adam Kendon provided some indication of the diversity of sign across Australia.<sup>5</sup> He found that the proportion of signs shared between groups is higher than that of shared spoken words. Geographically close groups have more in common in sign than geographically distant ones, regardless of the relationships between their spoken languages.

The extent of the lexical repertoires of sign also varies, and this is complicated by the reality that some knowledge of sign has been either lost or is under threat. The upper limit of the number of signs is probably around 1500 for the Warlpiri of Central Australia. In other communities the signs may number in the hundreds, and in others there may be only thirty or so signs in common daily use. Another aspect worth noting is that there is a high degree of polysemy in sign, where one sign form has many meanings that are distinguished by separate words in spoken languages. For example, in Warlpiri *kuturu* (fighting stick), *juka* (sugar) and *ngarlkirdi* (witchetty grub) may all be signed the same way.

As is the case with other sign languages of the world, the signs have standards of well-formedness and are distinguished by handshape, place of articulation or location of the sign, movement of the hand or hands, and orientation of the hand. Small differences in any of these parameters can result in signs that are minimally different to each other in form and yet have quite distinct meanings. Several signs may go together to form utterances that include only sign, or sign can be used together with other semiotic resources, including speech, gesture and graphic practices such as sand drawing.

The forms of many signs bear iconic relationships or resemblances to salient features of their referents. Signs for various animals may be based on representations of their tracks or movement, and those for particular plants on actions associated with them. One example is the Anmatyerr sign for *anakety*, a type of bush tomato (*Solanum chippendalei*), which is based on the action of cleaning out the bitter seeds from the fruit with a specially designed tool made of emu thigh bone. Another is the sign for kangaroo, in Anmatyerr and Warlpiri formed by opening and closing the hand in an action reminiscent of its hopping motion; in Gurindji and Kuninjku by holding both hands up, as if imitating the way a kangaroo holds its front legs; and in Ngaanyatjarra by a hand held in a fist and flexed from the wrist, towards and away from the body several times. In Balgo it is articulated with two extended fingers that are also used to replicate the tracks of the kangaroo on the sand in the practice of sand story narration.<sup>6</sup>



Three different signs for kangaroo:  
 a. Anmatyerr, Warlpiri (Central Australia) b. Gurindji (Victoria River district), Kuninjku (Arnhem Land) c. Ngaanyatjarra (Western Desert). Illustrations by Jennifer Taylor



Since the 1980s, an increase in community-based projects has led to a wide variety of publications about Indigenous languages, some of which focus on sign. In Central Australia a web-based dictionary titled *Iltyem-iltyem*, named after the Anmatyerr term for ‘using handsigns,’ is the first searchable online dictionary for any Australian Indigenous sign language.<sup>7</sup> *The Mudburra to English Dictionary* includes an extensive section dedicated to sign, with photos of sign actions and QR code links to 170 videos of signs.<sup>8</sup> A partnership with the Karungkarni Art Centre at Kalkaringi in the Victoria River district led to four sign posters, organised thematically and with embedded QR codes that link to short video clips. Kin sign posters in four languages from Maningrida in Arnhem Land similarly use QR code links to sign films.<sup>9</sup> Also from Arnhem Land is a lavishly illustrated handbook of Yolŋu Sign Language (YSL) that includes 500 of the most frequently used signs.<sup>10</sup> And sign has found its place in Indigenous media—a collaborative film project in the community of Balgo resulted in a visual dictionary of more than 300 Kukatja signs and a series of short films circulated online. Other sign films, including Gurindji ones, have been broadcast on Indigenous Community Television (ICTV).<sup>11</sup>

These educational resources are evidence of a growing momentum to keep these signing traditions strong and to pass the knowledge on to the next generations. As Margaret Kemarre Turner OAM has put it, speaking from Mparntwe (Alice Springs) in the heart of Australia, sign language ‘is the sacredness of the hand. It’s part of respect. When people use sign their spirit feels well.’<sup>12</sup>

Acknowledgements: I thank the many sign experts from Central and northern Australia who have shared their knowledge of these traditions and participated in sign language documentation projects over recent years. This research has been supported by ARC Fellowships (DE160100873 and IN150100018), by the Centre of Excellence for the Dynamics of Language (CoEDL) (CE140100041) and by RUIL (the Research Unit for Indigenous Language).

1. See <https://aiatsis.gov.au/explore/australias-first-peoples>. It is estimated that prior to colonisation there were at least 250 to 300 spoken languages; today, only twelve are regarded as ‘strong’ and as being transmitted inter-generationally. Department of Infrastructure, Transport, Regional Development and Communications, Australian Institute for Aboriginal and Torres Strait Islander Studies, and Australian National University, *National Indigenous Languages Report*, Australian Government, Canberra, 2020, <https://www.arts.gov.au/documents/national-indigenous-languages-report-document> (viewed 18 February 2021).
2. CW Schürmann, *The Aboriginal Tribes of Port Lincoln in South Australia: Their Mode of Life, Manners, Customs, Etc.* George Dehane, Adelaide, 1846, p. 7.
3. GL Walsh, ‘Mutilated Hands or Signal Stencils? A Consideration of Irregular Hand Stencils from Central Queensland’, *Australian Archaeology*, vol. 9, 1979, pp. 33–41, and *Carnarvon and Beyond*, Takarakka Nowan Kas Publications, Kenmore, Qld, 1999.
4. Edited from J Green, C Algy and F Meakins, with Karungkarni Art, *Takataka: Gurindji Sign Language Posters*, Batchelor Institute Press, Darwin, 2017, <http://batchelorpress.com> (viewed 16 February 2021).
5. Adam Kendon, chapter 12, *Sign Languages of Aboriginal Australia: Cultural, Semiotic and Communicative Perspectives*, Cambridge University Press, Cambridge, 1988.
6. E Jorgensen, A Phonological Analysis of Sign Used in a Western Desert Community, Honours thesis, The University of Melbourne, 2020, p. 6.
7. See <http://iltyemiltyem.com> (viewed 16 February 2021). Margaret Carew and Jennifer Green, ‘Making an Online Dictionary for Central Australian Sign Languages’, *Indigenous Sign Languages*, special issue of *Learning Communities: International Journal of Learning in Social Contexts*, no. 16, 2015, pp. 40–55.
8. R Green, J Green, D Osgarby, A Hamilton, F Meakins and R Pensalfini, *Mudburra to English Dictionary*, Aboriginal Studies Press, Canberra, 2019.

9. J Green M Carew and C Coleman, *Maningrida Kin Sign Posters*, Batchelor Press, Darwin, 2020, <http://batchelorpress.com> (viewed 16 February 2021).
10. B James, MCD Adone and EL Maypilama, *The Illustrated Handbook of Yolŋu Sign Language of North East Arnhem Land*, The Australian Book Connection, Melbourne, 2020.
11. See, for example, <https://vimeo.com/247087860/cee10ccdb8> and <https://ictv.com.au/video/item/6224> (viewed 17 February 2021).
12. Personal communication, Margaret Kemarre Turner to Jennifer Green, Mparntwe (Alice Springs), 16 November 2019.
13. Green, Carew and Coleman, *Maningrida Kin Sign Posters*.

### *Essays in Vibrational Poetics // ~ ~ // Typographic Notes*

Fayen d'Evie and Benjamin Hancock

Photography: Gregory Lorenzutti

For the Language forum, held on 19 October 2019, Fayen d'Evie and Benjamin Hancock presented a new issue of their *Essay in Vibrational Poetics*. {~} ... , ... ; ... was performed in the library at the Old Quad.

Originally conceived through a development with Aaron McPeake in the Morgue Gallery of Chelsea School of Art, London, the first issue was titled {~} ... , ... ; ... and performed at the opening weekend of *The National*, at the Art Gallery of New South Wales, Sydney, in March 2019. Framed as a serial publication, this collaborative work expands the perceptual space of publishing into embodied typography and sensorial texts.

{~} ... , ... ; ... offered a translation, through vibrational poetics, of a phrase carved in Linear A, the undeciphered ancient script of the Minoans, introduced to Fayen and Benjamin by Dr Brent Davis, lecturer in archaeology in the School of Historical and Philosophical Studies, University of Melbourne. Live description was provided by Mel Deerson on [www.mixlr.com/3ply](http://www.mixlr.com/3ply).

This selection of photographs, *Essays in Vibrational Poetics // ~ ~ // Typographic Notes 2020*, is an excerpt from a parallel indexing project, documenting the abstracted typographic letterforms deployed in each issue. The typographic notes related to the translation of the Linear A phrase were produced in collaboration with photographer Gregory Lorenzutti.













## Language Conflict in Belgium: Falling Apart to Stick Together?

John Hajek

Language has long played a critical role in the political development of Europe. With the rise, especially in the nineteenth century, of the concept of the nation-state, where state and people are one, a critical tool in the project of nation building has been the imposition of a national language, intended to forge a shared identity, to strengthen internal coherence and to dominate others. Such an objective, of course, comes at great cost to linguistic diversity, to communities and to individuals. It is the privileged who have power and who impose their language on others, but it is not the case that all citizens are happy to accept such a situation. The result is language conflict—a common feature of Europe past and present. However, Belgium stands out as a case apart; language conflict has long been an essential part of what it is to be Belgian and, with no end in sight, it provides an intriguing case study of how one European country struggles to deal with language as a national issue.

Belgium derives its name from its first-named inhabitants, the Belgae, one of the tribes of ancient Gaul. It is a relatively recent creation, straddling the divide between Germanic and Romance Europe. After the final defeat of Napoleon, in 1815, the pieces that were the staunchly Catholic Belgian territories were made part of the United Kingdom of the Netherlands, before a successful rebellion against Dutch Protestant domination in 1830. In 1831, a monarchy was established, with Leopold of Saxe-Coburg as king, and Belgium came to be seen as a useful buffer between France and Germany. While religion once united the Belgians, language has been more of a problem. Although Belgian elites, including the aristocracy, were in the nineteenth century overwhelmingly French-speaking, with an expectation that Belgium would be a French-speaking nation, the reality has always been more complicated. The challenge for these elites is that most Belgians have never been French-speaking by birth.



Belgium is linguistically and culturally divided. Traditionally rural and conservative, Flanders forms the northern half of Belgium and is inhabited by the Dutch-speaking Flemish. Wallonia, the historic economic centre of the country, forms the south and is French-speaking. In the middle is Brussels—just on the Flemish side of the internal divide but since the nineteenth century a largely French-speaking city; today it is the only officially bilingual part of the country. In East Belgium we find a small sliver of German-speaking territory.

Today, the general estimate is that 60 per cent of Belgians are Dutch-speaking, about 40 per cent are French-speaking and less than 1 per cent German-speaking. At the same time, the economic balance of the country has reversed: modern Flanders is wealthy and post-industrialised, while Wallonia has never recovered from the late-twentieth-century loss of heavy industry that once drove its fortunes. It now depends partly on financial transfers from the much richer and resentful north. The national motto of Belgium, ‘Strength through unity’, is somewhat ironic; economic fortunes aside, the country has lived in almost perpetual language-related tension, as the Flemish have battled for language rights and equal status within Belgium. Resentment against perceived discrimination in favour of Francophone elites and their language has led to repeated political crises, national governments falling over language issues and long periods of no government as the Flemish and the French struggle to come together. Since neither side can rule without the other, the only solution involves politicians from across the language divide addressing drawn out crises through delicate compromise. The result is a striking national deunification in slow motion, as Belgium has moved from a single unitary state to hyper-decentralised federalism in favour of the three language communities (Dutch, French and German) that govern, in a manner of speaking, territories defined by language borders. Lots of sticking points and sensitivities remain, but the Belgian solution to language conflict is territorial linguistic separation. In Flanders you are only legally entitled to services and schooling in Dutch, in Wallonia only in French. Brussels, the national capital, is the one exception: here you can use French or Dutch, even though its population is 85 per cent French-speaking.

So how does territorial language separation work in practice? As a Belgian train travels from Flemish Antwerp to Walloon Charleroi, the language of the announcements changes accordingly: first we hear Dutch in Flanders, then a mix of French/Dutch in Brussels, and briefly again Dutch, as it moves through a sliver of Flanders, before changing to French on crossing into Wallonia before reaching Charleroi.

As postwar Brussels grew, French speakers moved farther out—across the municipal border into villages in historically Dutch-speaking Flanders. But why would a middle-class Francophone from Brussels now living in a dormitory suburb want to learn Dutch? Flemish authorities insist they must use Dutch, while French speakers insist on French. The reaction on the part of the Flemish, ever anxious about the spread of French, is predictable: ‘They see [Flemish] Halle as some kind of extension of Brussels’; ‘Very little willingness to learn Dutch’; ‘We ask people to integrate ... demand that the street signs are only in Dutch ... And we have an official who checks up on it all. It’s perfectly normal, I think’<sup>1</sup>

Francophones who have, through grudging compromise, retained limited language rights in some parts of the ring around Brussels are often mystified by this insistence on Dutch:

French-speaking Sylvia Boigelot is still upset that in 2006, her father’s funeral, in the northern suburb of Vilvoorde [in Halle], was in Dutch, in accordance with a local ordinance that all church services be in the language. ‘There were people who had known him all his life who couldn’t understand a word’, she says. ‘And it happened with my grandmother, too’<sup>2</sup>

People’s memories are long and sensitivities remain high. Political parties have long split according to language lines. It’s no wonder that Belgium holds the world record for the number of days (541 in 2010–11) without a national government, as politicians struggled to agree not just on language issues but on how to manage the country. Parallel radio, television, press and music are also the norm. Even Belgian entries into the Eurovision Song Contest have to deal

delicately with language. National Dutch- and French-language television broadcasters take turns to choose and present Belgium's entry. For decades they alternated Dutch and French songs, before sending artificial languages that no-one speaks. More recently, songs in English—another grudging compromise—have become the norm. Protests against perceived language bias, such as vandalising of bilingual signs, are common. When the Brussels metro was accused by Flemish nationalists of playing more songs in French than in Dutch, it pulled both languages and stuck to songs in English, Italian and Spanish.

So where to now for Belgium? Language issues will always be part of the Belgian question—and while many Belgians are bored by it all, for outsiders Belgium is a country of endless fascination.

1. Jon Henley, 'Bye Bye Belgium?' *The Guardian* (UK), 13 November 2007, <https://www.theguardian.com/g2/story/0,,2209988,00.html> (viewed 7 February 2021).
2. John W Millar, 'Pardon My French: Belgians Just Don't Speak the Same Language,' *Wall Street Journal*, 11 June 2010, <https://www.wsj.com/articles/SB10001424052748704312104575298613598792860> (viewed 7 February 2021).

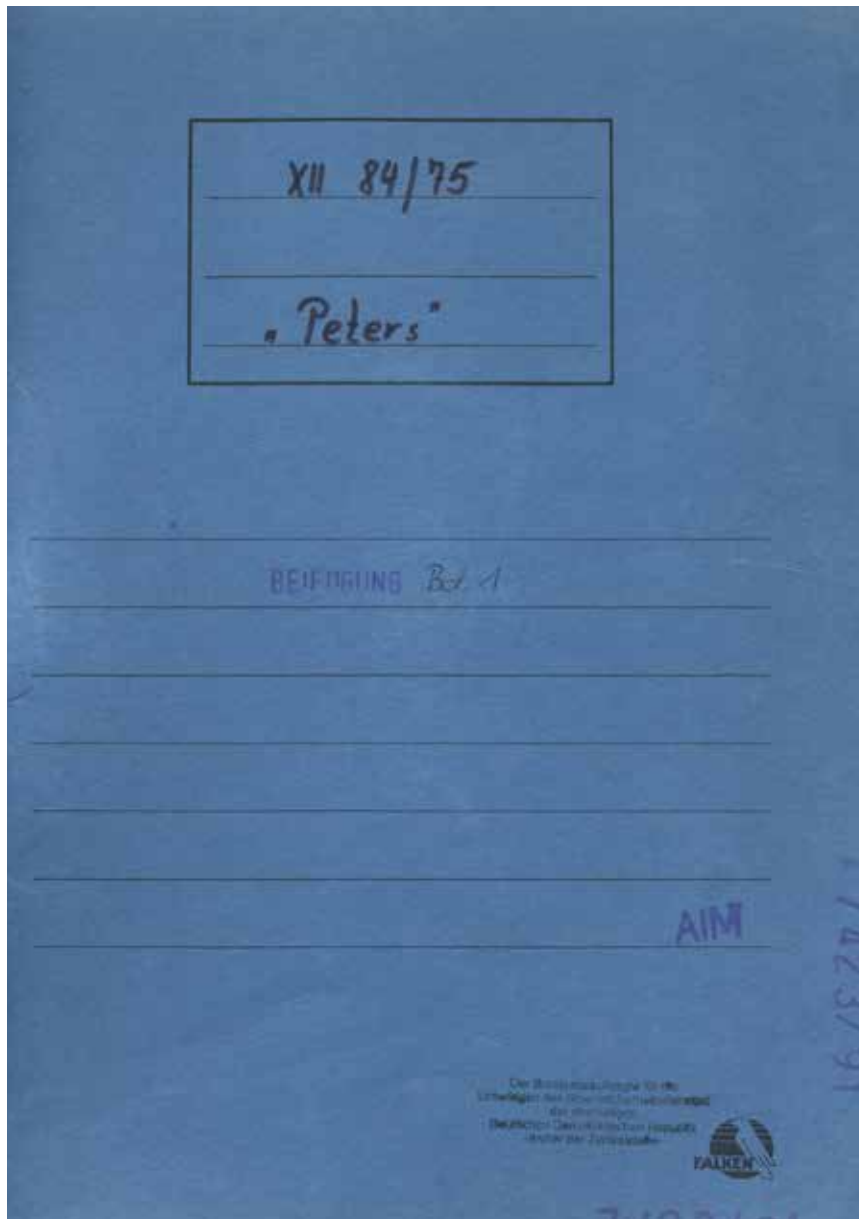
## The Stasi and the Secret Language of Power

Alison Lewis

All modern bureaucracies invent their own terminology, which is often impenetrable to outsiders, and security agencies are no exception. On both sides of the Cold War, secret service outfits developed their own unique and chilling language to describe their reality, which suggests language was itself a crucial secret weapon on the frontline of the Cold War. In my years of foraging through the declassified secret police archives of the East German Stasi, I have found the files to be a deeply disturbing record of the power of language and its entanglement in repressive, authoritarian systems of surveillance and control. In this essay I explore the insidious ways in which the Stasi perpetrated violence on its targets with *words*. To illustrate this, I will draw on the censorship of the 1981 novel *Flight of Ashes* (*Flugasche*), by writer Monika Maron (1941–).

The East German Ministry for State Security, or Stasi, we now know, was a gargantuan secret police apparatus that wielded unchecked power over its citizenry for the almost forty years of its existence.<sup>1</sup> Despite relying on pre-digital methods, the Stasi amassed the largest web of secret informers in the Eastern bloc, performing mostly human-to-human surveillance of persons deemed security threats. Not content to just observe, the Stasi took a proactive approach to national security and tried to prevent opposition emerging by playing a part not dissimilar to George Orwell's Thought Police.<sup>2</sup> The Stasi policed public opinion and documented deviance and dissent through endless stacks of files. In the exhaustive dossiers compiled, it categorised citizens in security language, framing them in ideological Cold War terms. Above all, through its classifying and normalising practices, the Stasi became complicit in creating the very kinds of deviance it sought to crush.

The Stasi's particular use of language is a stark reminder of the very real ways in which Eastern bloc communism relied on a secret language, which was normalised and reproduced by all echelons of the party apparatus. Language was the bedrock of its security operations. The language of bureaucracy was not merely the medium for recording



Cover of Stasi file of informer Sascha Anderson, a notorious poet in the East German underground, who reported on readings attended by Maron.

BStU, MfS, AIM, file 7423/91, addendum, vol. 1A

information about suspects. It did far more than this: it performed actions through its words by virtue of their being embedded in security contexts that were highly volatile. As the Copenhagen Peace Studies group acknowledges, drawing on the work of linguists JL Austin and John R Searle, there is a strong relationship between utterance and its impact.<sup>3</sup> In the words of Austin, ‘to say something is to *do* something.’<sup>4</sup> Through its language the Stasi said and did many things with words, most of them unpleasant and life-changing.

Nothing seems truer than this axiom concerning the Stasi’s approach to its suspects. Each personal file, even when the suspect was not found guilty of a political crime, performed interventions in that person’s life. Saying so often made it true, at least in the minds of Stasi functionaries, and could turn an innocent target into a dissident, forcing them into exile. Some aspects of files were classificatory, others were more interventionist, with lasting real-world physical, psychological and existential effects.

What the Stasi effectively did was to ‘securitise’ people through its deployment of language. The Stasi constructed its objects as security threats and made them into discursive things that warranted exceptional punitive treatment.<sup>5</sup> The Stasi’s security language was a mixture of military and bureaucratic language, much of which relied on euphemisms, or what Jens Gieseke calls a ‘language-hygiene program.’<sup>6</sup> Stasi used aggressive militarised terms such as *Staatsfeind* (enemy of the state) and *feindlich-negatives Element* (hostile-negative element), and commonly associated verbs were to isolate, combat, crush, neutralise and destroy. This terminology was couched in a wooden bureaucratic language that hid its pernicious intentions beneath an overwhelming volume of banalities.<sup>7</sup>

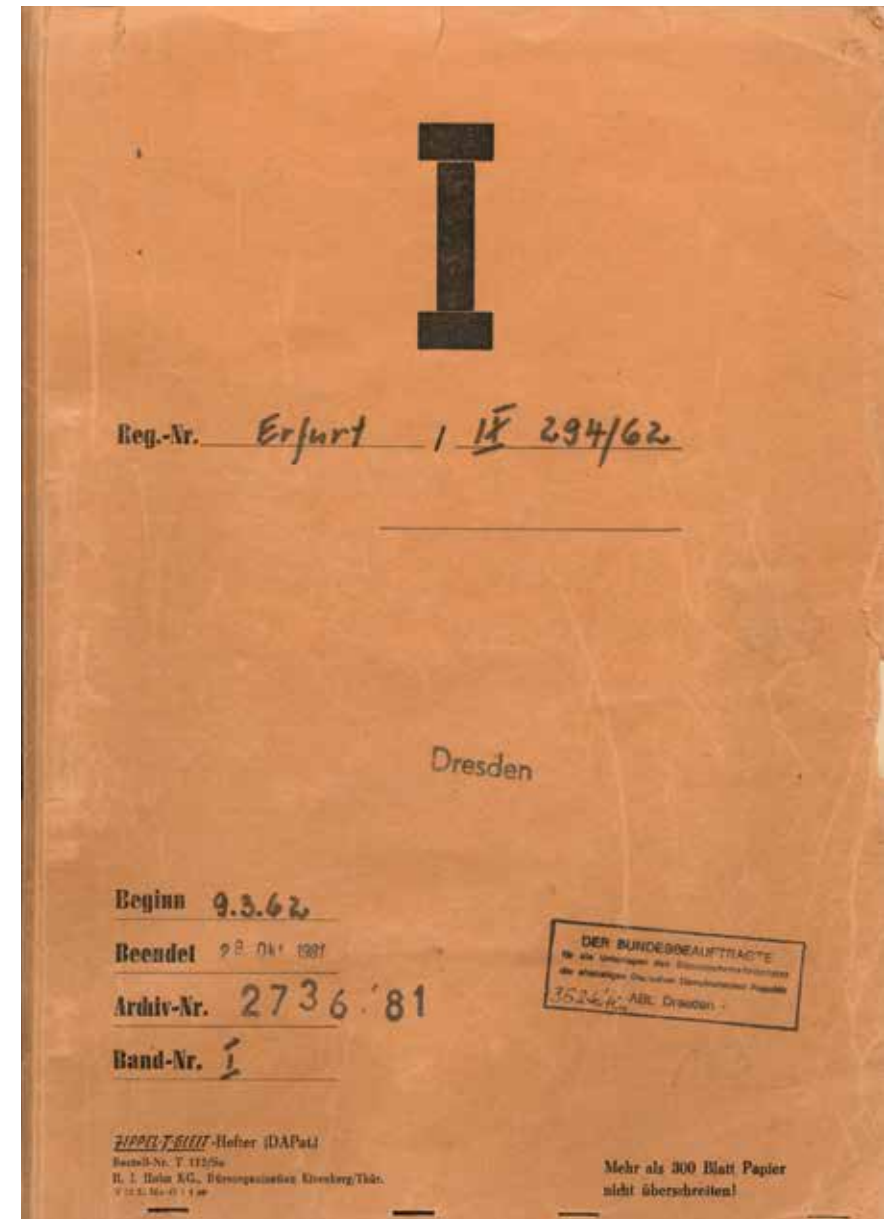
The Stasi coined a terrible name for this: *Zersetzung*. It was derived from chemistry, where it means corroding or decomposing a compound, and military contexts, where it is used to denote sedition (*Wehrkraftzersetzung*) in the Third Reich.<sup>8</sup> In the Stasi’s case it could involve anything from psychological warfare, intimidation, harassment, undermining professional integrity and reputations to smear campaigns and disinformation.<sup>9</sup> Some of the most worryingly ‘normal’ forms of *Zersetzung* for Western eyes were Stasi campaigns to stymie



the publication of literary works and to isolate and intimidate their writers. In these campaigns, language played a pivotal role, as I will illustrate briefly by way of the example of Monika Maron.

Soon after Maron commenced her first novel about environmental pollution in the town of Bitterfeld, the Stasi opened an operation (*Operativer Vorgang*) on her on 12 February 1978. Also of concern was the fact that Maron was well connected to so-called 'hostile-negative circles' in the East and West. Five months later, on 7 July 1978, the Stasi voiced its concerns that the book was about to go into publication. It decided to intervene in the censorship process and commissioned its own internal assessment of the book from Stasi informant (IM) 'Uwe'. Also a writer, Uwe Berger penned a damning peer review of *Flight of Ashes*.<sup>10</sup> In it he declared that the novel 'was used to defame and reject the system of real socialism, to attack the Party and its leaders, the social policies of the Party'.<sup>11</sup> So damaging was his report that the novel was banned, prompting her to seek out a West German publisher. Over the next eight years, Maron went into semi-exile in West Germany, unable to publish a word in the East until 1987.

Uwe's spiteful review had devastating long-lasting consequences for Maron, and was a life-changing event. Her security file, which continued to demonise her as a troublemaker, haunted her until the collapse of the regime. The Stasi persisted in seeing in her a 'hostile-negative element'. Her case thus serves to illustrate the performative power of its security language to categorise, demonise and securitise writers in significant ways. For the Stasi there was a very direct connection between utterance and its impact, even though Maron was ultimately able to withstand the regime's censorship by escaping to West Germany under a special arrangement. Were it not for the sudden fall of the Berlin Wall in 1989, she would undoubtedly have felt the personal effects far longer.



Cover of Stasi file of informant Paul Gratzik, a playwright and later member of the same underground circles as Maron. BSTU, MfS, BV Dresden, AIM, file 2736/81, vol. I/1A

1. Jens Gieseke, *The History of the Stasi: East Germany's Secret Police 1945–1990*, trans. David Burnett, Berghahn Books, New York and Oxford, 2014, p. 82.
2. *ibid.*, p. 100, for more on the ‘focal-point principle’ adopted in prioritising secret policing certain areas or institutions only.
3. Barry Buzan, Ole Waever and Jaap de Wilde, *Security: A New Framework for Analysis*, Lynne Rienner Publishers, Boulder and London, 1998, p. 8.
4. JL Austin, *How to Do Things with Words*, 2nd edn, Harvard University Press, Harvard, 1975, p. 12.
5. *ibid.*, p. 5.
6. Gieseke, p. 79.
7. Wolf Biermann, ‘Tiefer als unter die Haut’, in his *Der Sturz des Dädalus*, Kiepenheuer & Witsch, Cologne, 1992, pp. 125–27.
8. Roger Engelmann, Bernd Florath, Helge Heidemeyer, Daniela Münkler, Arno Polzin and Walter Süß, *Das MfS-Lexikon: Begriffe, Personen und Strukturen der Staatssicherheit der DDR*, Ch. Links Verlag, Berlin, 2012, p. 390.
9. Joachim Walther, *Sicherungsbereich Literatur: Schriftsteller und Staatssicherheit in der Deutschen Demokratischen Republik*, Ch. Links Verlag, Berlin, 1996, p. 471.
10. BStU [Bundesbeauftragte für die Unterlagen des Staatssicherheitsdienstes der ehemaligen Deutschen Demokratischen Republik] MfS A 131/76, vol. 5.
11. *ibid.*, folio 189.

## What Might Be Obvious to Me May Not Be Obvious to Others

Sam Petersen

This is a transcript of a performance lecture commissioned for the Language Interdisciplinary Forum and presented in the library at Old Quad, University of Melbourne. A video of the live performance can be viewed at <https://art-museum.unimelb.edu.au/events/language>.

Trigger warning: The following rant contains references to suicide, suicidal thoughts and abuse.

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I would like to begin by acknowledging the Wurundjeri people of the Kulin Nations, the traditional owners of the land on which we meet, eat, think, breathe and feel. I pay respects to their Elders past, present and future.

This is my lived experience. I have a disability, a movement disorder which impacts my mobility and communication.

My talk will be about my disability affecting how I am perceived and received by others, how this has affected me and how it shouldn't be the case.

Trigger warning: I talk about suicidal thoughts and discrimination.

When [forum curator] Kyla emailed me, I went: ‘Wow! “language”, this is so my jam!’

Attitudes are so fundamental to our language. In fact, attitudes and language go hand in hand.

Language can be there to change people's attitudes, to gain an understanding of the other. However, our attitudes always colour our interpretation of language. And then our own attitudes can be more intrusive when we encounter a different form of language because we don't recognise the emotions of the other person.

Society as a whole mostly has a patronising attitude towards people that are perceived as lower than themselves. We do and say things to others who are perceived as lower status beings that we wouldn't dream of doing to someone we see as big, or bigger, or holding as much or more power than ourselves. People with disability are perceived as lower.

Most of the time people don't realise they are being patronising or being patronised. Like when people say 'good girl'—'good' being an unhelpful binary value judgement and 'girl' being the juvenile form of woman, which is condescending when used to refer to an adult. It is the combination of the two words and the act of bestowing it that is supremely patronising. I would say it's infantilising, only I don't believe children should be spoken to like that either.

Hard, isn't it. These patronising attitudes are so subconscious. Even I have done it.

Also, when you have a disability, the need for language, clear communication and expressing your needs can be so much greater. Like, you can't simply demonstrate how to do a task because of the fact you need someone to do it for you. Therefore, you need more words in order to describe it—and need to describe it again, again and again. And, more importantly, you need to be explaining yourself even more because society as a whole doesn't have frames of reference to understand our needs or perspectives.

You have to express your needs and wants so much more when you need other people to support you with doing basic tasks like wiping your bum, let alone the bigger picture stuff of making a life in this world.

Yet, when you have a disability and you are perceived as lower status, this inevitably means your words mean less to others and eventually they also mean less to you.

This is gaslighting, a form of sometimes unintentional abuse perpetrated by many, where people make you think that the things you say are not true when they are. Saying things are ok when they are not, dismissing and minimising your experiences.

People with disabilities are so shut down, locked in, unable to communicate. And our disabilities have largely nothing to do with it.

Simply, we do not have the appropriate mental, social, physical or environmental context in which to communicate.

Like, I find it very hard or impossible to communicate under certain circumstances.

Example: I have composed pages and pages of carefully written notes about how best to support me. For me, that is the easiest way to communicate, as my communication in the moment is quite laborious, due to my slow typing speed using one finger, and my dyslexia.

By writing things beforehand, I can give people the full dump of information, and it's a lot easier for me to communicate after that because they already know the basics and where I'm coming from.

Sometimes, people who should have read all the notes give advice on something they should not give advice on, because I have so carefully written it down already. They don't take me seriously enough to read my years of experience in me.

People have said I'm obsessing over a problem, when I have actually said less words than they have.

And most of the patronising attitudes come out, before I have even typed a word.

People call me 'she', in front of me on a daily basis—talking over me, and about me, without including me. Every way you look at it, it's deeply wrong.

I have taken to saying 'no she, please' when I have it done to me. I call it out when I can. But of course, they think it's my gender I'm talking about. No, stop referring to me in the third person.

I feel I am not there, in the most important way. I'm not there in their minds, and no matter how many times you go, 'fuck them', in your head, it is still very dehumanising.

Then of course it can go the other way, with people goddess worshipping you for doing anything. The most patronising of all is being patted on the head. This is also a form of language, a physical language. When people do it to me, I have grabbed them by the hand and pulled them down to my level and patted them back. Half the time I would get a violated reaction. Which is fair because it is a violating act, but why isn't it seen as violating when it's done to me?

There are too many other examples to say here.

Patronising behaviour isn't fair on anyone, including the ones that are doing it, because they are cutting themselves off from a whole part of reality. A much, much more interesting reality.

I think I know where part of this patronising attitude comes from. People fear becoming disabled themselves, and not being able to face their new hypothetical reality. They think: 'I would rather have died than be like that.'

So, we become the walking dead.

They think I must have a screw loose to continue like that. And maybe I do. And what would be wrong with that?

Maybe I should have offed myself a long time ago: I had thoughts. I still have thoughts. But it's only society that made me feel this way. It is ableism, with gaslighting thrown in on top.

As people, we fear losing our independence, because we see that as losing our value. So it becomes a self-fulfilling prophecy. We lose our value because we are seen to have less value and then end up having less options because of our perceived diminished value.

I don't have a good life because people see me as less; they are not engaging with me and are constantly patronising me. Everything else I can deal with. I don't see having to ask for help as such a big deal.

Or at least I would not if I had the context to use my language in.

Loop the loop.

We, people with a disability, are less than we could be because society doesn't talk to us appropriately, or doesn't talk to us at all, and that is hugely damaging to a human being. I am damaged.

Patronising attitudes are discrimination, discrimination which hides itself in language, so subconscious that it is very hard or impossible to bring it forward to someone's conscious mind and say: 'Hey, you're discriminating against me.'

Summing up, I have talked about language, how people's attitudes tie into it and how these are often negative attitudes, and how these negative attitudes affect me.

How you can help?

Um.

People with disability have been so isolated that we are still very much working out the language for ourselves. And really, we are such a diverse group, that each individual has a different idea about what is appropriate language, which is everyone's right. But that is up to the individual, we don't want others putting us in boxes.

Like the word ‘carer.’ I hate it. I prefer to use the term ‘support worker,’ because I need support not care. The way others see the word ‘care,’ how it makes them feel about me, even if it’s a little, little, itty bit, it’s like they are looking after me, like they have power over me and I lose my autonomy. I feel it becomes part of that self-fulfilling prophecy. And I feel deep, deep down the support workers don’t like it, because they feel responsibility for me and that isn’t their job.

But, others prefer to use the word carer and that is their right.

All I can suggest: be more conscious of your interactions. Be open, be playful, be respectful.

Try to be more open about yourself, like: ‘Fuck I love pink.’ Because when you are open to yourself then you are more open to others.

Try to learn that it’s okay to be uncomfortable, to not get it right.

When you can, try to call discrimination out in a friendly way, have a conversation about it.

I would say give people time to communicate, but I don’t feel it is just about more time, because I have seen people without disability drivell on for ages.

I say try, because no-one is perfect. You will fuck up lots. But at least you’ll be trying. I’m still learning too.

Just don’t chase us, because that is weird.

## Creativity, Machine and Poetry

Jey Han Lau

Artificial intelligence, or AI, is being increasingly integrated into our everyday lives. It is in our smartphones (e.g., Siri), the facial-recognition system at Melbourne Airport, automatic captions on YouTube and translations on Facebook, just to name a few examples. The recent advancement of AI is driven by ‘deep learning,’ a family of machine-learning algorithms inspired by neural networks in the human brain. The core machinery of deep learning isn’t new—the earliest artificial neural networks were introduced in the 1940s—but the growth of digital data, algorithmic innovations and hardware development have made deep learning the dominant algorithm that powers AI today. There are two key advantages that have made deep learning so successful: it is very flexible and can take any form of data as input, whether it is acoustic (speech), pixel (image) or text (language); and it is particularly good at identifying patterns and generalising from those patterns.

Although deep-learning-powered AI excels at pattern-recognition applications, a question that naturally follows is: can it be creative? To be creative means to create something novel, such as a new scientific theory, drawing or musical composition. Creativity is seen as a hallmark of human intelligence—it involves complex assimilation of experiences or knowledge to synthesise a new substance.

To push the boundary of AI, I and several collaborators (Trevor Cohn, Timothy Baldwin, Julian Brooke and Adam Hammond) began looking at creative tasks, in our case, poetry writing. Specifically, we want to explore whether, if an AI were to ‘read’ a collection of Shakespearean sonnets, it could learn to compose *original* sonnets.<sup>1</sup> The goal, of course, isn’t to displace human poets, but AI can provide a window into the mechanism by which humans learn and use language creatively.

**Shall I compare thee to a summer's day?**

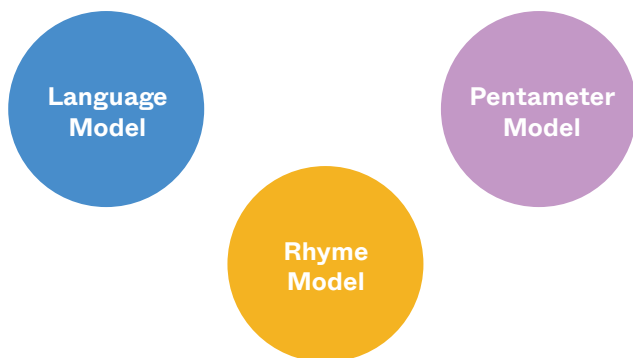
Thou art more lovely and more temperate:

Rough winds do shake the darling buds of May,

And summer's lease hath all too short a date.

Sonnets are interesting because in addition to their creative narratives they have aesthetic forms: rhyme and rhythm. For example, in William Shakespeare's Sonnet 18 (presented above), 'temperate' and 'date' of the second and fourth lines rhyme. Every line also has a stressed-unstressed rhythm, the iambic pentameter, as indicated by the bold and non-bold syllables in the first line. The rigid structure of sonnets makes it all the more challenging for sonnet writers, as they need to find a balance of style (rhyme and rhythm) and content (storyline) during composition.

To this end, we developed Deep-speare (a portmanteau of 'deep learning' and 'Shakespeare'), an AI model that can compose Shakespearean sonnets. Although computational poetry isn't new, Deep-speare is unique in that it learns to compose sonnets after 'reading' 2700 sonnets from the online library Project Gutenberg,<sup>2</sup> without relying on pronunciation dictionaries or other English resources.



Components of Deep-speare

So, how does Deep-speare work? It has three internal components: a language model, a pentameter model and a rhyme model, as illustrated on the previous page. The language model is the main component that generates language, learning to do so by playing a word-guessing game. Given a sequence of words (e.g., 'Shall I compare'), the language model is trained to guess the next word ('thee'). By playing this word-guessing game using the 2700 sonnets repeatedly, the language model slowly learns to write word by word, one at a time, to compose sonnets. As astute readers may realise, if we were to play the word-guessing game using another document collection, say news articles, the language model would naturally learn to write news stories instead of poetry.

The words generated by the language model are unlikely to obey the rhyme and rhythm patterns in sonnets, as the patterns may not be strong enough for the language model to pick up. This is where the rhyme and pentameter models come in. The rhyme model ensures that the sonnet the language model writes has a rhyming pattern. Reading through the 2700 sonnets, the rhyme model learns which words rhyme together by using one clue: there are always two pairs of rhyming words in a four-line quatrain. The rhyming-word pairs are not specified; the rhyme model will have to figure that out—that is, it needs to learn that 'temperate' rhymes with 'date' and 'day' rhymes with 'May'. There are three possible rhyming patterns in sonnets—AABB, ABAB and ABBA—so it isn't a trivial task. The pentameter model learns the stressed-unstressed rhythm in a similar way, in that it is given the clue that each line has ten syllables with alternating stresses. Learning involves figuring out how to break the words of a line into the ten syllables. As the model has no access to any English pronunciation dictionaries, only the letters of words, it is also a challenging problem.

How do we know if the sonnets composed by Deep-speare are original? And are they any good? The first question is easy to answer, as we can check how often the generated sonnets *copy* from the 2700 original sonnets. We found that Deep-speare sonnets are highly creative, in that Deep-speare rarely copies phrases longer than four words. But

what constitutes a *good* sonnet? This is a much more difficult question and we attempted to assess it via two types of evaluation. The first involved recruiting lay users to play a poem-guessing game. Users were presented with a pair of sonnets, one written by Deep-speare and another by a human poet, and asked to guess which one was written by AI. We found that users were generally unable to tell which was which—close to 50 per cent accuracy in terms of guessing performance—indicating that Deep-speare sonnets *look* like human-written poetry. This is great news, but will Deep-speare sonnets fool literature experts? In the second evaluation, we asked one of our collaborators, Adam Hammond, an assistant professor of literature, to score sonnets written by human poets and Deep-speare on several qualities: meter/rhythm, rhyme, readability and emotion. The source of the poems was not revealed so as to eliminate any potential bias. Interestingly, our literature expert found that Deep-speare sonnets are superior in terms of meter and rhyme quality but, despite their excellent form, they have lower readability and emotional impact. So it wasn't difficult for the expert to distinguish between the AI-generated and human-written poetry.

Our results show that there is still a creativity gap between artificial and human intelligence. We are continuing this research and have several ideas as to how we can improve readability and emotional impact. For one, humans don't compose poetry by writing one word at a time but are guided by a higher-level narrative; we intend to mimic this by giving Deep-speare the ability to formulate a topic or storyline before generating the words. It is perhaps an ambitious goal to make AI creative, but we are hopeful to see the day when Deep-speare can emulate the great Shakespeare in poetry writing.

1. For a more detailed account of the Deep-speare research project, see Jey Han Lau, Trevor Cohn, Timothy Baldwin, Julian Brooke and Adam Hammond, 'Deep-speare: A Joint Neural Model of Poetic Language, Metre and Rhyme', *ACL Anthology*, 2018, <https://www.aclweb.org/anthology/P18-1181>; and Jey Han Lau, Trevor Cohn, Timothy Baldwin and Adam Hammond, 'This AI Poet Mastered Rhythm, Rhyme, and Natural Language to Write Like Shakespeare', *IEE Spectrum*, 30 April 2020, <https://spectrum.ieee.org/artificial-intelligence/machine-learning/this-ai-poet-mastered-rhythm-rhyme-and-natural-language-to-write-like-shakespeare> (both viewed 7 February 2021).
2. <https://www.gutenberg.org> (viewed 7 February 2021).

## Animal Communication and Language

Mark A Elgar

All organisms acquire information from the environment in order to adjust to the elements; find food, mates or other resources; and avoid natural enemies. This information is conveyed through a variety of sensory modalities, including sight, sound, smell, vibrations and electrical pulses, which may represent cues or signals.<sup>1</sup> Cues are sources of information that have not evolved for that purpose; for example, mosquitoes use the heat and carbon dioxide we produce as cues to reveal our location. A signal, however, is a source of information that influences the receiver, and which has evolved precisely because of that effect; for example, females across diverse species release pheromones (volatile odours) that reveal their location to potential male mates, facilitating reproductive behaviour. Signals can also convey information to individuals of other species—distasteful, poisonous or otherwise dangerous prey, such as poison-arrow frogs, are often brightly coloured, which acts as a warning signal to potential predators.

Signals allow animals to communicate, but a signal cannot convey information unless it is detected. Thus, the evolution of a signal as a source of information requires two conditions: the intended receiver has the capacity to detect it; and the transfer of information is mutually beneficial. Bats communicate using high-frequency ultrasonic sounds, so-called because humans cannot perceive them. In contrast, elephants can communicate over long distances using seismic waves generated by their very low frequency ‘rumble’ vocalisations that, again, we cannot detect. Very many animals can see light at frequencies, including the ultraviolet and infrared, that are not perceptible to other species. Pheromones, arguably the most ancient mode of communication, are detected when an individual pheromone molecule physically interacts with the intended receivers’ chemical receptors. Sex pheromones are typically sex specific to ensure the courting males are the same species, although not all pheromones are unique; for example, elephants and a species of moth share the same sex pheromone, but this is not a problem because they are found in completely different parts of the world. To put this in a human context, the number of perfumes that we can detect is most likely far less than the potential number that a perfumer could make.

Unravelling the nature of a signal is not always straightforward: a sex pheromone clearly functions to reveal the location of the signalling female, but what information is conveyed by the elaborate courtship display of male peacock spiders when in close proximity to a female? The question can be more complicated for social species, where different kinds of information may be contained within a signal, or the signal may be imbedded in complex behaviour interactions. Worker honeybees returning from a foraging trip signal the location and nature of the food source through a range of specific movements, misleadingly coined the ‘dance language’. Yet, what is achieved by the collective displays of neighbouring meat ants that form vast aggregations midway between their nests, with pairs of workers adopting characteristic stances as they furiously tap each other with their antennae? Space and food resources are at a premium for these ants, so each nest is at risk of invasion from the neighbouring nest. The collective displays most likely convey information about the relative size of each nest, and thus the mortality risks of mounting a full-scale attack, but precisely how that information is conveyed remains a mystery.

Animals that live in complex societies must communicate about a range of matters, but fundamentally this is simply an exchange of information mediated through signals. For social insects, the vast majority of signals are odours, usually released in response to a particular cue. In social vertebrates, including birds and mammals, these signals are vocalisations, which are typically reactive or involuntary, a point nicely illustrated by Jane Goodall’s account of a young chimpanzee that had discovered a cache of bananas.<sup>2</sup> Many animals, including chimpanzees, produce ‘food calls’ to attract others to a source of food. House sparrows produce a ‘chirrup’ call when they discover a divisible food source (but keep quiet if the food cannot be shared), while chimpanzees produce a distinctive ‘hoot’ call that attracts others in their group. Jane Goodall’s young chimpanzee, perhaps not wishing to share the food, was nonetheless unable to suppress his hoot, so muffled it with his hand. Human laughter and crying are broadly equivalent to these animal vocalisations; both are difficult to produce voluntarily and convincingly, unless you are a trained actor.



*While we might wish to imagine the bee will convey to her colony something of her joie de vivre while foraging for food, she will instead simply indicate, using conventional body movements, the location and nature of this source of nectar.*



Ludwig Hirschfeld-Mack (Germany/Australia, 1893–1965),  
*Untitled (Flower, Bee and Snail)* n.d., folio 35.2 × 28.5 cm.  
 The University of Melbourne Art Collection,  
 gift of Mrs Olive Hirschfeld 1982, 1982.0127012.000

Unlike animal communication, human language is voluntary and allows humans to think and be creative in a way not observed in other organisms. Language provides much more than the opportunity to alert others to the presence of food, shelter, reproductive partners and natural enemies. Language allows us to convey abstract thoughts: we can imagine an elephant tiptoeing across a river of molten lava, even though this has never been reported. Some dolphins, like Caledonian crows, use features of objects as tools, but they do not fashion or sculpture tools out of formless objects. Horses may well hear the whispered messages of humans, but they do not respond with justifiable complaints of long-term labour and military exploitation. While many species can learn to articulate human words (and some, such as lyrebirds, can mimic so much more), their ability to engage in a conversation is barely rudimentary.

The evolution of human spoken language is not resolved. A confusing issue is that our closely related higher primates, which includes gorillas, bonobos, chimpanzees and orangutans, are remarkably taciturn compared with chatty humans, and indeed with many other noisy primate species. One explanation, championed by psychologist Michael Corballis,<sup>3</sup> is that human language evolved from gestures. Several lines of evidence provide compelling support for this view: gestures form part of a rich source of visual cues in primates, including higher primates; and neural mirror systems, thought to be crucial for language comprehension, are deeply embedded in the primates, and reported for quite distant relatives of humans. These features provide a platform for the production and perception of a gestural language. It is worth remembering that language is not confined to the spoken word; all courses at Gallaudet University are delivered through American Sign Language. Indeed, it seems highly likely that dance was the original way in which our hominid ancestors conveyed historical stories and dreams.

While humans, like other animals, communicate through visual and auditory means, human language has little in common with animal vocalisations, facial expressions or limb movements. This is why ethologists who study animal behaviour rail against anthropomorphising—a picture of ants delivering petals around the

corpse of a bee might suggest a remarkable example of inter-specific funeral sympathy, rather than the more prosaic explanation that the dead bee is blocking the nest entrance and thus preventing the ants from delivering the nutritious petals to the larvae within the nest. And while we may wish to think that our pet dog is empathetically sharing our emotional distress by nestling up to us, the brutal reality is that my dog Pippi is responding to cues that she has learnt may be rewarded with affection and perhaps a tasty treat.

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1. Martin Stevens, *Sensory Ecology, Behaviour, & Evolution*, Oxford University Press, Oxford, 2013.
2. Jane Goodall, *The Chimpanzees of Gombe: Patterns of Behavior*, Harvard University Press, Cambridge, MA, 1986, p. 125.
3. See Michael C Corballis, *From Hand to Mouth: The Origins of Language*, Princeton University Press, NY, 2002; and *The Recursive Mind: The Origins of Human Language, Thought, and Civilization*, Princeton University Press, NY, 2011.

## Contributor Biographies

**FAYEN D'EVIE** is an artist and writer living on Dja Dja Wurrung Country. Her projects are often collaborative and resist spectatorship by inviting audiences into sensory readings, translations and conversation. Fayen advocates the radical potential for blindness to offer methods for our precarious time, attuned to the tangible and intangible, uncertainty, concealment, ephemerality and the invisible. With Katie West, Fayen founded the Museum Incognita, which revisits obscured histories through embodied readings, and archives artworks and practices by co-creating sensory mnemonics for carrying story. Fayen is also the founder of 3-ply, which investigates artist-led publishing as an experimental site for the creation, dispersal, translation and archiving of texts.

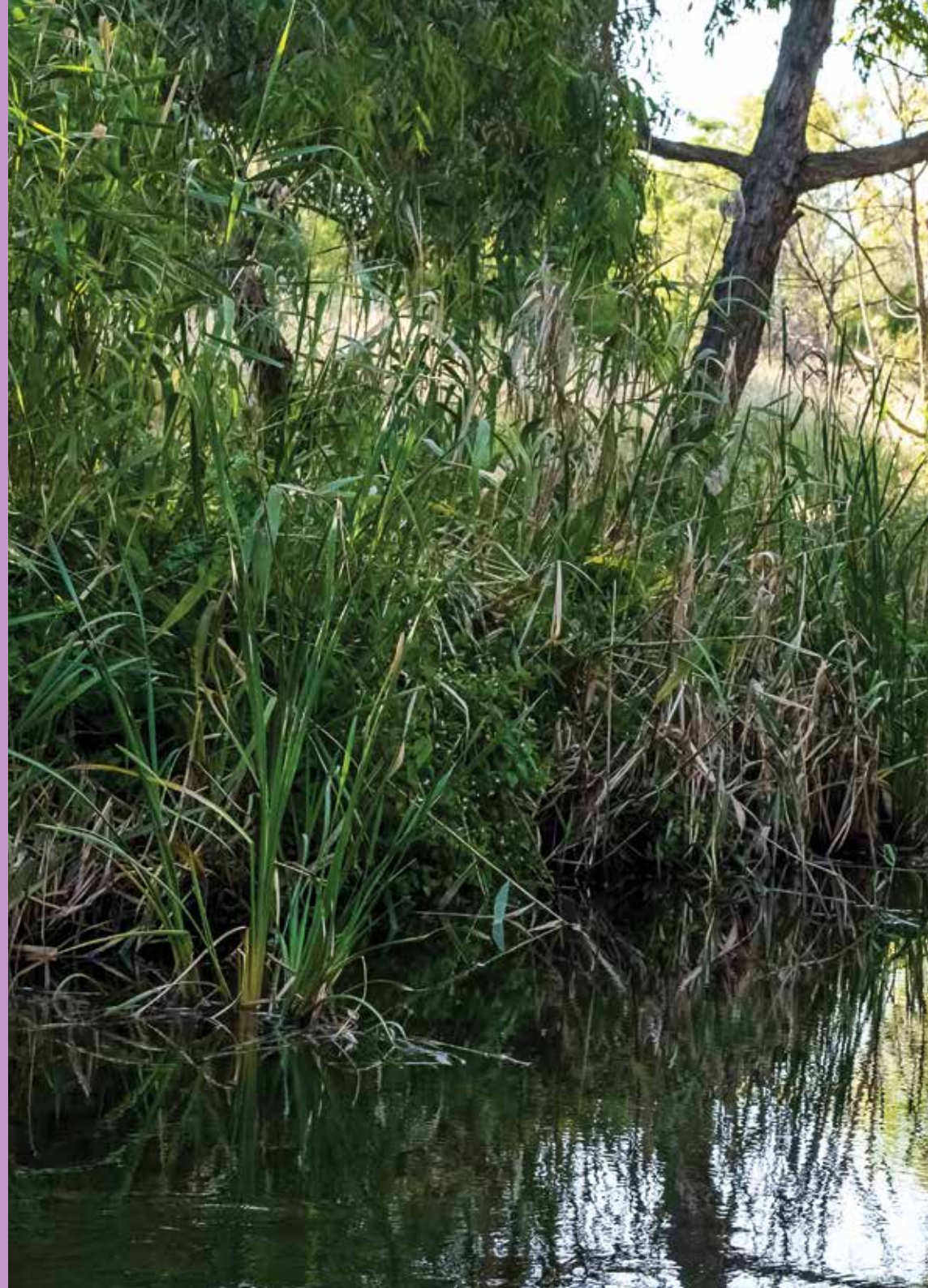
**PROFESSOR MARK A ELGAR** is an evolutionary biologist at the University of Melbourne. He received a BSc from Griffith University and PhD from the University of Cambridge, and has held fellowships at the University of Oxford and University of New South Wales. He investigates the evolutionary significance of social and reproductive behaviour in animals, conducting fieldwork in Australia, Europe, North America, the Pacific Islands and Papua New Guinea. He is interested in how chemical communication mediates animal behaviour, and especially the selection pressures favouring diverse insect antennae. He contributes to public debate through opinion pieces and commentary on radio and television.



**PROFESSOR ALISON LEWIS** teaches German and European studies in the School of Languages and Linguistics at the University of Melbourne. She has published extensively on modern German literature and culture, and most of her work is focused on the intersection between politics, history and culture of the Cold War. She has been researching the East German secret police for more than twenty years, and has recently published two books on the topic: *Secret Police Files from the Eastern Bloc: Between Surveillance and Life Writing* (2016) and *Cold War Spy Stories from Eastern Europe* (2019), both with Glajar and C Petrescu. A third monograph, *A State of Secrecy: Stasi Informers and the Culture of Surveillance*, is forthcoming with Potomac Books (USA).

**SAM PETERSEN** is interested in what can be done with one's identity and the space around it—both body and mind, touching everyday feelings between the rational, the playful and the political. This is often to do with Sam's disability and sexuality. Sam's work has focused on access, and the lack of it, to places, people's minds and opportunities. Plasticine is a great subverter of space and potentially of people's minds, and the continued flexibility of it is enjoyable—covering or filling up gaps and playing with crevices. Sam's work is drawn more and more to spoken word as a powerful format.

**BETH SOMETIMES** is a Pākehā artist, interpreter/translator and language worker from Aotearoa, based in Arrernte Country. In 2016, she initiated a collaborative project with Arrernte people, Apmere Angkentye-kenhe, which engages the potential of language to rearrange settler relations with land and people, and supports Arrernte objectives for their own language. Beth is actively involved with Alice Spring's Watch This Space ARI, as a curatorial committee member and studio artist, and attempts numerous ways of working through a material practice alongside her socially based work.





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