

Becoming Weather

Weather, Embodiment and Affect

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Chapter 1

Introduction: Living weather

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1 Introduction

Living weather

Openings

Misty morning light

Seeking the warmth of the sun

[Winter, early August]

It's early morning, the light is still grey. It's been drizzling overnight and now there is a beautiful mist, a moistness in the air and a smell that's lush and clean. The birds are vocal this morning. I hear the catbird with its piercing baby-like cry, the gentle sounds of many finches, the whipbirds' call and answer, and, from over the paddock, the loud call of a white cockatoo. There's a magpie, its clear call soaring and piping. I hear the river too, louder after the rain. The white-grey clouds form a blanket that keeps the morning warmer than it has been.

Early morning, August, last month of winter in the southeast of Australia but here on Gumbaynggirr Country where I live in the southern reaches of the subtropics, this month has the feeling of spring. The frosts are leaving us. The days get warm. Soon the wind will probably arrive. Right now, the sun feels good, thawing out the cold, warming our bodies in a way that feels healing. Soon it will get too hot, and our small more-than-human family of people, goats, dog and chickens, will likely be seeking the shade. These are some of the rhythms that hold us. I breathe this morning.

When I was a teenager, I was scornful of "talking about the weather." It seemed to me the pinnacle of small talk, of superficial communication; polite but meaningless. I wanted deeper conversations, politics. I suppose I was seduced by the idea that important things happened out there, in the arena of discourse and protest, in words. Weather was something like a background to all this or, at most, a context.

It is hard for me to relate to that now. Let's just say, the weather has brought me round.

Weather is a way of connecting us with and as place, with and as our bodies, with and as each other. I say *with* and *as* here because weather is both intrinsically part of our bodies, making us who we are, and is in intimate relationship with us. Consider a breeze that arrives bringing the feeling of spring: it literally comes into our lungs, diffusing oxygen, it stimulates memories with its scent, and quickens the body with a sense of warmth to come. The breeze too is felt by those around us, our

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family or friends, the stranger at the same bus stop, the dog sniffing the air. And the breeze is place, it is season, it holds the seagull aloft, it signals to the tree to begin making its buds. It is those buds.

Weather grounds us, though to say ground perhaps overemphasises the soil at the expense of water and air and the way particles vibrate and move, making pressure and flow and temperature. Rather, should I say, it em-places us, it focuses us on the ways our inner and outer terrains are always part of the world around us. And, in this way, weather connects us to each other too, if we let it. But there is so much more, so much else that weather does and says. I still want deeper conversations and politics and protest, yes, but I can't see weather as separate to that now. In fact, weather guides me through questions of ethics, politics and becoming. It will guide me through this book. I have begun to realise just how disrespectful an idea of weather-talk as superficial can be.

I write as a person of predominantly English and Welsh heritage who was born on Garigal land in what is now Pittwater-Mona Vale, north of Sydney. This is the place of the clan of Bungaree, an important Aboriginal leader and the first Aboriginal man, indeed the first Australian-born person, to circumnavigate Australia (Mundine 2015; Rey 2022; State Library of NSW, n.d.). An artist of the time recalls him meeting incoming vessels, seeking tribute owed to him from new arrivals, welcoming them to his Country. He was possibly the first person recorded using the English term "Country" to refer to the lands, seas, skies, and ancestral connections of Aboriginal people with place, imbuing this nominally English word with meaning that it had not possessed before. Country is now widely used as a term for the nourishing more-than-human places and constituent relationships that make up Aboriginal Homelands, which is to say, all the Aboriginal nations that make up what is now called Australia (Bawaka Country et al 2016a; Grieves 2009; Hsu et al 2014; Kwaymullina 2016). Country is the waters, the lands, the skies and the beings that make place, the songs, memories and history, the spirits, stories and dreams, the Aboriginal and more-than-human Laws/Lores and sovereignties, the mutually emerging past/present/future and all the beings, human and non-human, that co-become there. Country is weather and weather is Country (Bawaka Country et al 2020a; Marshall et al 2022; Wright and Tofa 2021).

I live now with my husband and daughter on Gumbaynggirr Country, about six hours' drive north of where I was born. We moved here when my daughter was three, over 10 years ago now. We are still very, very much babies here. Here, being the beautiful, nourishing, much loved and never ceded lands of the Gumbaynggirr people. Gumbaynggirr ancestors listen/ed to the weather of this place, they lived and live here as the land, waters and skies were and continue to be formed. So, I begin this book acknowledging these places, the presence of Elders past, present and future, their connections and teachings, the seasons that have cycled through and as this place, the fires that cleansed the land and that laid down charcoal that is the earth itself (Bawaka Country et al 2016b).

Here I have tried to live in a connected yet unsettled, rather than a settled, way (Howitt 2020; Paradies 2020; Rose 2022). I have nurtured relationships that help me question and undermine the taken-for-granted dominances and entitlements

associated with my being here. In this spirit, acknowledging our mutual interdependences, our varied histories, the rich multiplicity of entangled pasts/presents/futures of this place, and with a commitment to honouring my complex place in the earth's co-becoming, I hope to come into respectful relationship with Country.

Yaari garla-ngarraangala, yaari junga-ngarraangala, jalumgalnyarr yilaa gangulam jagunda. Yaari junga-ngarraangala guuyubiin, walaaynga giili. Yaam Gumbaynggirr jagun.

Protocols and relationships

*The red browed finches visit in flocks
Enjoying the grass seed*
[Winter, mid-August]

Soon after we first moved here in late 2014, my small family and I went to a week-long workshop offered by Aunty Shaa Smith, Gumbaynggirr Custodian, storyholder for this Country. She generously shared stories and teachings, including of seasons and seasonal messaging, speaking of Country's agency, emphasising relationships and respect. A few weeks later, Aunty Shaa stayed at our farm and, from there, we began working together, forming a research collaboration with other Indigenous and non-Indigenous people called Yandaarra (Smith et al 2020). Yandaarra is a Gumbaynggirr word that means *shifting camp together*. And, together, we have looked to shift camp, in our lives and through our relationships, to be *gunganbu*, people who belong together.

From Aunty Shaa and Yandaarra, I have learnt much about living in, with and from my place, on and with Gumbaynggirr Country, including as I have been guided to (tentatively and incompletely) listen to Country and the messages she sends, to tend to more-than-human kin and (re)kindle relations. I have been called to understand big sister southerly wind as a creation being and powerful messenger, to be invited into conversation by a gathering of birds, and to listen to a squall and hear it as Country saying, "no" (Smith et al 2021; Yandaarra with Gumbaynggirr Country et al 2022). Outside now, I see the red finches, *bunyun*, that flock together especially in the late winter, bringing with them their message of health in numbers, of community, care and sacredness.

Through this and through my connections with other Elders and Indigenous teachers, have come emergent and living protocols (see also Kanngieser et al 2024; Smith et al 2020) that I use as to give direction to my work. These protocols help suggest an em-placing that acknowledges both the limitations and possibilities, the closings and openings within which we are held. On the one hand, there are the violences of colonisation and my position within it, the realities and constraints of racialised, patriarchal capitalism that bind us in multiple, diverse exploitative relations with each other and Country. This means that relationships with weather are not innocent. Like tropes of tropical languor and the weaponising of cold against asylum seekers, weather has been active in promulgating colonisation in Australia and elsewhere (Riva 2017; Wright and Tofa 2021). On the other hand, there is

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respect and co-constitution, the radical changes that might see relationships shift in ways that honour more abundant and respectful pasts/presents/futures. These are connections that weather always offers, if only we attend; ways of nourishing co-becomings that might engender different forms of healing, a tending to grief, a coming together and a remaking of respectful and emergent belongings.

Protocols are not rigid rules, but they are approaches that can inform how we might learn, share, write, research with respect (Kanngieser et al 2024; Whyte et al 2016). Protocols have long been practised and asserted by many Indigenous peoples. For Indigenous and non-Indigenous members of the Creatures Collective Noah Theriault, Tim Leduc, Audra Mitchell, June Rubis and Norma Jacobs Gaehowako, protocols are the ways that, together, we might “contribute to the re-making of relationships that foster more-than-human accountability, reciprocity, and capacities for resistance” (Theriault et al 2020: 893). Moving forward with respect and care means tending to relationships with other humans, with human and non-human ancestors and with more-than-human kin (Awāsis 2021). It means attending to weather, its communications, our co-constitution.

In this book, as part of honouring Elders, prior knowledges, enduring and original connections, then, I want to begin by acknowledging the ways I have been guided by three major collaborations that I have been involved with for the past 10, 20 or 30 years. I want to introduce these collaborations and the wonderful people, the non-humans and the co-becomings, that make them up. These collaborations have helped me to learn and unlearn what it means to weather on unceded Indigenous land. And so, while I have brought this book together through my own experience, I am made through relationships, with and as place, with and as family, with and as mentors, teachers and more-than-human kin.

Firstly, is Gumbaynggirr Country itself, the Country on which I live and the more-than-human beings, relationships and communications that hold and guide me here. In particular, are the microseasons of Thora, of our farm by the river, the emergent shifts of weather and the ways it weaves through my life, agential, powerful (see Figure 1.1). I have begun to introduce you to these already with the storm-flowers, the moist earth, the redbrowed finch, the misty morning light. Guiding me in this is Aunty Shaa Smith, Uncle Bud Marshall and Yandaarra. They have called upon me to see and be this weather differently, to be open to its call, to engage with respect, to follow and live protocols of the creation time now (see Figure 1.2). They have guided my tentative co-becomings on and with Gumbaynggirr Country, my awareness of my own situated intra-actions. This has not always been easy and often has involved missteps and mistakes on my part. Yet, it has been underpinned by a commitment to staying with difficult, uncomfortable places (Zembylas 2018). As Aunty Shaa with Yandaarra has said:

We cannot lapse into feeling the guilt, fear, and sadness; and we cannot allow things to continue the same with the same colonising processes. The way we look after Country and each other needs to come from relationships with it, from the way we care as Country guided by the Old Fellas and custodial Law/Lore.

(Smith et al 2021: 166)



Figure 1.1 Planting garlic. Photo: Selfie by Mossy Bottom Farm

From Gumbaynggirr Country my connections, responsibilities and relationships spiral inwards, on and out. There is a contour I trace to the north of Australia, to Yolŋu Country where I have been taught and mentored by the powerful and indomitable Yolŋu sisters Dr L Burarrwanga, R. Ganambarr, Merrkiyawuy Ganambarr-Stubbs, Banbapuy Ganambarr, by their families including Djawundil Maymuru, and by Yolŋu Country itself. Together with other academics, Kate Lloyd and Sandie Suchet-Pearson and Lara Daley, we have worked together for over 20 years now, as Bawaka Country.

Bawaka is in Arnhem land, a large area of acknowledged Aboriginal land in the north of Australia, the “home of land rights,” from where Yolŋu people and Country created the Bark petitions, more-than-human assertions of their sovereignty and connection to Country sent to Parliament in 1963, and from where Yolŋu people launched Australia’s first land rights case *Milirrpum v Nabalco Pty Ltd* (also known as the Gove land rights case) against a mining company set on mining their land.¹

Bawaka Country is where a strong wind moved us to seek shelter, changed our conversation and brought us to talk about limits to what and where we might know. Bawaka Country is where generations have cycled since my first visit; babies born, named, having babies of their own and where the senior sister who named me granddaughter now lays in the sand becoming homeland again in material ways. Bawaka Country is where the fruits ripening are heralded by a body’s sweat as a manifestation of co-constitutive more-than-human relationship; where the weather’s song spirals call the clouds to gather; where knowledges meeting and clans coming together make rain, enriching and enabling Country



Figure 1.2 A day on the river with Yandaarra. Photo: Sarah Wright

(Bawaka Country et al 2019a, 2020a, 2023a; Burarrwanga et al 2013a; Gay’wu Group of Women et al 2019; Suchet-Pearson et al 2013).

From Bawaka and as part of the Bawaka Collective, I have learnt much that frames and guides the discussion in this book. Bawaka teaches of the agency of weather, the ways it shapes and guides and has authority. Above all, it teaches our co-constitution, our co-becoming. Bawaka and its seasons do not sit separate

from any human; the seasons and the songs that (re)make seasons and the birds, winds, dreams, harvesting and hunting are entwined, created through emergent, more-than-human relationships. We do not care for Country as something separate from humans but as Country, as part of it. And, while all are bound in networks of kinship and responsibility, this is not a responsibility *for* something, but a *responsibility-as*, a responsibility to ourselves as part of networks of more-than-human kinship, a responsibility that emerges through intra-action and co-becoming (Bawaka Country et al 2019b, 2023b) (see Figure 1.3).

My responsibilities to and as relationships thread outwards from Bawaka, further northwards still to the Philippines. I am following here a contour that links me to the third set of relationships that I learn with, MASIPAG. MASIPAG is a network of small-scale, mostly subsistence farmers including Indigenous people and landless agricultural workers, NGOs and scientists from across the Philippines. Some 50,000 strong with 511 people's organisation and 159 farmer trainers, the MASIPAG network works with those most effected by climate change to develop and enact place-based, farmer-led, diverse and sustainable agriculture, and to call for climate justice (Bachmann et al 2009; Jack et al 2022). I met members of MASIPAG first in the early 1990s, more than 30 years ago, as a young activist supporting communities against extractivism, including in the north of Australia and in the Philippines. The members of MASIPAG taught me critique, of global



Figure 1.3 Gay'wu Group of Women, also known as the Bawaka Collective. Photo: The Bawaka Collective

capitalism and of frameworks of knowledge that would position some as powerless and some as experts. They pointed to the ways interventions flowed from ways of knowing; how neocolonial frameworks bred epistemological, ontological and material violence, and how this violence layered upon itself through time. They drew my eyes, ears and heart to justice, to how lives are connected and how new networks and relationships, including ways of growing food, living from, with and as land and weather, can be re-made in ways at once traditional and new (Wright 2016). MASIPAG guides us to attend to weather as it creates us as who we are in ways connected to others: other people, other places, other more-than-human beings beyond the immediacy of our everyday, placed experience. Such contours may appear distant, but they are also, in different ways, configured through tangible experiences of co-becoming.

My home on a small organic family farm near the river, Aunty Shaa and Yandaarra, my Yolŋu grandmothers and Bawaka Country, small-scale farmers and agroecology in the Philippines, these three sets of relationships with peoples and places and weather guide and frame this book. These places too are linked by weather, including the paths of cyclones that have traced this route for over 12,000 years, since the end of the last ice age as weather warmed and Country was (re)made. A trajectory of such a cyclone might be told like this: Winds blow from the West across Southeast Asia in an anomalous equatorial burst. In Yolŋu sea Country, NE Arnhem Land, a cyclone is spun heading, in this instance, south and east to the eastern coast of Australia. In Gumbaynggirr Country, far away but also, right here where I live on the Bellinger, rivers flood.

Cyclones, as do many beings and becomings of weather, bring much into focus. Cyclones are a form of weathery connection and co-becoming that underscore the ways weather *binds* place to people and people to place, *connects* people, both proximate and distant, to each other through processes of more-than-human co-becoming, and *prompts* connective modes of responsiveness and models of thick engagement. They also link places of breeze and life-giving rain, to places of destruction and hurt through diverse and mobile contours of difference and connection. As such, the path of a cyclone's growth can centre the connections and co-becomings between myriad, diverse people and places on their trajectory. They demand those affected attend to their environment, and they make and re-make the places and cultures in their path. Even when the cyclone intensifies, makes landfall and creates destruction, grief and death, this can interpolate in the most urgent way the devastating consequences of unequal relationships of power, and can sometimes bring much-needed change. In doing so, intense weather may open space for alternate forms of response and responsibility to each other and our worlds.

So, as I work with my sets of prior relationships and responsibilities, following paths of weathery connection including cyclones as well as winds, rain, El Niño and other weathery beings, my aim is to challenge and question much that is assumed and taken for granted, and to support embodied, more-than-human and relational understandings of self and weather. I contend that understanding the relationalities of weather places us all squarely within an ethics of co-becoming and demands that we attend to the connections that bind and co-constitute us.

Prior belongings

Clear winter sky at night
Stars fill the sky with their milky brilliance
 [Winter, mid-August]

These three sets of relationships that I have introduced will weave through this book. They are points of prior, ongoing connection with me and with each other, and they are also points of connection of specific communities with specific places. They are sites of knowledge and Law/Lore, of co-becomings that reach back tens of thousands of years, to the times these very places were formed to now, through their ongoing creation. Cyclones travelling to Australia tracing a path down the coast for 12,000 years is a phenomenon that Yolŋu and Gumbaynggirr people would have seen emerge relatively recently when placed within the long time-scapes of co-creation of people and Country. The stars at night, their patterns and the wheeling of the earth through the cosmos have been known since the land where I live was formed (Bawaka Country et al 2020b). The stars have shone their stories for humans here for a long time, including through Indigenous points of connection and Law/Lore (Bawaka Country et al 2023c; Salazar and Gorman 2023).

Through this book, then, I work against tendencies within mainstream work on weather and climate that might invisibilise prior Indigenous relationships and theorisations. I also aim to work against approaches that might empty weather of meaning, deny its more-than-human agencies, seek to limit it to the background of human agency or to demark it as separate from human experience. This is to say, in this book, I hope to challenge the notion of *aer nullius* (Akama et al 2017; Behrendt 2003; Nicoll 2002; Todd 2016; Wright and Tofa 2021). Métis scholar Zoe Todd speaks of *aer nullius* to critique the way many more-than-human and post-humanist engagements with weather and climate invisibilise Indigenous thinkers, cultures and worldviews. She points out that Euro-Western academic discourses often approach climate “as a blank commons to be populated by very Euro-Western theories of resilience, the Anthropocene, Actor Network Theory and other ideas that dominate the anthropological and climate change arenas of the moment” (p. 8).

Neither knowledge of weather, nor sovereignties of weather, nor co-becomings of weather are void, blank or waiting to be filled. Sovereignties here being autonomies and agreements that emerge through ongoing reciprocal relationships between people, more-than-human beings and Country. They are the power that comes through connection (Behrendt 2003; Hobbs 2022; Ruska and Clayton-Dixon 2015; Referendum Council 2017; Yandaarra with Gumbaynggirr Country et al 2022).² Relationships of and as weather are and have been known for countless generations, they cycle onwards and backwards. We live in and through prior relations, prior and ongoing knowledges, prior and ongoing violences and theft, prior and ongoing belongings. My connections and co-becomings, “my” microseasons, are expressions of an intimate and embodied self-as-Country. This is me, yes. And yet, who I am, these intimate and embodied realities are relationally produced; they are made from histories and held by and co-constituted through ongoing realities of

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racialised capitalism and settler colonialism and more. These histories have acted to dismiss Indigenous people, relations to place, belongings and knowings. As shared in *Songspirals*:

When the British came they didn't see, or they ignored or refused to see, the songspirals, the Law, the culture that is here. And they claimed it. They had only been here for the shortest time and they claimed it. But the land was already claimed. We have boundaries, clan boundaries, we have Law, culture and language. We know which clan belongs to which land.

(Gay'wu Group of Women et al 2019: x)

Here, then, I want to introduce a particular hierarchy of knowledge authorities that I actively follow to frame my work; a hierarchy that differs from that often advanced through much of mainstream academia and one that seeks to explicitly work against the (re)production of *aer nullius*. Firstly, and at the centre, is Country, weather itself, and the sharings of Elders, particularly those with whom I have a close connection through kinship networks or through place-based interactions and Law/Lore. This, primarily, is Yolŋu kin and Bawaka Country, Yandaarra, Gumbayngirr people and Country, and it is also Awabakal Country where the University of Newcastle stands, Darug Custodians of Sydney, and others who I have connected through collectives such as the Not Lone Wolf network and the Creatures Collective (Hernández et al 2021; Kanngieser et al 2024).

These are to whom I am accountable, most centrally, and whose teachings, above all, I have tried to heed through this work (Te Punga Somerville n.d.; Tynan 2020; Tynan and Bishop 2023). I am accountable here as a settler-coloniser, a white woman, an uninvited guest. My being non-Indigenous does not mean I sit outside relationships of accountability. Far from it. It means I must attend to the often silenced, dismissed and ignored relations, many of the violent and extractive, within which I sit; my efforts are centred around tending to, healing and deepening these accountabilities in respectful ways.

For Aunty Shaa, the responsibility of learning relationships, of reconnecting and living the new Dreaming, living with and as Country and weather, is the responsibility of all, not solely Aboriginal people. This is something that she has emphasised repeatedly in the over 10 years that we have now been working together. She shares as she does so that all who may listen, can learn; as she aims to guide us how to show respect from and as Country, as weather. This must be done from our place, always, with acknowledgement and respect of prior relationships, and even when this place, as it is for me and other non-Indigenous people living on (or living lives whose wealth is based on) stolen lands, is woven through with diverse, fraught histories of colonisation and all that means for how we got here, live here, are here. And yet in this, knowing this, being this, there are places for all.

I don't pretend to have it sorted. In fact, part of the point is that it *can't* be easy or finished or perfect in the world in which we live. Rather, I hope, in an awkward, non-innocent and tentative way, to interrogate some of my colonial privilege, to name it and to work towards responding to the calls of many Indigenous scholars

for non-Indigenous scholars to “to critically engage with their sovereignties and question their obligations to the sovereign relationships that have existed since the moment of colonial contact” (Akama et al 2017: 59).

As part of this accountability then, spiralling outwards from my immediate relationships, I aim to acknowledge and centre Indigenous thinkers and theorisations of weather and climate that have been shared both within the academy and beyond it. In this I follow and acknowledge the work of Indigenous scholars and the Indigenous knowings/beings/doings that have centred non-human agency and relationality through all time/s (Sullivan et al 2020; Todd 2016; Tynan 2021; Tynan and Bishop 2019; Yunkaporta 2019). Yes, this is citational politics, where Indigenous scholars, Elders and other community leaders are intentionally centred, and it is also more (Burgess et al 2021; Liboiron 2022). It is a need to respond, through relations, as a non-Indigenous person, living on Aboriginal land in ways that might “elicit a broad, inclusive and rich dynamic to unsettle and disrupt Western colonial structures and practices, and to consciously make room for the diverse, rich, dynamic knowledges which have been silenced, marginalised, and denigrated in and by academia for far too long” (Kangieser et al 2024: n.p.; see also Indigenous Archives Collective 2023; Mott and Cockayne 2017; Sullivan et al 2020; Todd 2016).

This of course means not only thinking differently, but taking some action too. For me, it means understanding and acting upon the fact that I have responsibilities, live through sovereign relations, whether I acknowledge them or not. They don’t go away if I ignore them, if I retreat into whiteness and/or deny the knowledges and sovereignties of First Nations and of Country. Living and working on stolen land, there is no way of getting around the fact that my very being here living on our much-loved small organic farm with my beautiful human and non-human family is based on theft and violence on extractive relations without which I wouldn’t be here.

And, while I personally write from a settler colonial context, these relations stretch also in different ways in different places and with different peoples. Countries that are no longer formally colonies nonetheless remained tied within relations of coloniality and racialised, patriarchal capitalism, while the privileges of those living in centres of imperial power are situated within past/present/future relations built upon violence and extraction. The privileges of some are directly tied to the extraction from others. As Dallas Hunt (2018: 87) suggests, “ultimately there is much work that white people and other settlers need to do that is not the responsibility of Indigenous peoples.” It is in this spirit that I aim to work through some of these important issues in tending to weather.

So, rather than ignoring these fraught and foundational knowledges and relationships, or pretending my discussion of weather and its relationships, of learning from Country and heeding the agencies of a vibrant and vital more-than-human world is new and novel, I hope to respond to Juanita Sundberg’s (2014) call for academics (and here she is talking primarily to the white academic audience of much geography scholarship) to do our “homework” and acknowledge our geohistorical and biographic positionalities, to unlearn privilege and move beyond comfort zones, with the aim of *walking with* others as a strategy for solidarity, engagement, and direct action (see also Wright and Tofa 2021).

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While Juanita Sundberg is speaking primarily of *walking with* human others and this is indeed central, I understand this as a call to walk with (fly with, move with, stay with, be with) more-than-human others, with rain, fog, winds, seasons, heat waves and all forms of weathery beings that, after all co-become with us, and with/as the whole complex more-than-human interrelated co-constituent beings and becomings of Country.

In this learning to move with weather in ways that respect Indigenous belongings and knowledges, I turn to weather itself to help negotiate this terrain. I aim to respond, in particular, to the invitation that Warlpiri Elder Wanta Steve Jampijinpa Patrick (2015) has extended to Aboriginal and non-Aboriginal people to learn from *Milpirri*, the cloud that forms when hot air and cold air meet. Wanta Steve Jampijinpa Patrick, from Lajamanu in the Tanami Desert, has been involved in sharing teachings, including of *Milpirri*, in many forms and forums including through academic work (Biddle and Dowsett 2022; Patrick 2008; Patrick and Biddle 2018; Patrick et al 2008), and through stories, dance and gatherings.³ When hot air and cold air come together in the desert, a thundercloud is formed, a ceremony cloud, full of difficulty, clashing ideas and knowledges. There is movement, the potential for adjustment and then, when things settle, there is the *Milpirri*, a cloud that softens, brings rain.

In his invitation to learn from *Milpirri*, as Wanta Steve Jampijinpa Patrick explains:

The rain rejuvenates the possibilities for two different kinds of knowledge coming to an agreement. A better understanding of each other on both sides occurs; this is the rain and the relief that comes. When it rains, the nourishment of country occurs. Once the lightning settles, the rain comes, which is this country's understanding of how we should work together and how achieving this can, sometimes, be a bit rough. This is what the *Milpirri* clouds represent.

(p. 122)

Through *Milpirri*, as hot and cold air mingle and interact, different knowings and beings come together. While there is difficulty in these interactions, discomfort, hard truths and a need for change, there is often lightening and thunder, the interactions have the possibility of forming a storm cloud, and from there, rain. So from the meeting, new understandings come which can result in rainfall and a nourishment of Country.

This book then, I hope, will be an expression of *Milpirri*, bringing my own positionality and knowledges, to a situated place of knowledges meeting (Nakata 2007; Patrick 2015; Patrick et al 2008). These knowledges include learning from and speaking to other thinkers from within cultural geography, Science and Technology Studies, and from work around weather by feminist scholars that centre subjective and embodied knowings of and as place. Here, weather and its interactions, with people, their activities, their everyday lives, their patterns of movement, their ways of being in the world, are brought into focus. In this mode, theorists like

Stacey Alaimo, Phillip Vannini, Astrid Neimanis, Nancy Tuana, Tim Ingold, Tim Edensor, Maria Borovnik and Eliza de Vet and others look to relationships and entanglements of bodies and weather (Alaimo 2008; Barry et al 2020; de Vet 2013, 2017; Ingold 2007, 2008; 2010; Neimanis and Walker 2014; Tuana 2008; Vannini and Austin 2020; Vannini et al 2012). Through weather, people are immersed in the world's ongoing formation. Weather becomes a critical part of life, movement and knowing.

And, there is the materiality of weather itself that holds this knowledge-making. I draw from science and ecology in the book to direct attention to weathers' agency and specific materialities. The processes of weather are material agents and attending to this through diverse sciences is one way to tend to the richness of air and space, to things that might otherwise be seen as empty. The atmosphere is an ocean of air, with currents and swells and vortices and shifting shapes. Pressure gradients move particles past each other creating winds. So wind, yes, is an idea and an embodied reality, it is a memory and feeling on the skin, and it is also matter, moving as space.

Likewise, as well as clans meeting and songs sung of them, clouds are massed droplets of water, moving across the sky, eddying, their complex shapes created through the turbulence of droplets. This storm cloud is rich with material intractions: patterns in the atmosphere are created like milk poured in coffee. Lightning comes as electrostatic discharges travel from two electrically charged regions, releasing waves of light and sound heating small areas of the atmosphere to temperatures tens of thousands degrees hotter than the surface of the sun. There are particles and vibrating atoms, electric charges that come about through the collisions of tiny particles of dust and ice and ash and rock, thrown about in volcanic plumes and thunderstorms, violently rubbing together, separating off charged components. This is weather full of materiality, agency, pressures, mobile structures, shapes and movement (Lovejoy 2019).

The storm clouds form, from knowledges and understandings, from warm and cool air, from particles and electrostatic charge. And the rain nourishes in more-than-human ways; nourishes plants and animals, soils and waterways, resistances and survivances; and also creates invitations to form new political relationships on the terms of Aboriginal people and Country. In this storm cloud are invitations that demand response, a willingness to enter the storm cloud to meet, work, shift, change, and engender different ways of being, knowing and doing at the interface of Indigenous and non-Indigenous domains (Nakata 2007; Patrick 2015).

What even is weather?

Reptiles sunbaking

Carpet python, waterdragon, green tree snake

[Winter, late August]

Before I go too much further in this story, I think it's important to spend some time considering what weather is, what I'm talking about when I am talking about

the weather. Weather is a term that, to some extent, seems self-evident; it's used casually in ways that assume both a universality and lack of historicity around what weather means, what it does and how it is measured. Of course, weather is a complex term felt, lived and understood in pluralistic ways; ways both human and beyond. The reptiles moved to sunbake knowing the cold and warmth in ways that humans cannot. They regulate their body temperature through direct heat from the sun and the conductive heat from the rocks, moving to thermo-regulate and support healthy digestion, respiration, reproduction and immune response.

Indeed, there is not one weather but many. There are diverse knowings and experiences of weather, different weather cultures and embodied realities, both human and non-human. Many weathers, particularly in many Indigenous weather cultures, even the word itself in hundreds of languages, go beyond what can be written and understood in English (Leduc 2016). There are no translations to these embodied knowings. Yet, there are threads that I will consider as we move forward to help make connections living Milpirri.

One starting point is to understand weather as the state of the earth's atmosphere, the mix of events that happen there. It is temperature and pressure and precipitation. It is the processes too that create these states and events, the relationships between molecules, the movement and change. Weather is the seasons—those complex arrays of events, patterns and processes—and the ways seasons manifest and are felt and understood. Weather is the immediate place-based configurations of microclimates and microseasons, the broader movements of suns and planets as well as culturally imbued understandings, knowledges, connections and becomings of specific places, peoples and cultures. So while weather is often thought of (defined) as atmospheric, of the sky, weather is also in and of the earth and its beings, it is the conditions of the atmosphere and the effects they have, the freezing, cracking, shifting that occurs, the events and processes, and, it is the communications, the relationships, the socialities of these experiences. It is in the python and water dragon and green tree snake, in the warm rock, in the sun that heats them and the way they know to move and thermoregulate their systems. Weather is inside and outside: it is in the body, in biological processes; in and of place and local communities; in the skies and in space; and, fundamentally, in the relationships and co-emergences of all of these. It is in and of intimate, diverse, multiscaled and richly contoured more-than-human experience.

Weather is also stories and culture and more-than-human communication. Uncle Bud Marshall, Waabung man of the Baga Baga Bari on Gumbaynggirr Country, is a senior traditional Custodian who has shared his knowledge and wisdom with many, especially young people but also through Yandaarra in journals, books and international conferences. His stories speak to some of the many layers of what weather is, and what it holds. He says:

My Elders knew the cycle of everything. These are things I learnt sitting with them, listening to stories about the Old Fellas. They are true and work right into nature. There are seasons for everything here on Gumbaynggirr Country. Seasons for oysters, for fish, when birds are nesting. Berries and

butterflies and things. Everything is in this place for a reason that works with the season. A land of plenty, it's magical. Elders and Custodians are here to protect it, look after it and show everyone else how to walk this path of togetherness. It's like my grandfather would say to me, don't take too much, there is a spirit watching you. That is where you are connected with the earth and everything. It is really strong in our way. With the land and with people. It is a togetherness.

(Marshall et al Forthcoming: n.p.)

Uncle Bud speaks to the ways weather has agency, the way it draws us into relationship, the way it gifts us, and the ways that gifts have responsibilities. For him, weather is its pasts, presents and futures. It is stories and it is communications and relationships. The messages from the Old Fellas (Elders passed away) remain here, are felt on the breeze and in our hearts and minds, as well as in the bush tucker that comes, as ever, in its season (Marshall et al 2022).

Animals, so present in Uncle Bud's words, themselves also know weather in diverse ways. Weather is linked to humans, it helps make us, as we in turn co-produce it. Yet, weather is also beyond humans. There are parts of weather that lie well beyond human experience. Animals have their knowledges which can also help illuminate some additional layers of *what weather is*.

Animals, for example, can actually sense weather as pressure, sound, colour, humidity, electricity and light (Austin et al 2014; Barath 2021; Griffith 2021; Marchand and McNeil 2000; Marquez 2021; Roitberg et al 1993; Streby et al 2015). These are some material relationships through which weather is created. Some pythons, for example, sense heat through an organ placed near each nostril that can act like a thermal "eye." Golden-winged warblers in Tennessee avoid tornadoes thanks, it is thought, due to their ability to hear low-frequency infrasound noises that herald the storm days in advance. So, weather is sight, frequency and sounds, both sounds and sights that humans can sense and ones we can't. Different species of sharks sense hurricanes through barometric pressure, heading to deeper water to shelter from the storm. Insects, too, sense their worlds acutely through barometric pressures: aphids will alter their mating activity as will many other insects; wasps shift their flight behaviour, the timings of their egg laying; bark beetles modify their pheromones; fruit flies will change the morphology of their eyes. A hornet can convert sunlight into electricity providing a solar-powered surge. Sea turtles, lobsters, sharks and migratory birds sense magnetic fields, using them for migration.

These are deeply co-constructed; they are the co-constitutive times and beings of weather that shift and move with fluxes of weathery intra-action. Attending to the experiences of animals deeply underscores the pluralistic ways that weather is felt, known and responded to; it helps broaden our scope as we think about what weather is, what it does, what it means and the role of our senses, our bodies, in all of this. This is weather as transcorporeal, more-than-human, material, a matter of co-becoming. Bodies and places are co-produced by, through, with and as weather. Rather than walking through weather, or being able to stand separate from

it, weather is an embodied, intersubjective and more-than-human experience. Our bodies, like those of a fruit fly and a wasp and a sunbaking reptile, make and are made through weathery interactions.

If this rich weather is the weather I work within this book, there is also a specific history to the ways weather is known in the West, to the universal(ising) notions that tend to dominate. This is weather too, as a measurable and measured phenomenon entwined with histories of colonialism, and capitalist expansion. Such things cannot be disentangled.

To attend briefly to some of these entanglements, consider the history of meteorology as a science, the science of informing us of, and defining weather in discretely measurable ways. Originally, the science of meteorology referred to localised and earthbound observations of weather events, including shooting stars, rain, clouds, thunder and rainbows (Janković 2006; Naylor 2006). It was the study of all those things that exist between the earth and the moon and focused principally on qualitatively describing local extreme events and building a philosophy of meteors. For example: what exactly are those shooting stars? Where do they come from and what do they mean?

Towards the end of the 18th century in Britain and Europe, though, the science of meteorology shifted towards a greater focus on averages, systems and the search for universal laws, a shift that might enhance its utility in advancing Europe's imperial and industrial expansion (Anderson 1999; Henry 2015). Metropolitan elites prioritised "objective" theories over accounts drawn from the knowledges and observations of peasants, Indigenous people and amateurs. Indeed, there was a powerful dynamic around this knowledge production; personal virtue (or the lack of it) was seen as important to whether knowledge claims could be taken seriously. Personality, positionality, respectability and reputation became central to debates about the validity of astrology, weather prophets and meteorology in forecasting (Achbari and van Lunteren 2016; Darier et al 1999; Janković 2006; Mahony 2016; Naylor 2006).

Local weather knowledges were seen as useful or important "only for the contributions it could make to understandings of processes operating on a much bigger canvas" (Wright and Tofa 2021: 1130). Meanwhile, many people were specifically excluded from legitimate scientific endeavours; the knowledges of colonised peoples, people of colour, women, working-class people, peasants, people living and working outside Europe and other "non-experts" of all kinds were non-recognisable, impossible to validate (Henry 2015). Such processes denied and denigrated extant plural knowledges and sovereign relationships of/with weather, working to separate weather from people and from place.

This was weather as *tabula rasa*, as *aer nullius*. This is weather that would see, as I did, weather talk as superficial, beyond politics. I can glimpse now some of the power moves, violences and fraught histories that allowed and empowered that train of thought.

To some extent, this approach to weather, one that seeks to know it objectively and through standardised knowledges, continues to dominate official forums and discussions. Ongoing relationships and knowledges continue to be denied: in climate change discussions and policy, in approaches to loss and damage from

climate events that frame them as only ever economic, in interventions that re-create conditions of extraction and external expertise (something that I speak more of in Chapter 5). Many critical commentators have noted the ways standardised and universalised accounts impersonalise weather; the ways that widely scattered people counting, measuring and calculating do not only describe phenomena but actively create it anew as something abstracted, universal, measurable (Edwards 2006; Henry 2015; O’Lear 2016; Randalls 2010). This is a weather that might be orderly, known, quantified through data sets and natural laws, “a certain kind of reading [of our relation with the weather] that constitutes it as a code that can be mastered and controlled” (Szerszynski 2010: 19). It is this denial of relationships that has directly helped produce the conditions that have led to climate change and the violence associated with it (Gonzalez 2020; Grossman 2023).

Yet of course, weather continues to escape efforts to “purify” it in these ways (Anderson 2003; Edwards 2006; Endfield 2011; Mahony 2016, 2018; Naylor 2006; Vetter 2011). This is not a field entirely shaped by, or confined to, scientific understandings and predictions; weather and the many diverse knowledges and experiences of it continue to thrive outside and beyond standardised approaches in ways that support pluralist, emplaced weather cultures including the survivances of Indigenous peoples. Survivances are the active presences, the stories and forms of creativity that go beyond survival, escaping narratives of victimry, to highlight strength, endurance and flourishing (Vizenor 1999, 2008). Weather helps support and empower such realities in diverse, ongoing and important ways (Bawaka Country et al 2020a, 2022).

Scientific approaches too, are rarely dispassionate. Looking at the IPCC reports, which in some ways are the ultimate deployment of scientific expertise around weather in a changing climate, it is glaringly obvious that there are people who care deeply, who are desperately trying to connect broader scientific models with change on the ground, that see with excruciating clarity the ways the models and numbers are about lives and livelihoods and hurt and devastation. Knowledges are rich, hybrid and ongoing while relationships with weather persist in ways beyond, within, against and propelled by diverse scientific knowings. This is what it means to come to Milpirri; it is part of the storm cloud (Patrick 2015; Patrick and Biddle 2018).

And so, speaking of weather in this book will not solely be a story of the past nor a story of dualisms, of bad technoscience and forecasting, of good local knowledge, but rather a nuanced and rich set of realities, of struggle, of blurred boundaries, of co-becomings, of diverse, conflicting belongings and, yes, of violences and exclusions. In Milpirri and its contours of hot and cold air, in the winds and temperatures that bring molecules together, there are relationships and connections that extend out in diverse ways. Place-based and Indigenous knowledges are not somehow contained and static but are vibrant, always emerging. Neither does technoscience stand neatly against or even separate from localised knowledges. Despite the intensification of technoscientific forms of weather forecasting, for example, weather continues to be known, lived and experienced through richly plural vernacular and hybridised knowledges (Mahony 2016; Naylor 2006). Indeed, the

proliferation of apps and other decentralised forms of weather prediction mean that technoscience itself mediates complex and hybrid relationships between place, local ways of knowing and feeling in many different contexts.

Throughout this book, it is my intention to linger on and with these challenges, these complexities, these hybridities, these relationships, these struggles; to be in the storm cloud, to seek to nourish, to rain. Diverse local practices of knowing and experiencing weather, weather's very plurality as well as the relationships, cultures and laws that hold it, all confound domestication. And weather holds us in patterns of cycles, of seasons and winds, in physical co-becomings; it holds us in multi-temporal, multiscalar and agential worlds. These worlds, as attending to weather tells us, are adamantly not flat, not linear. To the contrary, weather's materialities, its more-than-human processes, absolutely insist on non-flatness, on attention to verticality, volume and complexity. Weather insists that we attend to connections and processes that occur at multiple scales, including the thickness of height, depth, multi-dimensional and volumetric space.

And so, as I tend to Milpirri, as I tend to connections, to the different places linked through both my history, relationships and responsibilities, and by the trajectories of cyclones over thousands of years, I turn to contours, to shifting topologies of weather, the gradients and relationships that stretch and link, that are multiple and full, and that will draw out and frame the discussion moving forward.

Shifting contours of weather

Shadows recede from the clothesline

Washing dries in one day

[Winter, late August]

I will finish this first chapter by introducing you to some of the contours that I will follow in this book, and to the idea of contours itself. Weather's moments, its movements and richness are beyond me in so many ways: the complexity and richness of its more-than-human intra-actions, the many agents, the spiralling processes. In the chapters that follow, I seek to trace some of these intra-actions, to tell some stories and bring out some specific learnings of and with weather. To do this, I need to create moments of focus, temporarily putting some boundaries around experiences of weather to bring attention to certain things, certain patterns and relationships, certain orderings of events. In this book, weather's contours will help provide points of focus. Contours will help me trace some of weather patterns and relationships to create a weather-led narrative; these are some of the contours that might serve as trails to lead one to Milpirri.

Contours provide a different way of attending, of putting together, when compared to more linear stories. Contours highlight relationships and offer a logic that both recognises the materialities of difference and those of connection, the ways these connections and differences emerge and shift. Contours suggest a way of winding our ways through the shapes and patterns, the movement, elevations and pressures, the links and memories of/as weather.

I draw inspiration from the work of Cindi Katz (2001) here who looks to alter topographies to trace and draw attention to the intersecting effects and material consequences of globalisation. For Katz, alter-topographies “reveal a local that is constitutively global but whose engagements with various global imperatives are the material forms and practices of situated knowledge” (p. 1214). Her work seeks to attend to situated/connected practices and effects in the hope they may suggest a politics that looks to multiply situated actors and places who are bound by global processes. For Cindi Katz, the contour lines of a “counter-topography” offer scope for new understandings and alliance, and for politics that are both grounded and connected. She mobilises topography as a research method. As she says:

To do a topography is to carry out a detailed examination of some part of the material world, defined at any scale from the body to the global, in order to understand its salient features and their mutual and broader relationships. Because they routinely incorporate both “natural” and social features of a landscape, topographies embed a notion of process, of places made and nature produced. If “history is lifeless without topography,” so, too, are topographies without history.

(p. 1228)

Katz’s work attends to history and the processes through which topographies are made through time. The topographies of weather are even more mobile. Tending to the alter-topographies of weather means tracing contours as lines of connection that link different pressures; pressures that create movement through difference. This is a topography that is more flexible and fluid than topographies of land tend to be. Topographies on land tend to shift only over geological timeframes. Topographies of weather shift slowly like this too, over tens of thousands of years, but, also, often faster, in microseconds through shifts in atmosphere. They bring together and separate, creating connections in mobile, mutable ways.

This brings me to topology, rather than topography. Topology is the study of shapes with an emphasis on movement. The word comes from the Greek, *τόπος*, “place, location,” and *λόγος*, “study.” In mathematics, the study of topology looks to the properties of shapes, and to relations that are unaltered by deformations, to the relationships that persist despite being twisted, stretched or crumpled (Merriam-Webster 2021). In the social sciences, topologies attend to notions of space beyond Euclidean approaches—to the ways spaces may be understood as a product of relations, and shifting densities between relations (Allen 2011; Martin and Secor 2014).

Topologies, then, draw out the ways contours shift, highlighting weathers’ mobilities and co-becomings, its emergences in and as landscapes of land, sea and sky. Looking to topology in weather leads to a focus on weather’s form: it highlights the connections, ridges, troughs, contours that might twist, crumple, re-form and re-configure, under conditions of both repetition and difference. The wide diversity of elements that co-constitute weather—the people, techniques, affects, equipment, stories and knowings—come about through heterogeneous, mobile intra-action.

Topologies also can help focus attention on weathers' shifting contours in ways that speak both to persistence and to change. These are spaces of weather, of relationalities that connect and situate in shifting ways, both ephemeral and enduring. The shifting contours of cyclones and the meeting of different air streams to make rain, connect diverse people and places, while also grounding them. And in this meeting, these intensive and extensive intra-actions, we may find weather acting as a catalyst for productive ontological engagement.

To be specific, in this book, I will trace five different contours of weather, following shifting alter-topologies through diverse sets of relationalities in place/time.

Firstly, following this introduction, in Chapter 2, I will look in more detail to weathery topologies of power and positionality. I will trace some of the ways power relations mediate what weather means and does, the way it constructs nations, whether the colonial fantasy of so-called Australia, or the many Aboriginal nations that have long made up this continent. I look deeper into *aer nullius* (Todd 2016), the ways *aer nullius* itself has its own shifting topographies of power. And I will look to alter-topologies too, to fullness rather than emptiness, to the care needed to attend to prior relationships, belongings and becomings of weather as we might learn from and respond to the shifting power relations that mediate weather affects/effects. Weathers' beings and becomings differentially discipline and empower and have been deeply enrolled in the colonial project. Yet weather too, has long been a means of connection, survival and survivance.

In Chapter 3, I turn specifically to place. This chapter focuses on the situated aspects of weather's topologies, to the ways it is always connected and situated in/as place. I engage as a settler living on unceded Gumbaynggirr land and with the teachings and relationships of Gumbaynggirr Elders Uncle Bud Marshall, Aunty Shaa Smith and Neeyan Smith, who I have worked closely with since 2013, and with Yolŋu Momus, mentors of the Bawaka Collective, Dr L. Burarrwanga, R. Ganambarr, Merrkiyawuy Ganambarr, and Banbapuy Ganambarr. This chapter will attend deeply to specific ways that weather helps hold our relationships with place, and the ways that it may teach responsibility-as. We all have abilities to respond as part of the worlds we co-produce.

In particular, I look to my own embodied relationships living on a small organic farm on Gumbaynggirr Country, and to songspirals and embodied story-maps of place, to understand the way weather spirals to hold our more-than-human relationships. Weather gathers and invites all to dwell in their connections with the diverse life worlds of place, in acknowledgement of different Indigenous presences and histories, and in ways that foreground the intricate, messy, place-based and dynamic webs of entanglements that hold and make us.

Chapter 4 turns from place to time. Weather teaches both time and place differently. The chapter is held by the story of buluunggal (a fish species also known as mullet) here on Gumbaynggirr Country, its seasonal return and the messages it brings. Drawing on learnings from Indigenous Elders, scholars, and weather itself, this chapter seeks to understand time as non-linear; as cyclical and multiple. Following some of ridges and troughs of weather-time, this chapter looks to continuity and change, understanding time as vital and agential, and as constituted through

more-than-human intra-action. Buluunggal's return highlights a deep co-becoming of time, weather and Country. It suggests a need to tell time differently, attending to the multiple temporal sovereignties of weather and Country.

I then turn to the body, following a contour inwards. I look to the detailed ways that weather is experienced and made through material, bodily responses and rhythms. Here, attention will be on affective links and on the contours of the body, to our very genes that adapt and shift their expression in response to seasonal changes, that send messages to fight inflammation or to rest. Seasonal messages are heard and sent through our proteins, our microbiome, our intimate self-as-world.

Finally, I shift to a contour that traces outwards once again, to the Philippines and MASIPAG. Here I will attend most deeply to weather patterns that connect. These are the troughs and ridges of global weather patterns that tie people and communities in distant places. I will engage with learnings from El Niño in particular, the ways that weathery processes link different communities; a geography writ in our bodies relationally extended to global processes. Our weathery intra-actions, our co-becomings and our global connections, may be obvious to those shifting air masses and circulating weather systems, to migrating animals, to meteorologists and those that hold different worlds in their minds, but are opaque to many, and often actively silenced by those in power. We do not stand separate from these shifts in weather and climate but make and are made by them.

In each of these chapters, I move towards Milpirri. Each contour brings another layer of complexity to what it means to dwell in and beyond the storm cloud; to follow the warm and cold air, to tend to the differential pressures, the multiple beings and complex relationships that might come together and make rain.

Before moving on

*Smell of rain rises from warm earth
Spring is on its way*
[Late Winter, last week
of August]

It rained yesterday. Because the sun had been out, the rain hitting the road and the grass let off the most beautiful springy smell. It's the first time I've smelt it this year, a herald of warmer months to come.

That smell, that wonderful smell, comes, in part, from a molecule called geosim that is produced by a bacteria, *Streptomyces*, that lives in most healthy soils.⁴ The molecule is released by the bacteria in the earth after rain. Apparently, humans are particularly sensitive to this smell, can smell it even if it is just a few parts per billion, though it is a smell that other animals too can sense.

So, there is a molecule in the air made by bacteria, released thanks to the moisture hitting the ground, that connected me to that rain, this soil; a molecule that literally passes into my lungs, sparking feelings and senses in ways richly evocative, embodied, deeply tied with my memories of summers passed. I can't see it floating there, but I can smell it, feel it, know it in/as my body.

These are some of our embodied more-than-human connections. The very atmosphere, as geosim can show us, is not an amorphous thing, not empty, not a background, not even something in which we are immersed, but rather something that is part of us, that we breathe in, that makes us who we are and that makes our pasts and presents. And the geosim, and the rain itself, moves as guided through pressure changes and diverse material processes. There are shapes and patterns, and movement, elevations and pressures, links and memories here.

The patterns are patterns that cycle, through joy and nostalgia, beauty and grief. Spring is two weeks closer now, the grass is coming back green after the frost. There are more finches and wrens coming in to eat the grass seed, the red-browed finch flocks are there along with even more small birds: fairy wrens, yellow-breasted robins. The light comes a little earlier, the soil underfoot is a little warmer. The tilt of the earth here, here in the southern hemisphere, has brought us closer to the sun. It's beautiful and healing this connection, it's powerful, inside and out.

The morning is also full of loss, of songs that haven't been sung in too long, in birds that should be here but aren't, in the ways the seasons are shifting, messages lost, the miscommunication of plant and fish, of wind and heat. There are the futures that never were.

It's a wonderful thing to understand weather differently, to live it and hear it, be open to it. Wonderful and terrible, nourishing, uncomfortable. Important.

I have called this introduction living weather and I mean this in two ways. Firstly, to emphasise the way weather lives, it has agency and materiality, it shifts and teaches and guides. This is a living weather that is never inert or static or void. Weather, its materiality and the more-than-human, diverse ways it is known and experienced is a rich space, made up of the intra-actions of relationally constructed more-than-human agents (Barad 2007; Whatmore 2002). Weather lives also through its emergence, the ways it unfolds cyclically and linearly, both with and through patterns, and sometimes in unpredictable ways.

And then, there is the way we live weather, we *are* weather, it is us, our bodies, our lives. So in this book, my hope is that it is not a matter of talking about weather, but living it and living it differently. Part of living weather in this way, I hope, might be the opportunity to think and act differently about responsiveness and responsibility so that rather than controlling a distant and abstract "other," we might respond as an integral part of more-than-human weather cultures, with responsibilities to ourselves and our more-than-human kin.

Notes

- 1 *Milirrpum v Nabalco Pty Ltd* (1971) 17 FLR 141 ("*Milirrpum*"). For more information, see <https://www.nma.gov.au/defining-moments/resources/yirrkala-bark-petitions>
- 2 This notion differs from a Western or Westphalian idea of sovereignty as power over a static objective that might be achieved or secured (Alfred 2002). Rather, it respects Indigenous ideas of sovereignty as processes of active engagement in ways that stem from connections to Country. More-than-human sovereignties play a critical role in enabling different and just human-human and human-non-human engagements. This is sovereignty, as Goenpul lawyer, Pakeri Ruska, and Ambēyaṅ scholar, Callum Clayton-Dixon,

state, as “The ancient reciprocal relationship we have with our lands. This relationship finds its roots in our connection to kind and country, manifesting in our song, dance and story, our language, ceremony and law. It is vested in the individual, the tribe and the nation. Our sovereignty has endured since the first sunrise – it cannot be handed to us or taken from us. Aboriginal sovereignty can only be expressed or suppressed” (2015: 10).

- 3 Wanta Steven Jampijinpa Patrick has a long-term collaboration with the TracksDance Company as creative director of the Milpirri Festival. For more information about some of the different creative expressions of Milpirri, and an introduction to the Milpirri Festival, see <https://tracksdance.com.au/landing/lajamanu-milpirri-indigenous>. There is also a podcast, “On Milpirri and digging yams of knowledge with Wanta Steven Jampijinpa Patrick and Jerry Jangala” available at <https://www.buzzsprout.com/1886223/11629498>
- 4 These wonderfully evocative bacteria, along with selected oils from plants, are used in commercial antibiotics and perfumes. The fragrance of rain is known as *matti ka attar* or *petrichor*. For more information, see *Petrichor: why does rain smell so good?* at <https://www.bbc.com/news/science-environment-44904298>