6. 'Nothing Ever Changes': Historical ecology, causality and climate change in Arnhem Land, Australia

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Nicolas Peterson has maintained a longstanding research interest in questions of human ecology, subsistence and the wider relationships between human beings and their environments, even as, over the course of his long career, interest in that area within anthropology as a whole has waxed and waned. This disciplinary inconsistency with respect to one of his foundational research orientations is perhaps one source of Nic Peterson's healthy personal reserve about adhering to the current anthropological fashion. His primary fieldwork period involved the almost overwhelming physical demands of many months' hunting and gathering in remote Arnhem Land and this suggests that deep empirical and experiential roots underlie his continuing commitments to the material and the ecological in explicating human life as well as to the productive rigour of fieldwork as the central investigative process. His restrained ecological and economic account of what must have been a most intense personal experience early in his life contains its own lesson for a more recent student such as myself enmeshed in the contemporary trends towards phenomenology and textuality: what can seem a compelling intellectual strategy in the current age clearly was not so in the past, and Nic Peterson's physical robustness and textual restraint was part of what positioned him to play such a pivotal role in subsequent Indigenous rights processes, processes in which my work was also involved. Peterson's Arnhem Land research has a number of facets (see Allen and Keen, this volume) but as recent events have demonstrated to us, ecological and environmental questions will remain central to human life in the decades to come, so his interests in how human beings adapt to the world they live in, adapt to changes in that world and what the consequences of this adaptive process are for human social life will continue to re-emerge in new forms. In what follows, I explore these questions in relation to my own fieldwork, examining local perceptions of environmental change in Arnhem Land. I offer this account as at least partially suggestive of the productive tensions between empiricism, ecology, phenomenology and environmental change that Nic Peterson knowingly and unknowingly began presenting me with a decade ago.

Nothing ever changes. There have never ever been any changes.

— Bininydjirri Wunungmurra

This statement is perhaps the pithiest of a number of similar statements I have heard from Yolngu residents of northeast Arnhem Land, each expressing the apparently unchanging precept that nothing ever changes. My aim here—and an overall aim of fieldwork I conducted in July 2008 on which this chapter is based—is to explore what that statement might mean in terms of environmental change. Motivated by a turn towards ‘historical ecology’ in the natural sciences, the scientific organisation funding my research was interested in locating information (both oral and documentary) about past environmental conditions from places and times where no scientific data existed. The driving concept is that of ‘shifting baselines’—the idea that ecological monitoring and/or scientific conservation measures are often aimed at preserving a set of circumstances that were highly altered (usually degraded) long before that monitoring or conservation activity started, but that this is not realised as often or to the extent that it should be. The time frame of ecological monitoring is at best a few decades, but significant adverse human impacts, particularly associated with capitalist development, might have been occurring for centuries. There is a belief that archival research can suggest the degree to which the baseline ecological conditions that one is trying to preserve (or indeed recreate) are not of a ‘pristine’ natural system, but rather the consequence of previous human (that is, ‘non-natural’) impacts.

The attempt to create better foundations for ecological practice places certain requirements on the practice of history—requirements that it might not always be able to meet. One challenge is an empirical one, as the undertaking relies on locating archival information of sufficient quality and with a sufficiently ecological emphasis to generate an adequate picture of past environments. In this case, the ‘facts’ of history that one seeks might not have been considered worth recording, or, more probably, worth recording in such temporal and spatial detail that comparisons with present circumstances are possible. The idea of interrogating history for an objective record of past conditions is a seductive one, but it requires an equivalent sense of the ‘shifting baselines’ of history, of the ways in which the past is recorded and/or remembered, as well as the context for those activities. I thought an archival search of the available resources about Arnhem Land would yield little of sufficient descriptive precision to be of use to those seeking an ecological record, for although the proportion of travellers who recorded and published an account of their travels through this unique area is much higher than the norm, those accounts (for example, Chaseling 1957; Flinders 1814; Mountford 1956; Thomson 1949; Thornell 1986; Warner 1937; Webb 1938) rarely contain detailed ecological specifics and/or photographs of particular places.¹ Despite Nic Peterson’s considerable assistance with sourcing relevant archives—assistance for which I am most grateful—my supposition

1 The Thomson Collection, of which Nic Peterson has been a great supporter and advocate (Rigsby and Peterson 2005; Thomson 2003; for more on the collection, see Allen, this volume), could be considered an exception to this statement. However, despite the richness of the photographic collection there is only a fairly limited set of images of places that can be specified sufficiently well in terms of location that their exact contemporary equivalents can be compared with the photograph.

about the lack of precision in those records was largely borne out. Therefore, this chapter emphasises a second aspect of the historical ecological task: interviews with older Yolngu people from eastern Arnhem Land about their memories of changes to the places they knew, their explanations for those changes and their thoughts about future change.

In this second exercise, one could argue that chasing the ecological 'facts' of history becomes an even more problematic task. It is possible to ask questions about places with greater precision than when reviewing a written text, but the responses elicited are necessarily shaped by present circumstances; what people say about the past often tells us as much about the people doing the remembering as it does about the world they remember. As my brief took me across Arnhem Land, I was at times talking to people I knew extremely well, and at times talking to people I had just met prior to commencing our conversation. Doing justice to each of these diverse conversations in their own terms would require far more space than I have available here. Instead, I will use some brief ethnographic examples to demonstrate some common principles underlying Yolngu people's accounts of ecological change (and indeed changes more generally) and what those principles suggest about people's attitudes to future changes—in particular, the climate changes that are receiving so much worldwide continuing attention.

The above comment from Binindjirri Wunungmurra was made in the context of a Yolngu circumcision ceremony, and it is perhaps unsurprising that the most unequivocal statement I have heard regarding the unchanging nature of the Yolngu world was made to me in a context in which ancestry was paramount. In the recent interviews about environmental change, another Yolngu elder, Richard Gandarrwuy, prefaced his discussion about the coastal water flows near his island home, Galiwinku. He knew we were to talk of change, and insisted on beginning our conversation on firm ancestral foundations:

[O]f the matters of which I speak, there have never been any changes. This is the original [saltwater] current, not from overseas, not created by snow, but by mountains belonging to the Madarrpa and Dhalwangu [clans]. This is sacred and significant theology of this land, the sacred and significant rangga.² It is the world, the discovery of the universe and the understanding of the human.

Although the ancestral flows are unchanging, there is dynamism rather than stasis, as Richard went on to note:

[T]he soil [sand] changes, that's the normal changes of the current. New mangrove trees and other stuff forms and washes away and is created

2 Literally, *rangga* refers to the sacred objects associated with the country in question. As these are simultaneously constitutive of, refer to and represent the country, the powers that created it and the people bound to it, Richard's usage here is relying on this wider sense of the term.

again. That's how the basic places or the creation was meant to be—creation can change everything, can create new places. The world are asking us about changes, but they are the original ones, the current changes through Manbuyngna and Rulyapa [sacred names for salt water].

Richard's comments were attuned to their context; he knew he was talking to an anthropologist adopted into the Maḍarrpa clan who was involved in the recent Blue Mud Bay sea claim. He also knew that I was interested in talking about ecological changes to the country surrounding us. Whatever I was to learn about 'shifting baselines' would not be independent of the fact that I was the one learning it and Richard was the one teaching me. More than just the contextual and contingent nature of oral histories can, however, be gleaned from Richard's words. He reasserts the point that Yolngu accounts of change—in this case of environmental change—take as their starting point the unchanging nature of ancestral power and its significance to both places and people. Yet that unchanging power is dynamic, creating regular cycles and seasons as well as possessing the ability to erode and regenerate places; the power of the ancestors represents dynamic creative equilibrium rather than stasis.

Importantly, a consequence of the engaged and responsive nature of ancestral power is that this dynamism is potentially more than a continuing equilibrium with respect to all that happens in the world. The ancestral powers are alive to events, particularly to human action and inaction. The owners of the area around the barge landing on the island of Galiwinku spoke to me about this country and of how changes to the sandbars in the area were both outside the norm and of concern. They understood these changes as the direct response by the resident ancestral snake to the constant incursion of vessels. Jane Garrutju explains:

Because that land belongs to Gandarrngu clan, and when we are right there we see many changes that are happening like Dulpa—the ritual being that owns the land, the snake itself—it's getting tired of barge zone, getting tired of marthanga [boat] zone. It's trying to move [it], trying to block the way to the barge landing. Because Balanda [non-Indigenous people] thinks we have nothing there. So when we see changes happening to our land, it makes us cry, it makes us sad. So when we see like sandbar growing higher and higher and longer and longer, we think to ourselves that they [the snake and other ancestral powers] are blocking the land, because they are spiritual beings that we believe that created our land. It's blocking the land itself. Because they [non-Indigenous people] think it's only water flowing, but we sing to the land that there is something there, a value, for Gandarrngu clan.

Jane's description of the snake's response to human incursion demonstrates three further aspects of Yolngu accounts of change. The first is that the unchanging nature of the ancestors must be understood in context; they are alive in the most concrete and physical of ways, and, because of that, it necessarily follows that they react to events, to people and to changes in their world. Such reactions can in their turn cause other changes to occur. For example, in Merlan's (1998) sophisticated account of another ancestral snake responding to disruptive activity by non-Indigenous people, the snake itself is understood to have left the area, to have been extracted from its former home—an alteration highly significant in terms of local place making (see also Myers 2000). Jane's account of the Gandarrngu clan snake does not include such a dramatic reversal, but does incorporate a direct response from an ancestral being to changes occurring in human life.

A second aspect of Jane's account is that the owners of that country are the most appropriate people to know and to speak about it, and their observations and interpretations can be understood as demonstrations of that ownership. Although explaining changes might not always stray into discussions of such powerful entities as the snake, commenting on changes and/or their causes is nevertheless a process of interpretation—one that implies the right to speak about a place, its history and its essential nature. In Yolngu terms, to speak in this way is to express a form of ownership, and those who are not able to speak from such a position will defer to those who are. Richard asserted in general terms that the movement of sandbars was a natural process, but when Jane's interpretation of the barge-landing area was presented to him he immediately assented to it as an analysis emerging from the appropriate source. Much has been written about the significance of place for Aboriginal people (see, amongst many, Merlan 1998; Myers 1986; Swain 1993) and about the ways in which Yolngu people in particular enact connections to, associations with and ownership of places (Keen 1994; Magowan 2001; Morphy 1984; Williams 1986). Speaking about places is another means of performing ownership, and therefore conversations about changes in places can be limited by the degree to which people feel it is appropriate for them to comment.

The last aspect evident in Jane's comments is that the causes of observable changes are usually identified as local, as primarily a response by local actors to local events, and this emphasis on immediacy, locality, human action and/or human responsibility is noticeable in a range of contexts. When I asked a senior Yolngu man from another part of Arnhem Land why the dugongs were no longer so prevalent around the beaches near his homeland, he suggested that they were registering the increased presence of human activity: cars, noise, kids on the beach and the presence of human sweat were keeping them away. The emphasis on local causes and local responses is noteworthy, partly because

dugong populations are the subject of continuing controversies in which, whatever one's position in the debate, much of the blame for the observed decline is usually shifted onto distant others. Second, the explanation is of dugong evasion not of an overall population decline; it is a local behavioural response rather than a wider ecological cause that is proffered as an explanation. It is potentially causally accurate; dugong distributions are affected by the presence of human beings, their boats and the habitat degradation that is often associated with human activity along the coast. Yet the accuracy or otherwise of the explanation (or indeed of the population assessments that underpin the explanations of Cartesian scientists) is not as significant here as what it indicates about the scale of causal relations that are prioritised and the degree to which those causal relations posit intentionality with respect to non-human actors.

The aspects of Yolngu accounts of ecological change that I have (all too briefly) outlined here are: that at the level of ancestry, nothing ever changes; that this assertion is flexible in terms of its interpretation and its context; that Yolngu explanations usually emphasise local causes and local agents (both human and non-human); and that owners, or at least those with strong kinship attachments, are the most appropriate people to identify and explain observed change in particular places. Such aspects would be familiar to those aware of Yolngu contexts, and indeed a range of Indigenous Australian contexts more generally. The question I wish to address is how those aspects relate to a particularly significant form of future environmental change—namely, global warming. This was one aspect of the conversations, but was deliberately not the major subject of the interviews. Rather it provided an additional context for discussions of past, present and future conditions in important and/or familiar places.

A number of Yolngu people with whom I spoke in 2008³ had heard of climate change in some form, but the level of detail varied. The polar ice melting and the possibility of sea-level rise were known phenomena, but knowledge about the relationship of this to carbon dioxide emissions was not evident amongst the people with whom I spoke. In terms of causal relations, what was absent from the then current Yolngu accounts of global warming was the human cause of the issue. That this was due to the complexity of the carbon dioxide process is likely; after all, Yolngu people are comfortable with the concept that the weather can be a consequence of agency generally and human agency in particular. A number of people spoke of how the sorcerers and magic men of times past were able to manipulate storms and weather, although in contemporary conversations such knowledge is often prefaced

3 As this volume went to press, a new article about Yolngu perspectives of climate change was published (Petheram et al. 2010). Its empirical findings support much of the analysis described here.

with a disclaimer to the effect that they are aware that non-Indigenous people find these accounts difficult to accept. Indeed, the presence of such sorcerors can add a certain irony to discussions of climate change in Yolngu contexts for those tasked with 'spreading the message' of this new phenomenon. For generations, Yolngu people have been told by the arriving inhabitants of the Cartesian universe that such songmen cannot make it rain, yet now they are hearing a message from the descendants of those same people that the weather to come will be a direct result of human actions. The relatively fine cosmological and causal distinction between the two positions leaves the new climate change advocate open to a charge of rank inconsistency, without considering the numerous other challenges associated with this kind of intercultural communication (Lea 2005). Nevertheless, the concept that humans can influence the weather is, in Yolngu terms, a relatively unproblematic one, perhaps far less problematic than for those who originally generated this account of the future and are still experiencing such trouble in reaching general social acceptance of it.

Even if the ultimate cause in carbon dioxide emissions remains less well known, knowledge of anthropogenic climate change is growing across Arnhem Land thanks to a combination of access to mass media, concerned advocacy, rapidly expanding Indigenous ranger groups, general government environmental programs and discussions of the livelihood opportunities provided by climate-related initiatives such as fire management and carbon sequestration. Not surprisingly, people are beginning to attribute changes they have observed, or that they are observing, to this new phenomenon. Climate change is becoming an element in the process of interpretation. Ngulpurr Marawili commented that 'the high tides used to only come once a month. But now the monsoons cause them more often. Climate change...you used to see yellow clouds in the east, but not anymore.'

I have already noted that despite the rising profile of climate change, the most important causal agents in Yolngu explanations of their world are usually local ones, and the causal agents of climate change are highly diffuse; it is literally caused by everyone everywhere, albeit not by everyone equally. This would seem to limit the potential role climate change might play at the level of intra-Yolngu political relations. If major deteriorations in important places occur in the future, the most socially potent explanations are likely to be local; climate change might be the ultimate cause of the deterioration, but attributions of blame lying closer to home would seem likely to carry more weight. The most meaningful social role of climate change could be in defusing conflicts about local conditions by providing a legitimate external and distant explanation where more commonly cited local factors have given rise to contestation. One ethnographic caveat applies here: at least one resident of Yirrkala had clearly

understood that methane emissions from cattle were an important factor in global warming, and one occasionally controversial element of Arnhem Land economic activity is a cattle farm operated by its richest Indigenous resident. Emissions from cattle might not be the primary driver of global warming, but local circumstances make this aspect of the warming process politically more potent than larger emissions sources; it potentially provides further traction in discussions with an often controversial figure about a sometimes controversial development. Similar processes to these are of course clearly evident in wider Australian society as it grapples with a problem that existing social, political and economic systems are ill equipped to deal with.

Yolngu people that I encountered do not see climate change as a major threat to them, and this is in keeping with the title of this chapter and the central, unchanging principle of Yolngu creative ancestry that it articulates. This perspective derives partly from the (perhaps correct) perception that the major impacts are likely to occur elsewhere, partly from that principle of unchanging creative ancestry and partly from a sense of confidence about knowing how to live with the country and the flexibility that gives them. Elsewhere (Barber Forthcoming), I have noted one confident assertion of Yolngu capabilities to deal with the climate changes to come based on their experience of change over the past 50 000 years. This sentiment was shared by others with whom I spoke, who observed the drying of the Murray River and flash flooding in other parts of Australia on their television screens, but who are yet to see such radical changes in their own neighborhoods. 'It does not affect us. We are not worried about it,' said one Yolngu elder aware of the phenomenon. The threats to Yolngu ways of life and aspirations lie more in the political and economic realms than in the meteorological. There are more immediate concerns to be addressed, though the growing flow of resources from climate-mitigation programs is one potential way in which these socioeconomic aspirations could intersect with climate change issues. Given that such resources are scarce in remote Australia, such programs could be far more important in people's thinking than the phenomenon itself, which is, and no doubt will continue to be, regarded as yet another representation of non-Indigenous misuse of the created world.

For climate experts, this sense of confidence might be of concern, reflecting a lack of awareness of the potentially quite significant changes that the models predict will occur in the coming decades. Yet it is also true that such confidence about one's place in the world and one's knowledge of how to survive when circumstances are tough provide a certain level of protection from discourses of risk and vulnerability. Ironically enough, such discourses are one of the risks of climate change, as locations around the world are systematically rendered 'at risk' or 'unsafe'. Such discourses can be self-fulfilling, as a place can cease to

be long before it becomes uninhabitable if people believe they have no future there. The ability to live in remote and sparsely populated areas of Australia and to successfully undertake subsistence hunting would seem as good a pre-existing adaptive skill set for an unpredictable future as any other currently possessed by a significant proportion of the Australian community. At the moment, climate change is a peripheral concern, which is hardly surprising given the far more pressing issues most remote Indigenous Australians have to contend with and the aspects of their attitudes to change I have outlined here. It is equally true, however, that places are highly significant to Yolngu people, and that they are very sensitive to alterations in those places, as the Gandarrngu concerns about the barge landing demonstrate. Depending on the nature of the impacts and where they occur, it could become a far less peripheral concern in the future.

Lastly, climate change adds a further element to recent anthropological conversations about places, phenomenology and weather. In an important article on Aboriginal place relations, Myers (2000) defends his account of the Pintupi from phenomenologically based criticisms by Ingold (1996) and Casey (1995). Myers (2000: 77) writes that 'people do not simply experience the world; they are taught—indeed disciplined—to signify their experiences in distinctive ways'. Ingold (2000) has emphasised the critical importance of relatively unmediated sensory experience in human engagements with their environments, and most recently (Ingold 2007, 2010) he has focused on wind and weather, coining the term 'weather-worlds' to describe such engagements. Myers calls our attention to the way in which ritual life is highly valued in Indigenous Australian contexts as the means by which an appropriate orientation to the world is generated. The accounts of environmental change I have reviewed here would seem to suggest the primacy of that orientation in Yolngu contexts; the sacred currents cause the changes that Richard observes, and it is the snake that is trying to disrupt the operations at the barge landing.

Yet the process of orienting, interpreting and engaging with the world in which we are immersed remains a continuing one, and it is not just towards ancestry that Yolngu people are being oriented. The daily weather is increasingly understood as a manifestation of a long-term average, of climate, and as a manifestation of that climate changing. We might be immersed in sensory experiences as Ingold suggests, yet it is also true that we are being encouraged to understand our weather-worlds in new ways, to ascribe new meanings to familiar phenomena and to be sensitive to the arrival of unfamiliar phenomena. Yolngu people in contemporary Australia are as much a part of this process as Australian citizens elsewhere, even if their position with respect to it and their

responses to its consequences may be unusual. We are all being socialised to experience weather as climate; to feel the wind on our face as a manifestation of human action and inaction.

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