

**Facing climate change in the Marshall Islands
A study in the cultural cognition of risk**

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Trinity 2011

Peter Rudiak-Gould
Jesus College

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This thesis is dedicated to the women of WUTMI: climate change pioneers

And to Dr. Alun Hughes

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Abstract

The Marshall Islands may be rendered uninhabitable by sea level rise and other consequences of global climate change within 50 years, a threat with which locals are increasingly familiar via educational events, firsthand environmental observation, and Biblical exegesis. This thesis explores Marshallese attitudes towards this spectre, in particular explaining why ‘ordinary’ Marshall Islanders (if not their government) have strongly favoured a response strategy based on self-blame and local mitigation, rather than other-blame and protest of industrial nations. I argue that this strategy does not stem from ignorance or disempowered pragmatism, but from a moral reading of climate change consonant with Marshallese values. Bringing together literature on traditionalism, entropy, and the cultural cognition of risk, I demonstrate that Marshallese reactions to climate change are intelligible in light of a vigorous pre-existing narrative of self-inflicted cultural decline. Climate change becomes framed as both a cause and a consequence of weakening custom, the over-reliance on foreign things, transforming global warming into a locally resonant, and indeed ideologically appealing, risk. Based upon this case study, I sketch a ‘trajectorial theory of risk perception’ and accompanying research agenda.

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Introduction

Anthropology has often appeared ill-suited to the task of investigating climate change, as the phenomenon is commonly assumed to be within the ambit of the physical rather than the social sciences (Crate and Nuttall 2009c: 394; Hassan 2009: 42; Yearley 2009: 390). This perception has something in common with the tendency (still widespread despite many critiques) in government discourse and Western public imagination to frame climate change as an 'environmental' threat rather than an economic, security, social, or cultural threat (see Macnaghten and Urry 1995: 210-11; H.A. Smith 2007: 200-201).

Yet climate change is indeed a cultural and social matter (Batterbury 2008; Crate 2008; Daniels and Endfield 2008; Lahsen 2007a: 9; Lindisfarne 2010; Magistro and Roncoli 2001; Nelson 2007; Pettenger 2007; Yearley 2009), like all 'environmental' issues (Macnaghten and Urry 1995: 210-11), to which the interpretive social sciences can make a vital contribution (Jasanoff 2010). While anthropologists largely ignored climate change for decades (Batterbury 2008; Finan 2007; Lahsen 2010: 166; Lahsen 2007a: 9; Rayner 1989; Townsend 2004), symptomatic of a more general difficulty of engagement between environmental studies and the more humanistic social sciences (Macnaghten and Urry 1995), recent years have witnessed a dramatic upsurge in interest (see in particular Crate and Nuttall 2009a). Anthropologists and other social scientists have now demonstrated both by argument and by example that ethnographic and cultural inquiry has an important role to play in understanding global warming. Indeed, the social dimensions of climate change are myriad. The *causes* of anthropogenic global warming stem ultimately from social and economic arrangements, certainly a valid subject of anthropological inquiry (Bohren 2009; Crate 2008: 570; Wilk 2009). The *impacts* of climate change influence human actors and are observed, negotiated, and interpreted by them, processes which are also unquestionably within the scope of anthropology (see for instance Crate 2008; Fox 2002; Hitchcock 2009; Jacka 2009;

Jolly et al. 2002; Lipset 2011; Marino and Schweitzer 2009; Thorpe et al. 2002). *Responses* to climate change, whether the scientific prediction thereof or actual physical manifestations of the threat, depend on human decisions, beliefs, and institutions, and exert societal influence, all of which are sociocultural matters (Berkes and Jolly 2001; Degawan 2008; Fox 2002; Hulme 2009; Pettenger 2007; Puri 2007). Finally, the *communication* of climate change from various scientific communities to the public and from one culture to another is a social matter (Bravo 2009; Hassol 2008; Hulme 2009; Lahsen 2010; Moser 2010; Nerlich et al. 2010).

The present study investigates a nexus of several of these sociocultural dimensions of climate change: it investigates the *communication* of climate change and the observation of its *impacts* in a particular society, in order ultimately to explain the *responses* that this particular society has favoured.

The responses that I aim to explain are well illustrated by a particular ethnographic anecdote. On February 25, 2009, several hundred students were assembled in a conference room at the Long Island Hotel in Majuro, the capital city and largest urban centre of the Republic of the Marshall Islands. They had gathered as part of Education Week, an annual event organized by the government's Ministry of Education. The theme in 2009 was global warming, and the Ministry had invited speakers from the government to deliver the news—familiar to some, novel to others—that human beings were raising the oceans, threatening to inundate the country within these students' lifetimes. Jorelik Tibon, the Deputy Chief Secretary in the Office of the President, defined the term 'climate change' and told the youth in unequivocal terms that the threat was real. He explained that planetary warming was melting ice at the North Pole, raising the level of the ocean, and that the Marshall Islands would be severely impacted. Reggie White, the Meteorologist in Charge at the Majuro Weather Service Office, showed a graph of rising sea levels in the Marshall Islands and

explained how factories, cars, and other industrial devices were responsible for this upward trend.

Having heard this unpleasant news, the students were asked to divide into groups to answer a question: ‘What can we as a community or as individuals do to combat climate change?’ After ample time for discussion, representatives from each group came to the front of the room to give their answers.

The first representative, a high school student, stated his group’s conclusion. ‘Instead of using gas—as we all know we use gas around the Marshalls for our vehicles—we can use biofuel, a.k.a. coconut power...We have plenty of *ni* [coconuts] in the outer islands. Why waste them? And the last of them all, instead of boats or *tiṃa* [ships] to go to visit grandma in the outer islands, we can use *kōrkōr* [canoes], because we are sailors.’

Another young man came to the stage to offer his group’s suggestions. ‘Reduce the use of private transportation, which means use more public transportation. So bus service, taxi, or even bicycles, walking, stuff like that. Exercise. Reduce fossil fuel emissions – use alternate forms of energy, for instance solar, wind power....Plant more trees – put more oxygen into the air. And almost last but not least, avoid burning trash. Don’t burn trash. Recycle it.’ He continued: ‘The good thing about using alternate sources of electricity is that you have unlimited sources of solar power here in the Marshalls...And another thing, turn off lights, air conditioning, fans, stuff like that. Reduce your use of electricity as a whole. Thank you.’

A young woman provided the next answer. ‘The first solution we came up with was [to] use less CO₂. We use a lot of CO₂. For example, reduce the number of cars, use less air conditioning...and reduce the number of batteries. These things all use CO₂.’ She continued. ‘Do not wait. Act as fast as you can to reduce climate change....Hurry, hurry, hurry. Don’t just sit down and be lazy.’

The next representative said ‘As we all know, most of the materials we use have carbon....So to reduce the amount of climate change, we as a community can ride bikes or walk instead of riding cars, buses, or taxis....cutting down the usage of air condition[ing]. Turning off the electricity...Also, to plant trees and bushes to absorb carbon dioxide....And last, recycle reusable items. Thank you.’

The last representative, a female high school student, told the audience ‘Here are some solutions to climate change. The first one is [not] driving. It’s of course a cause of climate change. It releases carbon dioxide. It’s that really bad smell you get from cars as you’re walking past them. And also we need to walk and ride bicycles because we have legs and we need to use them more often. And the next one is, we need to reduce the use of electricity...TVs. Don’t leave TVs on when you’re not watching them....And also, we need to stop deforestation, meaning cutting down trees....And the next one is stop throwing garbage. Most people don’t really know what ‘recycle’ means. If you just burn the garbage it’s so much faster, but then we need to stop burning. It releases carbon dioxide and it causes climate change. We also need to stop throwing trash into the water or on the road or anywhere else that we can see.’

The position, then, was unanimous: Marshall Islanders’ response to climate change should be to reduce their own carbon footprint, to minimize their own contribution to environmental damage. The students’ suggestions were as noteworthy for what they excluded as for what they included: there was no mention anywhere of protest against the United States or any other large industrial country. Rather than rejecting self-blame, these young citizens were embracing it; rather than portraying themselves as victims, they quite eagerly called themselves culprits.

While the ethnographic vignette above is only a single anecdote, it is typical of a larger pattern. Marshall Islanders at large have responded to the looming threat of climate change by condemning their own contribution to the problem, by advocating and moving

towards mitigation. While the stance of the Marshallese governmental elite is not always consonant with this—they are more likely to demand that foreign industrial nations take responsibility for the problem—the strategy based on local mitigation is favoured by most ‘ordinary’ Marshall Islanders. One could imagine, and indeed find documented cases of, starkly different responses to the threat. One could imagine a society that has largely rejected the notion of climate change, since the full extent of damage has yet to occur; for instance, in the low-lying island nation of Tuvalu 55% of citizens express scepticism of the scientific prediction of climate change because God promised in Genesis never to flood the earth again (Paton and Fairbairn-Dunlop 2010). One could imagine a society that responds by proactively evacuating the homeland; for instance, the governments of the atoll nations of Tuvalu, Kiribati, and the Maldives have indicated a willingness, if not an eagerness, to consider such a move (Connell 2003; Keane 2009; Russell 2009; Schmidle 2009; Toomey 2009). One could imagine a society that, having only a tiny carbon footprint like the Marshall Islands, attempts adaptation but not mitigation; this is the response favoured by the inhabitants of Takü Atoll in Papua New Guinea (Moyle 2002). One could also imagine a society that erupts in furious protests against the large industrial nations that, from a scientific point of view, are largely responsible for the problem; and indeed, many indigenous elites have adopted this strategy (Nuttall 2008a: 51).

But the Marshall Islands does not follow these patterns: this society has decided that climate change is best addressed through local mitigation efforts. The goal of this thesis is to explain why. As I will argue, the strategy does not stem from ignorance, a lack of boldness, or a victim-blaming internalization of hegemonic discourses. It arises, rather, from a moral vision of climate change consonant with Marshallese society and values, a vision in which climate change is a consequence and cause of the abandonment of tradition.

The thesis proceeds as follows. In Chapter 1 I summarize the threat of climate change from a scientific point of view, review the theories on which I draw to explain its reception in

the Marshall Islands, and discuss the methodology that I employed to gather data. The heart of the theoretical framework is the theory of cultural cognition, in which threats are attended to and interpreted in consonance with prior ideological leanings. In Chapter 2 I describe what these prior ideological leanings consist of in the Marshall Islands. In particular I analyze in detail the local narrative of self-inflicted cultural entropy, which I argue to be the society's most pervasive discourse, in the context of Pacific Island ethnography more generally. In Chapter 3 I analyze the nature of the climate change message in the Marshall Islands, and through what channels people become aware of the threat. In Chapter 4 I investigate the way in which Marshall Islanders, via cultural cognition, have interpreted climate change as a kind of cultural entropy. In Chapter 5 I show how this moral framing creates an associated sense of climate change self-blame and therefore a strong emphasis on local mitigation rather than foreign protest, thus answering the central question of the thesis. In the Conclusion I explore the implications of these findings for the anthropology of climate change and sketch a 'trajectorial theory of risk perception'. This thesis, then, synthesizes the theory of cultural cognition with the literature on entropy in order to explain Marshallese responses to climate change.

Chapter 1: Theory and methodology

This thesis concerns the local reception and interpretation of a scientific prediction. For background purposes it is necessary to briefly summarize what this prediction consists of, from a scientific perspective.

The Republic of the Marshall Islands is one of four sovereign nations—the others being Kiribati, Tuvalu, and the Maldives—that are expected to become uninhabitable, if not nonexistent, due to climate change (Barnett and Adger 2003). The country is composed entirely of low-lying coral atolls and single islands with an average elevation of seven feet, and no point higher than 32 feet. The Marshalls are not only exceptionally low-lying but also extremely small: the 1,225 islets total a mere 70 square miles of land, spread out over 750,000 square miles of ocean. On most islands it is impossible to put more than a few hundred yards between oneself and the sea, and nowhere in the country is more than half a mile inland. While the country's coral reefs have existed for tens of millions of years (Guilcher 1988: 228), the islands on those reefs formed only a few hundred years before settlers arrived, 2000 years BP (Thomas 2009: 576; Yamaguchi et al. 2005: 31-2). As a result the islands are severely threatened by even the best case scenarios of climate change-induced sea level rise (see Solomon et al. 2007).

It is not just sea level rise that endangers the country, however, but a host of consequences of climate change, a 'sinister synergy' (Patel 2006) of impacts. The islands will not simply sink (Framework 2006: 28), but become increasingly vulnerable to the sea. Storms will impact the atolls with increased frequency and strength. Floods will damage houses, ruin crops, contaminate well water, and cultivate disease (Barnett and Adger 2003: 324-6). Increased climatic variability will lead to more pronounced droughts. Warming sea temperatures will bleach coral reefs, threatening the source of fish protein for many rural

islanders and weakening one of the islands' vital buffers against erosion and storm surges (Ibid.).

Human factors intensify the country's vulnerability. The population has grown explosively since World War II, quintupling in 50 years (Juumemmej 2006: 73) and now exceeding 60,000 (CIA 2010), many times above the archipelago's traditional carrying capacity of approximately 10,000 (Kramer and Nevermann 1938: 18). Two-thirds of the population now lives in the overcrowded urban centres of Majuro and Ebeye (Juumemmej 2006: 73). Whereas Marshallese once settled on the safer tracts of land—the lagoon shore rather than the ocean, wide islands rather than narrow, the leeward end of the atoll rather than the windward—these practices have disappeared in the cities (Spennemann 1996): urban settlements now extend from the lagoon side to the ocean side, reaching the very edge of the shore. The location of Majuro, the capital city, may be the most precarious of all: the D-U-D (downtown) area arose by historical accident on a series of long, extremely thin islets on the exposed windward side of Majuro Atoll (Ibid.). In both Majuro and Ebeye, development activities have eliminated much of the vegetation that naturally protects against wind and waves, exacerbating erosion (Juumemmej 2006: 89, 97; Xue 2001). In a dangerous intersection of the country's nuclear past with its climatic future, rising sea levels could erode the concrete dome at Runit Island, Eniwetok Atoll where the American military capped millions of cubic feet of radioactive waste resulting from atomic testing (Muller 2009). The Marshallese government's modest means weaken hopes of technical solutions to climate change; for instance, it might be feasible to fortify the capital city against a metre of sea level rise, but such a project might cost four times the country's GDP (Barnett 2005).

A vulnerable system has been defined as being 'very sensitive to modest changes in climate, where the sensitivity includes the potential for substantial harmful effects, and for which the ability to adapt is severely constrained.' (Crate 2008: 571) The Marshall Islands perfectly fits this definition, as the effects of climate change are expected to be severe and the

scope for adaptation is limited (see also Holthus et al. 1992). Although coral atolls may exhibit some resilience to sea level fluctuations (Webb and Kench 2010), there is a very real possibility that the country will become uninhabitable in the present century (Barnett and Adger 2003: 325-6) or during the lifetimes of Marshall Islanders living today. In this case, the entire nation would be forced to relocate. While it is true that 15,000 Marshall Islanders have already chosen to immigrate to the United States (Juumemmej 2006: 20), environmental exodus would represent an entirely different sort of movement: a forced and irreversible displacement, with complex and uncertain legal and political ramifications (Larson 2000).

Theoretical framework

Analyzing responses to climate change requires close attention to definitional distinctions. Elizabeth Marino and Peter Schweitzer differentiate between climate change knowledge based on ‘local experience’ and climate change knowledge based on ‘global public discourse’ (Marino and Schweitzer 2009: 209), while Mike Hulme makes a similar distinction between ‘the physical climates of the world’ and the ‘the *idea* of climate change’ (2009: 322, emphasis in the original) or between ‘climate change’ and ‘Climate Change’ (Ibid.: 327-8). In this thesis I will refer to the latter (climate change as people learn about it via dissemination by scholastic, media, educational, governmental, NGO and other outlets) as *reception*, and the former (climate change as people learn about it via locally noticeable impacts) as *observation*.¹ In practice, of course, reception and observation influence each other and are not wholly separable. However, as a first approximation, it is extremely useful to differentiate between these two sources of climate change *information*, even if ultimately

¹ My terminology differs from that of Orlove et al. (2008), who define ‘observation’ as scientific measurements of environmental change (akin to what I call reception) and ‘perception’ as local observation of environmental change (what I call observation). Since ‘perception’ and ‘observation’ are likely to be confused, I adopt a different terminology.

they combine locally to form a single body of climate change *knowledge*. (Indeed, there is evidence that the brain processes reception and observation differently [Marx et al. 2007].)

Most anthropological studies of climate change attitudes have been largely ‘observation studies’ in which the ethnographer investigates how communities become aware of global warming via local environmental monitoring (Lahsen 2010: 165). Less attention has been devoted to ‘reception studies’ (or what Bravo [2009: 265], a geographer, calls ‘the geography of reception’) in which the ethnographer investigates how communities become aware of global warming via global discourse, communication, and education. A handful of anthropologists have conducted reception studies (Lahsen 2007b, 2004; Lazrus 2009; Nuttall 2009; Strauss 2009; Taddei 2009) and/or advocated them (Lahsen 2010), but reception is rarely the primary focus; in fact, most in-depth reception studies have come from other disciplines (see Bravo 2009; Connell 2003; González and da Silveira 1997; Grothmann and Patt 2005; Hulme 2009; Kuruppu 2009; Mortreux and Barnett 2009; Paton and Fairbairn-Dunlop 2010; Suarez and Patt 2004; Whitmarsh 2009). This thesis is both an observation study and a reception study, but it places significant weight on reception. This reception-based approach requires a defence, as it is implicitly, and sometimes explicitly, sidelined in anthropology. This defence can be found in full in Rudiak-Gould (2011), but I present it here in briefer form as well.

The explicit argument, mentioned above, against reception studies is that of Elizabeth Marino and Peter Schweitzer (2009). Based on their fieldwork on climate change perceptions among the Inupiaq, the authors claim that climate change ethnography must focus on observation, not reception, if it wishes to access emic notions of the threat. Although their indigenous interviewees were aware of both kinds of ‘climate change’, they could describe only the first kind of climate change in detail and with confidence (see Roepstorff 1999 for a related case); they regarded the second kind of ‘climate change’—the scientific idea of global warming that they had heard from scientists and in the media—as a topic beyond their realm,

‘a world of knowledge that exi[s]ts outside of the local’ (Marino and Schweitzer 2009: 213). Thus, the use by an ethnographer of the English term ‘climate change’, which triggers people’s recollection of reception rather than observation, is ‘detrimental and limiting to the anthropologist’ (Ibid.: 209), and it is best to avoid the phrase altogether if one wishes to access ‘local conceptions of change’ (Ibid.: 210). While this is, to my knowledge, the only anthropological publication that explicitly favours observation studies, the relative scarcity in anthropology of reception studies indicates a preference for observation, and therefore an *implicit* argument for its primacy.

Contrary positions are offered by geographers such as Mike Hulme (2009) and Susanne Moser (2010) and psychologists such as the members of the American Psychological Association’s Task Force on the Interface Between Psychology and Global Climate Change (Swim et al. 2009). These scholars argue for the possibility, and the necessity, of a reception-based study of climate change attitudes. Since the impacts of climate change are, thus far, only incipient and largely invisible to many communities, reception is the primary fount of climate change concern. As Moser argues, ‘climate change—no matter how certain and urgent to experts—for now, and maybe for some time, is fundamentally a *mediated...problem* for most audiences’ (2010: 36, emphasis added). Swim et al. similarly argue:

Media representations are a powerful and arguably primary mediator of climate change impacts for most individuals....[W]hat people are experiencing and responding to in the context of climate change are principally indirect and virtual media representations of climate change—not changes in global weather patterns or ongoing environmental impacts, per se. [2009: 91]

Similarly, Hulme argues that ‘We won’t understand climate change by focusing only on its physicality’ (2009: 355) but must rather study ‘the *idea* of climate change’ (Ibid.: 322, emphasis in the original) because ‘climate change has *more* potency now as a mobilizing idea than it does as a physical phenomenon’ (Ibid.: 328, emphasis added).

Other authors present more balanced views. The anthropologist Myanna Lahsen argues for the importance of studying people's expectations of scientifically predicted climate change impacts (*reception*, essentially) without arguing against the role of observation:

[A]nthropology needs to focus relatively more on fears and imaginations. Anthropologists have remained marginal in global environmental change partly because they have engaged little with these anticipatory dimensions of climate change; they have tended to wait to get involved until populations were feeling and expressing the impacts in a physical sense....Because an important part of its manifestations are uncertain and distant in space and time, imaginations and fears become key... [2007a: 9]

The geographer Michael Bravo (2009) also presents an even-handed perspective: in his comments on the Inuit reception of the Arctic Climate Impact Assessment (ACIA), he argues that Inuit attitudes toward climate change depend both on the observation of local environments and the reception of the ACIA, with which locals are quite familiar: 'the issue of climate change in Iqaluit is not just formed by observing the sea ice; people formulate their opinions by discussing movies, reading newspapers, and looking out over the bay when driving to work – as well as hearing what hunters observe out on the ice' (Ibid.: 274).

Similarly, the anthropologist Renzo Taddei (2009) argues that scientific predictions of global warming are 'performative social actions', affecting the present even as they speak about the future; one must therefore investigate their influence along with that of firsthand environmental surveillance and local forecasting methods, all of which are simultaneously wielded by local people. Swim et al., who I quoted above as advocates for the primacy of reception over observation, also appreciate the importance of observation and the interconnection between the two:

[P]eople do not directly experience climate change. They experience representations of climate change that are presented to them via various media and educational sources and personal interactions and, influenced by such presentations, they may interpret certain events they do experience, such as hurricanes or wildfires, as manifestations of climate change. [2009: 27]

In this paradigm, reception and observation interact to form people's attitudes towards climate change. In a distinct but related argument, Marx et al. (2007) argue for the

importance of both scientific predictions (reception) and memories of personally experienced disasters (observation) in encouraging publics to prepare for climatic threats.

We are thus presented with several conflicting recommendations: that we should remove reception entirely from our studies (Marino and Schweitzer 2009), that we should view reception as primary and observation as secondary (Hulme 2009; Moser 2010; Swim et al. 2009: 91), or that we should lend considerable weight to both (Bravo 2009; Lahsen 2007a; Swim et al. 2009: 27). To some extent this debate stems from differing disciplinary habits: anthropologists are accustomed to studying indigenous and subsistence-based peoples with keen awareness of the local environment, often living in remote rural areas where climate change education is limited; geographers are more accustomed to tracking the larger interconnections of ideas (therefore reception); and psychologists tend to study Western urban subjects who have more experience being educated about climate change than seeing it in their backyards. Scholarly communities are liable to assume that their chosen study groups are typical of the world, and therefore that the techniques best suited to those study groups are applicable to people everywhere. Therefore, rather than seeing this as a substantive theoretical debate, I view it as the attempts of various scholars of climate change perceptions to tailor their research activities to the people they study, and to play to the strengths of their respective research methods. There need be no debate, then: rather, we should ask ourselves which sort of community we are studying, and choose an approach from the list above as appropriate to that community.

Marino and Schweitzer's technique works well for communities that have little or no contact with the scientific concept of climate change. For instance, Crate (2008) quite appropriately focuses on observation in her study of the Viliui Sakha of Siberia, who at the time of fieldwork had had only recent and minimal acquaintance with the scientific idea, yet reported significant changes in weather predictability, seasonality, temperature, and ecology; Crate explores how these changes are seen to exacerbate societal and cultural breakdown, and

to stem from cosmic perturbations and human beings', especially outsiders', violations of the natural order. Byg and Salick (2009) focus on observation for the same reason in their study of Tibetan villagers in Yunnan province: they summarize the changes that locals report, correlate these reports with differences in village elevation, and describe the conceptual entanglement of these climatic concerns with worries about religious violations, cultural change, development, and tourism. Smith (W.D. Smith 2007) conducts an entirely observation-based study of Totonac farmers in Mexico.

Lahsen's (2004) study of Brazilian climate scientists and policymakers focuses exclusively on reception, since her informants are insulated from most on-the-ground climatic perturbations yet intimately involved in the technocratic side of global warming. She argues that while environmentalist discourse calls for universal ecological concern and a view of the world as a unified, interdependent entity, nonetheless communities in different parts of the world conceive of environmentalism in local, specific ways, influenced by more parochial identifications. In Lahsen's view, this holds even among scientists, those who are presumed to belong to a unified global scientific community and therefore to be the most objective and least swayed by local culture. The Brazilian scientists she studies, for instance, tend to dissent from North-dominated climate science by calling for more attention to North-South equity and by dismissing blame of developing countries for their contribution to climate change.

Connell (2003) focuses largely on reception in his study of Tuvalu, indeed explicitly arguing for the primacy of reception over observation in this country. At the present moment, he argues, local impacts of global warming in Tuvalu are only moderate or perhaps nonexistent, yet Tuvaluans nonetheless have an apocalyptic view of future climate change, and have begun to blame all current environmental changes (even those most likely caused by local development) on global warming. The reception of climate change has thus been transformed, via a pre-existing conviction that the country is depopulating, into inflated local observation. While I find some of the specifics of Connell's argument unconvincing, such as

the suggestion that climate change has been embraced as a path to migration (see Mortreux and Barnett [2009] for a wholly different portrait of Tuvaluan attitudes towards forced relocation), the study ably shows the value of reception studies.

Nuttall's (2008b, 2009) study of Greenland mixes reception and observation in an inspired fashion. He shows how the global discourse of warming, as well as the local reality of increasingly mild temperatures, are differently interpreted by various groups—hunters, sheep farmers, and government officials—either as a death blow to Inuit tradition or as a boon for an economically and politically ambitious Greenland. Strauss's (2009) sketch of climate change attitudes in Leukerbad, Switzerland similarly mixes reception and observation, as both media coverage and local glacial retreat inform locals of climate change; she shows how they apply the same largely fatalistic framework to both.

I have provided a sense of what can be achieved in various field sites by both reception-based and observation-based studies. Which kind of study should be applied to the Marshall Islands, given the field situation vis-à-vis climate change? As I will demonstrate in Chapter 3, most locals have some awareness of climate change science, and most locals also report locally observed environmental change. Both reception and observation are thus important here, and neither can be elided. I therefore aim for a Nuttall-, Bravo-, or Strauss-like study, incorporating both sources of information, although I put significant weight on reception for reasons that I will explore in Chapter 3.

Given that reception is of high importance in my case study, climate change can therefore be called a *mediated* concept—an idea conveyed to people and interpreted by them, not merely a tangible reality to be seen without interpretation. As such, we must understand how the concept is mediated. We are thus out of the realm of strictly 'environmental' anthropology, and into the realm of cultural transmission. Numerous scholars have examined how knowledge moves, and it would be impossible to review all of the resulting studies here. Instead, I will focus on a few key agreements between various literatures on communication,

transmission, and translation which have crucial consequences for the study of climate change reception.

In the realm of communication, we must distinguish between transmission models of communication, and constructivist models of communication. Transmission models, originating in the Shannon-Weaver model of communication (Weaver and Shannon 1963) are based on the ‘conduit metaphor’ (Lakoff and Johnson 1980: 10; Reddy 1979), in which messages are conceived of as objects that are simply moved from speaker to hearer: words, or other means of conveying messages, ‘contain’ the meaning, the container is delivered to the receiver, and the receiver then takes the message out of the container. The weakness of this model is that it reifies messages, treating them as physical things. Whereas tangible objects truly can be given whole, in a physically unchanged form, to a receiver, information cannot: it must pass through the bottleneck of language and other imperfect media, and then must be *reconstructed* by the receiver. There is no ‘immaculate perception’ (Sahlins 1985: 147), rendering the conduit metaphor deceptive. Constructivist theories of communication, in contrast, assume a more active role for the receiver (even if the model still assumes one-way communication rather than a dialogue), and the potential for the receiver’s prior beliefs to transform the message as she attempts to reconstruct it. The message becomes a ‘prompt to construct meaning’ (Höche 2009: 276), rather than a chunk of meaning in itself; as such, the information in the receiver is different, sometimes radically different, from the one intended by the communicator.

Literature on cultural transmission similarly exposes the difference between transmission models and constructivist models of communication. Richard Dawkins famously coined the word ‘meme’ (Dawkins 2006 [1976]) to refer to a unit of cultural transmission analogous to the gene as the unit of genetic transmission. In Dawkins’ view, the processes are alike: ‘Just as genes propagate themselves in the gene pool by leaping from body to body via sperms or eggs, so memes propagate themselves in the meme pool by

leaping from brain to brain via a process which, in the broad sense, can be called imitation.’ (Ibid.: 192). Here again we see the error of reifying information, as anthropologists such as Maurice Bloch and Dan Sperber have pointed out (Bloch 2000; Sperber 2006 [1985]; Sperber 2000): while a gene has a material basis and can thus be physically moved in its original form, a piece of information is not a physical object in the same sense. Genes can be directly copied, usually resulting in a perfect replica (mutations are the exception rather than the rule), whereas information cannot be directly copied (mutations are the rule rather than the exception) (Sperber 2006 [1985]: 312; Sperber 2000). Ideas do not simply replicate themselves: they are expressed in some form (which entails transformation) and then received and reconstructed by another mind (another transformation) (Bloch 2000: 199-200). The analogy between ideas and genes can thus lead the researcher astray.

Dan Sperber (2006 [1985]) avoids these pitfalls in his model of cultural transmission: the ‘epidemiology of representations’. An idea exists in one individual’s mind as a ‘mental representation’. In order to be transmitted, the idea must first be turned into a ‘public representation’, such as spoken language, a written text, or an artefact. This ‘public representation’ is then received by another individual and reassembled into a ‘mental representation’ in that individual’s mind. Thus people do not ‘perceive and copy’, as Dawkins assumes, but rather ‘recognize and re-produce’ (Sperber 2000: 170).

Translation theory provides similar conclusions: translations are not mere formalities, or straightforward exercises in word substitution, but fraught endeavours with unavoidable trade-offs. No translation is perfect (Lewis 2004 [1985]), even within the ‘same’ culture (for example, from American scientists to the American public) or within the ‘same’ language (for example, from English scientific terms to English colloquial language) (Nida and Taber 2003: 4-5). A tension exists between what theorists call ‘fidelity’ (to the source text) and ‘transparency’ (to the target audience). That is, the more easily understandable the translation is to the target audience, the less accurate that translation is likely to be to the original text;

drawing the target audience closer to the original text comes at the expense of drawing the original text closer to the target audience.

Accordingly, there is a growing literature on the difficulties of translating climate change, both linguistically and culturally, from scientific elites to other audiences. Cross-cultural communication of ideas regarding the natural world is always difficult, as the two communities may harbour incommensurate views of nature (Roepstorff 2003); in contrast to the usual Western tendency to conceive of nature as a foreign, removed entity (Macnaghten and Urry 1995), many other societies view 'nature' as part of society (Roepstorff 2003, 1999); do not conceive of a separate 'nature' at all (MacCormack 1980); consider themselves surrounded by nature (Jorgensen 2005 [1981]); and/or see inseparable metaphorical, conceptual, moral, and causal links between nature and culture (Byg and Salick 2009; Crate 2008; Gold 1998; Hitchcock 2009: 258-9; Hsu 2000; Huber and Pedersen 1997; Leduc 2007; Nuttall 2009; Roepstorff 2003; Roncoli et al. 2009: 97; W.D. Smith 2007: 219), a view prevalent in the Pacific (Firth 1963 [1936]: 48; Jacka 2009; Lipset 2011). But indeed the translational troubles can arise even within the 'same' language and culture. Concern-worthiness can be lost: for instance, activist-scholar George Lakoff and journalist George Monbiot have suggested that 'climate change', alarming-sounding to scientists, sounds neutral to publics, while 'global warming' sounds benign, and therefore they suggest rebranding the hazard with more dramatic and urgent language such as 'climate crisis', 'climate breakdown', or 'climate collapse' (Butler 2004; Monbiot 2009). But indeed the difficulties extend far beyond this (Nerlich et al. 2010). Hassol (2008) has suggested that many taken-for-granted English terms in the scientific community are radically reinterpreted when used to communicate climate change to the public: to highlight just one example, a 'positive' trend in temperature means an *upward* trend to scientists, a *favourable* trend to publics (Ibid.). Whitmarsh (2009), based on survey data, has documented the unexpected differences in perception between the terms 'global warming' and 'climate change' for the

English public: 'global warming' is more likely to be considered anthropogenic and serious, whereas 'climate change' is more likely to be considered natural and benign. The mental representations of 'climate change' and 'global warming' are identical in scientists' minds, yet when they are turned into the public representations (the phrases 'climate change' and 'global warming') and reassembled into mental representations in publics' minds, they become something different from the scientists' representations, and from each other, with important consequences for how people perceive the threat, and indeed whether they perceive it to be a threat at all.

Translating climate change is thus an imperfect endeavour, and we see once again that the communication of climate change entails its transformation. One major influence on this transformation is what psychologists call confirmation bias, an effect documented in numerous psychological studies (Lord et al. 1979; Nickerson 1998). The theory of confirmation bias states that individuals are biased towards confirming, rather than refuting, their prior beliefs. Information that appears to challenge one's beliefs tends to be ignored, discounted, or downplayed; information that clearly supports one's beliefs is embraced and emphasized; and ambiguous evidence, which might support or challenge one's views, is interpreted in such a way as to confirm one's beliefs (Kahan et al. 2007). That is, novel information tends to be subsumed into pre-existing beliefs if possible, ignored if not. These processes are unconscious, so that one is unaware that one is rigging the game.

While psychologists named the bias, it should not be thought of as merely a psychologist's theory, foreign to anthropology, or one which appears only in laboratories and not in the field. Indeed, anthropologists could as easily take credit for the theory, although they did not name it. Ethnographers have long observed that when an idea enters a society from the outside, it is not evaluated only on its own merits. Rather, it is evaluated in relation to the scheme of propositions in general: new ideas are more likely to be adopted if they resonate with old ideas, and are refashioned to fit them. For instance, Mary Douglas's famous

contention that people distrust, ignore, or attempt to destroy that which violates their categories (Douglas 1966) could be seen as an anthropological restatement of a particular aspect of confirmation bias. The notion that people shoehorn new developments into pre-existing conceptual schemes also underlies, and is assumed in, countless ethnographic studies of encounters with novelty such as Hutchinson on Nuer reactions to money and government (1996), Meggitt (1968) and Kulick and Stroud (1993) on the advent of literacy in New Guinean societies, Norris on religious conversion (2003), Broad and Orlove (2007) on the reception of El Niño forecasts in Peru, various authors on ‘cargo cults’ as emic explanations of European power (see Jarvie 1966, 1963), and Bloch (2000) on cultural transmission in general.

Therefore, one of the most important ways in which ideas are transformed when they are transmitted is that they are reshaped, via confirmation bias, to flatter rather than insult prior ideological commitments. Much of the oft-noted cultural influence on risk perception (Barnett and Busse 2002: 29; Roncoli 2006: 84) can be explained in these terms. Mary Douglas² (Douglas 1992, 1970; Douglas and Wildavsky 1982) proposes a theory of risk perception that has become known as ‘cultural cognition’ (Kahan et al. 2007) (not to be confused with the more general proposition that cognitive processes are influenced by cultural practices [see Roepstorff et al. 2010; Vogeley and Roepstorff 2009]). In Douglas’s view, while dangers are real, *risks* are socially constructed and inherently political ideas. Since complete knowledge of dangers is impossible (‘Knowledge always lacks. Ambiguity always lurks.’ [Douglas 1992: 9]), assessing their likelihood cannot be a perfectly value-free exercise, and assigning ethical weight to the outcomes is also, of course, a subjective endeavour (Douglas 1992: 31; Douglas and Wildavsky 1982: 2; also see Beck 1992: 29; Giddens 1999: 5): thus risk perceptions are always caught up in prior ideologies. Societies,

² While Aaron Wildavsky also contributed to the theory in Douglas and Wildavsky (1982), I refer to Douglas as the theory’s progenitor for simplicity and following convention.

and various factions within them, therefore attend to some hazards while ignoring other hazards, according to whether the hazards in question ‘reinforce the [society’s or faction’s] preferred political scheme.’ (Douglas 1992: 32) This selection in turn influences how societies respond to the threat. If the threat is not selected for attention, little or no response will result. If the threat is selected for attention, the society or faction will respond in a way ideologically consistent with its social structure and associated worldview. Blame will be meted out according to the usual habits of the society: preconceived villains (depending on the society, these may out-groups, rivals within the in-group, or the victim himself) will be deemed culpable, and appropriate action will be taken: vengeance against out-groups, calls for compensation from or punishment of an in-group rival, or acts of purification and atonement (Ibid.: 5-6). Such responses often appear strange to an outsider, whose society would favour a very different sort of reaction to the same threat, but they are always rational in the sense that they are intelligibly goal-oriented actions based on previously held beliefs (see Jarvie 1966: 311-2; Jarvie and Agassi 1967); the goal is both to *neutralize* the threat and to *harness* it to shore up an existing cosmological scheme.

Clearly confirmation bias is at work here: following the theory to the letter, threats that disagree with previous beliefs are ignored, ones that agree with previous beliefs are highlighted, and when highlighted they are poured into the mould of previous beliefs. Douglas’s later work is thus, essentially, an ethnographic exploration of confirmation bias in the realm of risk. This is not to say, however, that the theory of cultural cognition of risk is merely derivative and makes no further contribution. On the contrary, Douglas’s contribution is substantial. While experimental work on confirmation bias usually studies individuals in isolation, Douglas focuses on collectively held beliefs rather than privately held ones. As Douglas writes, ‘In risk perception, humans act less as individuals and more as social beings who have internalized social pressures and delegated their decision-making processes to

institutions.’ (Douglas and Wildavsky 1982: 80) Thus Douglas’s discussion is far more ethnographically rich and socially informed than that provided by individualist psychology.

Another of Douglas’s contributions has been to analyze in depth certain ideologies and social structures that influence risk perceptions. She focuses here on what she calls ‘group’ and ‘grid’ variables: ‘group’ refers to the degree to which the members of the society identify with their in-group against out-groups, and ‘grid’ refers to the institutionalized differentiation of roles between individuals within the group, the extent to which an individual’s rights and obligations vis-à-vis other members of the society are well-defined and agreed upon. Douglas originally advanced this classificatory scheme in order to explain why different sorts of societies favour different views of the human body (Douglas 1970), and later applied it to risk perceptions (Douglas 1992; Douglas and Wildavsky 1982). Douglas argues that high-group, low-grid societies (‘border’ or ‘sectarian’ societies) fret about the risks of technology, wealth-seeking, and large organization, since these all create the sorts of social distinctions that are inimical to the egalitarian ethos of border societies; in the West, environmental pollution is often the focus of these worries, since the notion that an apocalyptic environmental catastrophe will punish humankind for its ‘corrupt worldliness’ (Douglas and Wildavsky 1982: 127) accords with the group’s dislike of technology, wealth, and organization, and discourages people from defecting from the group to mainstream society. Meanwhile, high-group, high-grid societies (‘centre’ societies) lose no sleep over the risks of technology, wealth, and large organization, because the resulting social distinctions accord with a high-grid ethos; by extension, they are unperturbed by environmental risks, yet constantly wary of military and economic hazards which threaten the hierarchy.

‘Cultural cognition’ is often spoken of as being synonymous with this group-grid theory, but in this thesis I will view them as distinct. ‘Cultural cognition’ will hereafter refer to the more general hypothesis that dangers are selected for attention, made into collectively constructed ‘risks’, to fit pre-existing moral cosmologies. Group-grid theory is thus a subset

of cultural cognition: group and grid are two ideological commitments that can influence how a society perceives risk. But they are not the only such ideological commitments or cultural variables: there are numerous others, such as whether one believes in a 'just world' (Feinberg and Willer 2011) or whether one wishes to justify the social system in which one lives (Feygina et al. 2010). (While these views may be related to group-grid variables, they are not reducible to them.) Indeed, as I will discuss in Chapter 4, Marshallese climate change attitudes fit group-grid theory only partially. But they fit the more general cultural cognition thesis extremely well. I therefore rely on Douglas mainly as an ethnographically rich exploration of the influence of prior commitment on risk perception, rather than for her specific focus on group and grid variables.

Douglas's theory finds extensive support in a variety of fields. In anthropology, it has been successfully applied to understand, for instance, the differing reactions to environmental perturbation of two Papua New Guinean societies, and divergent views of nature that underlie that difference (Minnegal and Dwyer 2007). In the discipline of psychology, it has been supported with extensive experimental work (Kahan et al. 2007), about which I will say more in the next section, and it is also consonant with numerous psychological studies that show that people can cast blame according to prior biases, not just observations of causation and intentionality (Alicke 2000). In science and technology studies, it accords well with Daniel Sarewitz's work on the unavoidable politicization of scientific issues (2004), and with Brian Wynne and Sheila Jasanoff's writings on the ideological reasons why publics understand scientific issues differently from scientists (Jasanoff and Wynne 1998; Wynne 1992), the differential public reception of biotechnology in Western countries according to framing by political culture (Jasanoff 2005), and more generally how 'communally held...cognitive frames...impose discipline on unruly events by creating understandable causal relationships, identifying agents of harmful behaviour, and finding solutions that convey a sense of security and moral order' (Ibid.: 24), thus 'fram[ing risks] as targets of collective action.' (Ibid.: 45)

Cultural cognition fits, too, with the literature on the ‘social amplification of risk’ (Kasperson et al. 1988, 2005b) by which threats unimpressive to the individual may be selected for attention via social processes.

Douglas’s theory is also compatible with another body of scholarship that explores the difference between expert and lay risk perceptions in Western countries: whereas scientists tend to measure the concern-worthiness of a threat by the rate of proven harms or deaths attributable to it (and assume that any other method is uninformed and irrational) (Beck 1992: 22, 24-6, 29, 58; Slovic and Weber 2002), laypeople tend to judge concern-worthiness by how easy it is to blame a disliked out-group for the threat (Kasperson et al. 2005a; Wiedemann et al. 2003); how vividly imaginable the threat is (Slovic et al. 1982; Stapel and Velthuisen 1996; Sunstein 2006b; Tversky and Kahneman 1982; Weber 2006; Weinstein 1989); or by how novel, unfamiliar, and involuntary the harms are perceived to be (Fischhoff et al. 1978). As a result, publics often select risks that experts do not (such as nuclear power) and vice-versa (such as automobile accidents) (Patt and Zeckhauser 2002: 286).

Cultural cognition benefits from cross-fertilization with the theory of ‘risk society’ formulated by Ulrich Beck (1992) and Anthony Giddens (2002, 1999). Beck and Giddens contend that industrial societies are entering a new era, post-tradition and post-nature, in which the success of science has undermined its own certainty by creating technological hazards so novel, diffuse, and inscrutable that ordinary canons of evidence and predictability fail. An anthropological perspective deflates the claim that this kind of society is entirely novel—societies without a fixed tradition (low-grid societies) are nothing new (Douglas 1970) nor are societies without a sense of nature as a separate entity (MacCormack 1980)—but Beck’s and Giddens’ characterization of these inscrutable threats is nonetheless highly insightful. Hazards which are inherently invisible, with mysterious and complex causation, pervasive uncertainties, and diffuse responsibility, are particularly susceptible to ideological reinterpretation based upon confirmation bias, and the sort of politicization that the cultural

cognition theory predicts (Beck 1992: 22-23). Global climate change is certainly such a hazard, indeed one of the premier ones (Giddens 2002: 3, 28-9), and is thus especially fertile ground for confirmation bias. (This also provides another argument for the necessity of studying the *reception* of climate change, as global warming is so diffuse and complex in its workings that, in a certain sense, it cannot be directly observed [see Beck 1992: 27].)

Of course, confirmation bias is not omnipotent. At times, ideologically aberrant information is swallowed rather than spat out, resulting in social and cultural change (Robbins 2004; Sahlins 1985, 1981). The literature would suggest, however, that such is likely to occur only when the information has impressed itself upon people in a dramatic and indubitable manner – such as, for instance, in the case of intense and humiliating encounters with imperial power that force locals to re-evaluate their pre-contact conceptual schemes (Jarvie 1966: 307; Jarvie 1963: 5-7; Robbins 2004). Climate change may be such a force in some parts of the world, but in most places it is not yet overwhelming. In the Marshall Islands, its physical impacts are, thus far, only moderate and incipient; people are not forced to attend to it, believe it is real, or think about it in a particular way. Thus, confirmation bias and cultural cognition have free reign.

For reasons hinted at above, climate change is a notoriously difficult hazard to muster concern about. There are a host of psychological barriers that prevent people from protecting themselves from hazards, such as the possibility of denial (see for instance Edelstein et al. 1989; Lehman and Taylor 1987) and the related ‘optimistic bias’ (Weinstein 1989: 44) and ‘positive illusions’ (Johnson and Levin 2009: 1596) by which people tend to believe themselves to be less vulnerable to dangers than others around them. In addition to these general barriers, climate change presents special liabilities (Ungar 2007: 85). Its impacts are uncertain and lie mainly in the future, falling prey to what psychologists and behavioural economists call ‘future discounting’ (Frederick et al. 2002; see also McCrea et al. 2008), the tendency to care less about future harms than current ones (Leiserowitz 2007; McIntosh et al.

2000: 9); according to the ‘Giddens’ paradox’, the impacts of climate change become clear only once it is too late to prevent them (Giddens 2009). Present effects of climate change may not be very salient (Sunstein 2006b; Weber 2006) and presentations of pallid, statistical scientific information may fail to engage people emotionally (Marx et al. 2007; see also Hamblyn 2009) and meaningfully (Jasanoff 2010), even in highly vulnerable societies (Patt and Schröter 2007: 8); there is no ‘9/11 for climate change’ (Sunstein 2006a: 4), even in a vulnerable nation like the Marshall Islands (Rudiak-Gould in press). Individual events are extremely difficult to definitively attribute to global climate change (Allen 2010; also see Beck 1992: Chs. 1-2), since any environmental disaster has multiple causes, and global warming manifests itself in broad worldwide trends unfolding over decades, rather than in discrete one-off events. Relatedly, the causation of the hazard is difficult for those without scientific training to grasp (Ungar 2007: 83), potentially reducing concern (Bostrom and Lashof 2007: 38-9). The legal scholar Cass Sunstein has contrasted these troublesome characteristics of global warming with the far more straightforward attributes of terrorism—9/11 happened suddenly rather than gradually and had an easily identifiable cause and perpetrator—to explain why the United States government has been willing to invest vast amounts of resources to prevent future terrorism but not to prevent future climate change (Sunstein 2006a). Moreover research suggests that people have a ‘finite pool of worry’: they cannot worry about everything at once (Slovic et al. 1987: 26; Weber 2006: 114-5). Since the people most vulnerable to climate change also tend to be the poorest and therefore have the largest number of other concerns, many of them impacting them more at present than climate change (Hezel 2009b), those who are most vulnerable to climate change may think about it least.

This helps to explain why concern about climate change is low in many societies. In the 2006 Nielsen Global Omnibus survey of climate change perceptions in various large countries, in every surveyed country only a very small percentage of respondents said that

global warming was their first or second concern over the next six months (Boykoff and Roberts 2007).³ Even in some communities severely vulnerable to climate change, and where large changes have already been observed, such as in the Arctic (Bravo 2009: 277; Fox 2002: 45; Huntington et al. 2005: 62), Tuvalu (Mortreux and Barnett 2009: 110), Himalayas (Byg and Salick 2009: 164), and Arnhem Land, Australia (Petheram et al. 2010), many other issues are discussed far more often than climatic change.⁴

Climate change thus ‘has some real liabilities as a marketable social problem’ (Ungar 2007: 85). While this conclusion is undoubtedly true, it is also incomplete. As Mary Douglas aptly observes, the sort of risk perception studies described above may be limited by individualistic methodologies and assumptions (Douglas and Wildavsky 1982: 187), since they are mainly conducted by psychologists and behavioural economists: they conclude that individuals tend not to worry about future threats, but these studies downplay the possibility that collectively held ideologies may predispose people to fret over even distant and unlikely dangers, so long as those dangers flatter people’s ideologies (Ibid.). The liabilities reviewed above can be overcome, or at least greatly reduced, if a social group is able to frame climate change as an ideologically apt and resonant risk – if they are able to make the global discourse appropriately local.

On this note, climate change is usually conceived as a global discourse (Lahsen 2004; Miller 2004; H.A. Smith 2007), indeed one of the premier producers and products of recent global thinking (Miller 2004), and this is of course true. But it is also a local discourse: people in various sociocultural settings voice the discourse in divergent ways (Lahsen 2004; Miller 2004: 61-2; Pettenger 2007; H.A. Smith 2007), even scientists, those who are most

³ For the first concern, the numbers ranged from 17% for Australian women to 0% for Korean men. For the second concern, numbers ranged from 15% for French men to 0% for Czech men. Two percent of U.S. residents said climate change was their first concern, and 4% said it was their second concern; 7% of U.K. residents said it was their first concern, and 7% said it was their second.

⁴ But see Hitchcock for a contrary case from the San in the Kalahari desert: ‘Nearly all of the people who were interviewed agreed that the biggest challenge that they faced was increased environmental variability and risk.’ (2009: 253)

presumed to represent a unified, politically neutral, transcultural community (Lahsen 2004). At the same time, the local discourse is influenced by the global discourse, is identifiably part of it, and indeed it is this plethora of local versions of the discourse which comprise the global discourse. Myanna Lahsen captures this global-local duality of climate change discourse with the term ‘transnational locals’ (Ibid.).

Climate change, like any other discourse of risk, does not enter an ideational vacuum. Each community to which the idea is transmitted has many ‘pre-existing...norms’ (Cass 2007: 46) and ‘prior commitments’ (Jasanoff 2010: 240) to various cosmological and moral stances which radically influence their interpretation of global warming (Lahsen 2010: 166), which turn the ‘impersonal, apolitical, and universal imaginary of climate change, projected and endorsed by science’ into ‘subjective, situated and normative imaginations’ (Jasanoff 2010: 235), to put normativity back into a scientific discourse that self-consciously strives to be value-free (Ibid.; see also Roepstorff 2003). Research in public relations shows that ‘informative strategies’, which aim to present information in a purely factual way and to advocate action on purely pragmatic grounds, are far less effective at spurring concern and involvement than ‘persuasive strategies’, which aim to appeal to people’s moral beliefs (Werder 2006; see also Zaltman and Duncan 1977); Sheila Jasanoff (2005) makes a similar argument with regards to climate change more specifically.

Various works have explored and substantiated this. Psychologists have investigated how prior ideological commitments influence individuals’ willingness to believe that the science of global warming is true. For instance, confidence in the righteousness of the status quo makes individuals less likely to accept the science of climate change, as it implies that the present system is unjust (Feygina et al. 2010). Similarly, belief in a ‘just world’ where people reap what they sow has been shown to work against acceptance of climate change (Feinberg and Willer 2011), since the science of climate change asserts that often those who are least responsible for causing the problem suffer most from it (Crate and Nuttall 2009b:

11-12), an uncomfortable challenge to ‘just world’ beliefs. Corroborating Mary Douglas’s group-grid theory, commitment to a hierarchical (high-grid) rather than egalitarian (low-grid) and/or individualist (low-group) rather than communitarian (high-group) social system also makes people less likely to believe in climate change (Kahan et al. 2007). Indeed such ideological variables are considerably more powerful predictors of attitudes regarding climate change (and a range of other ideologically charged issues) than gender, race, education, socioeconomic status, and political affiliation (Ibid.).

Other scholars have examined how prior beliefs influence *blame* for climate change rather than belief in it (Taddei 2008). A foundational question in climate change blame is whether people find it plausible that humans are causing changes in the climate, setting aside the issue of *which* human beings they may be tempted to blame. It has been claimed, purportedly on ethnographic grounds, that people find the notion of anthropogenic climate change counterintuitive and implausible a priori. This is the argument put forward by Simon Donner (2007; also see Moser 2010: 34). Donner’s claim is that ‘virtually all religions and cultures worldwide for thousands of years’ (2007: 235) regard the climate as too grand to be under human influence; rather, it is ‘the domain of the gods’, a force that only deities can manipulate (also see Chakrabarty 2009). This conceptual stumbling block, Donner argues, helps to explain why the human race has been so tardy in responding to the threat and why some individuals still reject the notion of anthropogenic global warming. This is, however, a serious misreading of the ethnographic record. It is true that people in many cultures across the world believe that supernatural agents control the weather. But it is also extremely common to believe that human behaviour can anger or appease these supernatural agents, thus in turn influencing the weather (Byg and Salick 2009; Gold 1998: 174; Huber and Pedersen 1997; Strauss and Orlove 2003: 3, 7).⁵ Moreover, in many cultures people eliminate

⁵ Tibetan villagers in Yunnan province were quite sure that human actions were at the root cause of recently observed local climatic change, even though they were uncertain about how exactly this was caused (Byg and

the middleman, so to speak, believing that their moral behaviour can directly alter the climate (Hitchcock 2009; Hsu 2000; Leduc 2007), that their magic can do so, or that another powerful human group can do so (Byg and Salick 2009; Hitchcock 2009: 258). Indeed, surveys strongly suggest that most people worldwide are convinced that climate change is manmade: in the 2006 Nielsen Global Omnibus survey, the *highest* percentage of anthropogenic disbelievers was 16% (for American men) – perhaps a regrettably large sum, but still a small minority; and this is the *highest* percentage found in a survey of many nations.

It is therefore not difficult in the slightest for people to blame human beings for climate change. Indeed, it is eminently plausible and intuitive (Rayner 2003: 278; Rayner and Malone 1998: 75; Togola 2000: 187). The question now becomes which humans are blamed, and why. The debate over climate change culpability and responsibility is raging worldwide (see Hulme 2009: 155-6; Lahsen 2004). Blame of the West or of industrial nations is frequently found in journalistic, anthropological, activist, and indigenist literature; the disparity in carbon emissions between rich and poor is pointed to forcefully (see for instance Barker 2008; Crate and Nuttall 2009b: 11-12; Degawan 2008: 54; Tauli-Corpuz 2009); NGOs such as Oxfam have adopted this blame strategy (Radio New Zealand 2008), as well as climate specialists in developing countries (Lahsen 2004) and various indigenous leaders (Nuttall 2009: 294). Meanwhile, those who place blame on all human beings, not just Westerners and industrialites, are equally passionate in their emphasis: for instance, an American missionary I spoke to in the Marshall Islands who decried Marshallese hypocrisy for declaring that they are at the frontlines of climate change yet also blithely polluting their own country. At a session on climate ethics at the 2009 International Environment Forum, participants were asked to consider various countries' and territories' vulnerability to climate

Salick 2009: 165), a strong indication that blaming environmental change on humans is extremely intuitive, to the extent that no clear mechanism of causation need be posited.

change and then to decide who was responsible for the threat; although all agreed on the threat's physical causation, the views expressed on responsibility could not have been more disparate (Session Report 2009).

These disagreements cannot be traced to differing views of the causation of climate change. All of the individuals and groups above agree on the following well-established facts regarding the causes of global warming: 1) All people in the world, including poorer people, contribute to the greenhouse gas emissions that cause global warming; 2) Affluent citizens, and industrialized countries, produce the majority of emissions; smaller countries and poorer people produce far less. Since both facts are widely acknowledged and agreed upon, in a sense there ought to be no disagreement about climate change culpability and responsibility, no debate about which emphasis is 'correct' (Douglas 1992: 9; Sarewitz 2004: 390). Yet such a debate is not only live but indeed fierce. The theories of cultural cognition and confirmation bias explain why. In order to fit pre-existing beliefs, an individual may downplay or ignore 1) or 2) even if he acknowledges it to be true; he can choose to emphasize the fact that accords with his prior ideology. As Mary Douglas writes, 'If you want to cast blame, there are always loopholes for reading the evidence right.' (Douglas 1992: 9) Psychological experiments support the same notion: people can cast blame according to prior biases, not just observations of causation and intentionality (Alicke 2000).

This choice of emphasis matters greatly, because the two options yield starkly different 'moral readings' (Bravo 2009: 277) of climate change: either as foolish humanity's self-destruction or as greedy industrialites' victimization of the powerless. (In this thesis I will call emphasis on the first proposition 'universal blame', and emphasis on the second proposition 'industrial blame'.) Along these lines, the historian Dipesh Chakrabarty contrasts descriptions of climate change as part of human history as a whole with descriptions of climate change as part of the history of capitalism (Chakrabarty 2009). While the difference appears to be a superficial divergence in focus or emphasis, in fact the two descriptions

invoke radically different views of humanity, society, and environment: the first assumes a universal and unchanging basic human nature, which includes certain longstanding propensities towards environmental abuse, while the second assumes a cultural constructivist view of human behaviour and values, and implies that recent, historically contingent and culturally contextualized values underlie environmental problems. This in turn entails different blame for climate change: the first faults human nature, and therefore human beings in general, while the second faults capitalist culture and its agents especially in Western countries.

The geographer Mike Hulme (2009, 2010) explores how different ideological commitments change *responses* and proposed solutions to climate change. He points to six popular framings of global climate change in Western audiences: as market failure; as technological hazard; as global injustice; as overconsumption; as natural process; and as planetary tipping point. Each of these framings appeals to particular ideational communities: the first appeals to economists who believe that human nature is inherently acquisitive and self-interested and will, in the absence of a properly designed incentive scheme, naturally overexploit the commons; the second appeals to techno-optimists who trust the basic goodness of technology and its ability to solve many human problems, albeit with occasional negative side-effects; the third appeals to egalitarians and socialists who are concerned above all with unequal distribution of wealth and power; the fourth appeals to those who see acquisitiveness as a Western invention, not a part of human nature, and who in general abhor materialism and consumption; the fifth applies to those with a modest view of human power in the face of nature, who find the notion of human-induced global climate change ludicrous a priori (see Donner 2007); the sixth to those who combine techno-optimism with pessimism about the human capacity to change, and an apocalyptic view of environmental risk. Each of these framings in turn implies a particular solution: respectively carbon taxation; clean energy technology; ‘contraction and convergence’; prosperity without growth; adaptation; and

geoengineering. (Similarly, Cass [2007] shows how differing prior political cultures led to divergent willingness to commit to emissions reductions in the US, UK, and Germany.) Note how in each case, both positive and normative commitments are bolstered: the favoured framing of climate change upholds a prior view of how the world works, while the proposed solution upholds a prior view of how the world *should* work. As I will show through the course of this thesis, the Marshallese add a seventh framing to the list—climate change as cultural entropy—with its own underlying prior commitment—the self-inflicted grief of abandoning tradition—and its own entailed solution—the reinvigoration of traditional life.

This section has surveyed work from several fields, in particular anthropology, geography, and psychology, and found their conclusions about risk to be broadly compatible. In the work of psychologists mentioned above (Feinberg and Willer 2011; Feygina et al. 2010; Kahan et al. 2007), we have an experimental confirmation of an ethnographically inspired theory—an impressive rapprochement between experimental and naturalistic methodologies, between individualist and collectivist paradigms, and between universalist and particularist assumptions about cultural variation. When several fields, methods, and paradigms, notorious for their difficulty in working together, converge in such a way, one can assert with some confidence that the basic theory is sound. Therefore I take this general framework, at the heart of which is the theory of cultural cognition, as the theoretical backbone of this thesis.

Briefly, the synthesis I propose is as follows: climate change is not just ‘directly’ observed, but also *received* in a mediated form; as such it is transformed in the process of its communication; this transformation is largely due to prior commitments influencing the idea via confirmation bias; these prior commitments are not just individually held attitudes, but the shared moral cosmology of the society in question; ultimately this influences every aspect of how people think about climate change, including how believable it is, how severe, how

concern-worthy, and who is blamed for it; this in turn underlies what responses people favour and pursue.

Thus, to answer the question I posed at the beginning of the thesis—why Marshall Islanders favour local mitigation as a response to climate change—I must explore the climate change message and its transformation vis-à-vis the dominant moral cosmology of Marshallese society. (I take ‘cosmology’, along with such authors as Roepstorff [2003] and Smith [W.D. Smith 2007: 232], to comprise both normative and positive statements about how the universe works.) The heart of this moral cosmology is the narrative of self-inflicted cultural entropy, which I will describe in detail in the next chapter; the theoretical discussion of that narrative will wait until then, as it will make little sense without the ethnographic and regional background which I present in the next chapter.

Methodology

The Marshall Islands is an ideal field site in which to investigate the local interpretation of global warming. First, climate change prospects in this country are among the most dire in the world, involving nothing less than nationwide destruction. While this makes the case study atypical, given that most societies have not received such bleak proclamations vis-à-vis climate change, the very fact that this is an extreme case casts stark light on the issues at hand.

Second, in the Marshall Islands the idea of climate change is still in the process of vigorous transmission. As I will discuss in Chapter 3, although the idea has been in circulation for decades, the transmission has reached a fever pitch in the latter half of the first decade of the 21st century, and especially in 2009. This allows fieldwork to investigate processes of transmission: not just by gathering people’s recollections, but by observing, through participant-observation, how the idea is transmitted to people.

Third, the society, being its own sovereign nation-state, has the capacity to host serious and noteworthy climate change responses, yet, with 60,000 citizens and a homogeneous cultural and ethnic makeup, it is also small enough to be accessible using ethnographic methods.

Fourth, the Marshall Islands has been understudied with regards to climate change attitudes compared to other low-lying island nations—the Maldives, Tuvalu, and Kiribati—which have received similarly dire climate change warnings. In particular, a number of social scientists have studied climate change attitudes in Tuvalu (Connell 2003; Kim 2010; Mortreux and Barnett 2009; Paton and Fairbairn-Dunlop 2010), yet we have virtually nothing from the Marshall Islands. While the basic theoretical premise of this thesis—the cultural cognition theory—applies to all human societies, it manifests in cultural specific ways; thus, a study of Tuvalu, in the ‘same’ position regarding climate change, cannot stand in for a study of the Marshall Islands.

The conclusions of this thesis are based on one year and seven months spent in the Marshall Islands. In 2003 to 2004, I spent nine months on Ujae, a remote and traditionally oriented outer island, and three months in the capital city of Majuro. As an English teacher and Marshallese language textbook writer working under the auspices of the NGO WorldTeach, I was not officially conducting ethnographic research at this time, nor was I trained as an anthropologist, but I nonetheless amassed a year’s worth of informal participant-observation (see Rudiak-Gould 2009b) and became proficient in the Marshallese language (see Rudiak-Gould 2004). I returned for ethnographic fieldwork in July 2007, spending half of the summer on Ujae and half in Majuro, and again from May to September 2009, based primarily in Majuro but with some short expeditions to the outer islands of Leb, Mejit, Ailinglaplap, and Jaluit. Ranging from the copra sheds of remote islets to the air-conditioned hallways of Majuro’s government ministries, I had opportunities to speak and spend time with Marshall Islanders from all walks of life.

I employed a mixed-methods approach, including surveys, semi-structured interviews, informal conversations, participant-observation, and media analysis. In August and September 2009 I completed a survey of 146 adults in Majuro (described below); I also designed, with local climate change consultant and activist Mark Stege, a survey taken by 94 students at Marshall Islands High School which was administered on paper by Stege in February 2009. (In both cases not all respondents responded to all of the questions; I therefore report the number of respondents for a particular question whenever I report percentages of particular answers to that question. Throughout the thesis, percentages do not always add up to 100 because I round to the nearest unit.) I conducted numerous semi-structured interviews, recording about 50 hours of interviews in 2007 and 2009, in addition to many unrecorded interviews and countless informal conversations. My informants ranged from individuals I had known for years and lived with for extended periods of time (such as my host family, friends, and neighbours on Ujae) to individuals I had only just met. Individuals were chosen by two criteria. First, I sought interviewees of widely varying age, occupation, education, home atoll, and so forth. Second, I sought particular individuals who had special connections to climate change, such as informants who were familiar with the eroding graveyard on Piñlap Island, Jaluit Atoll (Chapter 4). Participant-observation included my extended stint as the only foreigner on Ujae (2003-2004 and 2007), my attendance and presentation at various climate change-themed educational activities (2009), my involvement as interpreter and cultural liaison in a climatological expedition to the outer islands (2009), and many informal and everyday activities during my three stays in the country. Through all aspects of my fieldwork I used the Marshallese language⁶ without interpreter, except when speaking to certain well-educated informants who preferred to speak in English.

⁶ In this thesis, as in Rudiak-Gould (2004), I use the new Marshallese spelling system (following Abo et al. 1976) except for proper nouns with widely accepted alternate spellings (such as the names of people and islands) and when quoting from a written source that uses a different spelling system.

My survey respondents were 146 adults in the D-U-D (downtown) area of Majuro. In order to reach the largest audience, I conducted the survey in the Marshallese language (except for a very small number of individuals who preferred to speak in English) and did so orally so that English competence and literacy were not requirements for participation. I walked the streets in every neighbourhood and administered the survey to people willing to participate. All of the respondents were individuals I had never met and who did not know who I was, thus preventing people from being biased by their knowledge that I was studying climate change (see below). 76 men and 70 women responded. Ages ranged from 18 to 84, with a mean of 42 and a median of 40. Education ranged from none at all to high school plus four years of tertiary education, with a mean of 11th grade and a median of 12th grade. 76% were Protestant, and 10% were Catholic. Since all of these numbers are close to the average in the Marshall Islands, it appears that the survey was not heavily biased in any direction; however, such biases cannot be ruled out because the survey respondents were not chosen randomly. A list of all the questions I asked can be found in Appendix A. To the first 100 respondents I administered a version of the survey in which observations of environmental change were elicited before asking the respondent's familiarity with the scientific concept of climate change; this was to avoid priming the subject to report environmental change. The final 46 surveys were administered in the opposite order: the subjects were asked first about the scientific concept of climate change and then about their observations of local environmental change.

Although I employed a mixed-methods approach, it must be said that this thesis relies in a large part on elicited, verbal, essentially 'introspective' (Jack and Roepstorff 2003) data whether those data come from structured surveys or from more open-ended interviews. This was a matter of practical necessity. Although I was able to record various unsolicited statements and spontaneous practices relating to climate change, these data by themselves would have been insufficient for this research project. Had I relied solely on them, the corpus

of statements would have been too small, and collected from too few individuals – mostly public figures who speak about climate change officially, rather than the much larger number of Marshall Islanders who are aware of climate change and have opinions on the issue but rarely or never speak about it publicly. These factors made interviews and surveys necessary, as other anthropologists have argued. Richard Gombrich, studying religious attitudes in Sri Lanka, observed: '[N]o field-worker can sit around for ever waiting for people to bring up subjects spontaneously and display the contents of their minds before him unasked...Sitting around would be ideal; but it is too slow in practice. I had to conduct interviews.' (Gombrich 1971: 37-8)

Certain drawbacks of this technique must be acknowledged and grappled with, however. The limitations of verbal data, especially elicited verbal data, have been noted by anthropologists (Berreman 1962; Gombrich 1971: 37-8; Lanman 2007; Whitehouse 2007) as well as other social scientists (Ray 1990; Whitmarsh 2009) and historians (Bloch 1954 [1944]), and are generally regarded with distrust in experimental psychology and cognitive science (Jack and Roepstorff 2003). One concern is that people are not always able to articulate their views on a subject (Roepstorff 1999), so their interview statements may be little more than ad hoc confabulations (Gombrich 1971: 38; Lanman 2007; Southwold 1983: 135-6). I minimize this danger by 'triangulating' (Jack and Roepstorff 2003: vii), whenever possible, between different sorts of data: comparing prompted verbal statements with unprompted ones, and both kinds of statements with behaviours. For instance, when I argue that most Marshall Islanders accept the reality of climate change, I support this contention not only by noting the high percentage of locals who told me that they believe climate change is real, but also by pointing out that in the Marshall Islands there is significant organized support for belief in climate change, but no organized opposition (Chapter 3). I also minimize the above risk by avoiding a face-value approach to interview data. My method is far more oblique. For instance, when I argue that climate change has been subsumed into the narrative

of entropy (Chapter 4), I do not simply cite people's statements that 'climate change is just like entropy', but rather point to the entropy-based presuppositions and reasoning patterns implicit in their verbalizations about climate change.

Another related pitfall of verbal data is that the use of it may assume too simplistic a theory of belief – the 'Just ask and they will tell you' theory. The strategies above and below help to circumvent this danger, but some words must be said here about belief more generally. The concept of belief has often been critiqued by anthropologists (see Graveling 2010; Ruel 1982; Southwold 1983): ethnographers' fixation on discovering 'what the Bongo-bongo believe' is said to stem from the ethnocentric over-application of the Judeo-Christian emphasis on belief in God (Graveling 2010; Ruel 1982; Southwold 1983: 131-5) and to result in the over-homogenization of a society's worldview (Graveling 2010). These are valid concerns, but they do not impede the present study. With regards to Marshallese views of climate change, belief is not my preoccupation but theirs: when locals speak about the threat they frequently express belief or disbelief. Indeed, the Marshallese language has a word for 'believe' or 'belief', *tōmak*, used much as in English and applied to a variety of topics, including climate change, religion, scientific expertise, cultural preservation, and so forth; one can *tōmak ilo* ('believe in') God as well as *tōmak* ('believe') that tomorrow will be rainy or *tōmak ilo* ('trust in') scientists' proclamations. As for the pitfall of over-homogenization, one runs this risk only if one adopts an extremely unsophisticated theory of belief: namely that every member of a society holds the same beliefs and that these beliefs add up to an integrated and consistent whole, an assumption that has now been quite persuasively refuted (see in particular Astuti 2007; Gellner 1970; Knight and Astuti 2008; Stringer 1996). I make no such assumptions: Marshall Islanders do not all believe the same thing, their beliefs are not necessarily consistent from one moment to the next, some of their beliefs may contradict others (see Rudiak-Gould 2010), and their explicitly stated beliefs do not always match their

behaviourally revealed beliefs (Gombrich 1971; Southwold 1983). Once these points are accepted, the concept of belief can be fruitfully, though cautiously, employed.

Another drawback to verbal data is the biasing effect of 'impression management' (or 'reputation management'), the tendency for people to self-consciously present themselves in a favourable or advantageous light (Goffman 1959; Leary 1995; Leary and Kowalski 1990). Impression management can skew interview and survey data in several ways. Respondents may answer questions not according to their beliefs, but according their desire to please the researcher by delivering what they think is the expected or hoped-for answer (Gombrich 1971: 38). In a special case of this called the 'acquiescent response bias', informants may answer questions in the affirmative, regardless of their true opinions on the issue, assuming that affirmation is what the researcher wants to hear, or herself believes (Ray 1990). They may also craft their statements so as to appear virtuous according to the standards of their society, especially if they suspect that their statements could be revealed to others in the in-group (Berreman 1962).

I adopted several measures to minimize and counterbalance these effects. To reduce the risk that informants might simply echo what they thought I believed, I usually feigned a lack of opinion on the issues at hand. I pretended, for instance, that I had no strong opinions about the reality or unreality of climate change, and that I was entirely ignorant about the Marshallese past (see Chapter 2), turning the researcher-informant relationship into a student-teacher relationship. To guard against acquiescent response bias, I followed Ray's (1990) suggestion, namely to rely, whenever possible, on open-ended questions rather than 'forced-choice' questions. When I had to ask a more direct question, I always offered informants more than one possible answer. I did not ask, for instance, 'Do you think that "climate change" is real?', but rather 'Do you think that "climate change" is real, or do you think it is not real?' In another strategy to reduce acquiescent response bias, I followed the technique advocated by Mortreux and Barnett (2009: 107), namely to avoid telling informants from the

outset that I was interested in climate change. Instead I said that I was studying Marshallese life (*mour in maje!*), and then engaged in conversation that might lead to discussion of climate change, if the informant were so inclined. Only if the individual had not spontaneously broached the subject of climate change would I do so myself, and I treated any subsequent answers as less reliable because less naturalistic (Whitmarsh 2009: 402).

Ethnographers and journalists who arrive in a community announcing that they are studying climate change skew their results: the locals are artificially reminded of the idea of climate change and motivated to discuss it in order to please the researcher. In my fieldwork, the strategies described above substantially curtailed this bias. To reduce the risk that informants would craft answers so as to appear virtuous in front of other Marshall Islanders, I usually interviewed people privately and one-on-one, and assured them (with the exception of certain public figures) that their statements would be used only anonymously. For the same reason, I interviewed some individuals who I knew well, and who thus trusted me more fully and were less concerned about preserving their reputation.

Impression management is a fundamental dimension of human social life, and as such its effects can never be entirely eliminated from elicited verbal data. The final strategy, then, to deal with the bias is to accept that it has some influence and take that into account in one's analysis; even 'a fraud is, in its way, a piece of evidence' (Bloch 1954 [1944]: 93). Since the aim of this thesis is to analyze how the idea of climate change has been incorporated into Marshallese public morality, impression management is not an impediment to such a study, but indeed a crucial aspect of it: the desire to appear pro-social, to toe the party line, is part of what creates these collectively held discourses. Moreover, if my interviewees were biased by impression management, then this only means that the interview situation recreated the conditions of public engagement with the issue, which is exactly what I aimed to study. Thus, the existence of some impression management in my research is not crippling. More

generally it has been argued that verbal, introspective data is highly valuable as long as it is treated in an analytically sophisticated manner (Jack and Roepstorff 2003).

Another methodological limitation is that the thesis perhaps gives excessive weight, in its analysis of climate change communication, to the role of educational sessions and newspaper articles. This, however, was a matter of necessity. Only in the realm of newspapers was it feasible to track climate change coverage with exactitude (see Chapter 3), and only in the realm of educational sessions was it feasible to be physically present to watch the audience, and to make the experience into participant-observation by contributing my own presentations. In contrast, during radio coverage the audience is not physically present in a single place so that their reactions can be observed, and in informal word of mouth there is no announcement of when it will occur (I was able to witness word of mouth communication serendipitously, but only on a few occasions).

Other limitations of this study are by design rather than necessity; I have deliberately focused on one set of related themes at the expense of other themes. This thesis is not about the Marshallese government's response to climate change, such as its efforts to broadcast the country's plight to the international media and to campaign against climate change by participating in various international organizations. Indeed, this subject is in many ways removed from the one at hand (though of course not entirely unrelated), because, as I stated before, government campaigners abroad have taken a quite different approach to tackling climate change. Properly analyzing this divergent strategy would require both a different ethnographic project and a different theoretical background focusing on international relations theory.

This thesis is not about whether and why Marshall Islanders trust the scientists who they perceive to be delivering the message of climate change. The issue of trust is an extremely important one, but it is unfortunately outside of the scope of this thesis, as, again, it involves a largely different theoretical literature and historical background (in particular

involving a detailed examination of the experience of nuclear testing) to which I cannot do justice in the limited space of this thesis. For an examination of the role of trust in climate change attitudes, see Bravo (2009: 277), Broad and Orlove (2007), Lahsen (2007b; 2004: 161-2), Lahsen and Öberg (2006), Moser (2010: 40), and Swim et al. (2009: 126), as well as more generally Beck (1992: Ch. 7) and Kaspersen et al. (2005b).

This thesis is not about the production of the science of global warming in institutional settings (see for instance Hulme 2009; Lahsen 2007b, 2004; Miller 2004; Pettenger 2007). This topic is important, but it cannot be tackled here: it deserves a dedicated study of its own, fieldwork involving ‘studying up’ (Finan 2007: 11; Lindisfarne 2010: 2), observing the ‘carbon elites’ (Lindisfarne 2010: 2), a radically different ethnographic project than the one conducted in this thesis. The present study, instead, focuses on how, once the idea of climate change has been produced in an institutional setting and transmitted to a radically different cultural context, it is transformed in the process of being reconstructed in that cultural context.

This thesis is not about adaptation per se—what local people are doing, or could be doing, to weather climate change, and the existing strategies they employ to deal with climatic and environmental perturbation. For more on climate change adaptation, see Orlove (2005), Kuruppu (2009), Patt (2001), Grothmann and Patt (2005), Moyle (2002), Kroemker and Mosler (2002), and Green (2009). Moreover, while my research could be considered part of the anthropology of disaster, it is not typical of it: as the catastrophe has yet to occur in the Marshall Islands (notwithstanding some frightening omens), this study focuses on the *expectation* of disaster, the ‘anticipatory dimensions’ (Lahsen 2007a: 9) of climate change, the ‘Not-Yet-Event as Stimulus to Action’ (Beck 1992: 33).

To put the same point differently, this study examines a different sort of climate change adaptation and resilience: not physical adaptation to climatic impacts, but mental adaptation to climatic predictions; not societal resilience to a present threat, but ideological

resilience to a looming one. This topic is not a poor cousin to ‘real’ adaptation studies: as Swim et al. observe, ‘Social representations of environmental threats can themselves have dramatic psychosocial impacts’ (2009: 35), and nowhere is this more likely to be true than in a country where the environmental threat in question entails nothing less than nationwide destruction.

Chapter 2: The cultural setting

This chapter introduces the Marshallese cultural setting into which the idea of climate change has been introduced. The ultimate goal is to describe the Marshallese narrative of self-inflicted cultural entropy which, this thesis argues, underlies Marshallese attitudes towards climate change and the reason why they favour local mitigation over foreign protest. First, however, much background is required. I will review the ethnographic literature on the Pacific region—especially the stratified societies that provide the closest parallels to the Marshall Islands—focusing in particular on the interconnections of land, food, hierarchy, and social structure; the reification of these items as emblems of tradition and identity in the colonial and postcolonial eras; and the associated narratives of entropy that often arise as a result.

Land, tradition, and entropy in the Pacific

From land to tradition

A foundational theme in Pacific anthropology is the relation between land, resources, and stratification. As Marshall Sahlins demonstrated in an early work (1958), the degree of stratification of a Polynesian society is directly related to the productive capacity of the island or atoll. Sahlins measures the degree of stratification using a number of variables, including the number of discernible rungs of the political ladder, the ability of chiefs to punish transgressors with physical violence as opposed to (merely) supernatural sanctions, the ability of chiefs to freely confiscate goods from commoners, the lack of obligation for chiefs to participate in food production, the salience of outward insignia of chiefly rank, and the existence of complex taboos and mandatory gestures of submission that regulate behaviour towards chiefs. Using this metric, Sahlins demonstrates that high volcanic Polynesian islands

such as Hawaii, Tonga, Samoa, and Tahiti (and to a lesser extent Mangareva, Mangaia, Easter Island, and Uvea), with their abundant land and fertile soil, support highly stratified societies, while Polynesian atolls, such as Pukapuka, Ontong Java, and Tokelau, with their limited land, unproductive soils, freshwater scarcity, and vulnerability to flooding and extreme weather (see Thomas 2009) are home to only weakly stratified societies (Sahlins 1958: 107-135, 218-46). As Sahlins argues, without rich resources there are no surpluses with which to support an elite divorced from the necessities of production. Nor would such an elite be able to justify its existence, since chiefs act as redistributors of surplus goods. Thus chiefship emerges from a nexus of land and society, becoming a central aspect of Polynesian societies, as well as Micronesian and some Melanesian societies.

Further research in Micronesia has broadly corroborated Sahlins's suggested link between stratification and resource richness (Alkire 1999). It has also demonstrated, however, that the low island-high island distinction is only a crude measure of the potential for surplus production and thus for hierarchy; many factors, including rainfall, isolation, and vulnerability to natural disasters, are important as well (Alkire 1999; Thomas 2009: 583). In wetter, safer atolls with many neighbouring islands, the resource base was not as slender or tenuous as Sahlins would assume, and islanders used it to maximal advantage: adoption, flexibility in the social system, and inter-island sailing (which was much more highly elaborated on atolls than on high islands) all succeeded in spreading out each individual's resource base to cope with periodic localized shortages (Alkire 1999). Thus a chiefly class of some authority could be supported on many Micronesian atolls, in addition to most volcanic islands (Murdock 1965 [1948]). Micronesian chiefs filled similar redistributive roles as they did in Polynesia, receiving tribute from their subjects (Keating 1998: 407; Murdock 1965 [1948]; Murdock and Goodenough 1947; Schneider 1961: 232-3); again a foundational link between land and chiefship is found.

Other common tendencies of stratified Pacific societies should be mentioned. The land tenure system tends to be one of ‘overlapping stewardship’ (Sahlins 1958: 6, 148) rather than exclusive ownership of land: the chief has dominion over a number of land tracts but those land tracts also have subordinate owners with their own usufructuary rights to the land (Ibid.: 6-7), except in limited cases where the chief has declared a tract to be taboo, exclusively his (Beaglehole 1941: 64; Sahlins 1958: 7). A belief in what the Polynesians call *mana* tends to exist, although it is not equally salient everywhere (Keesing 2000: 246-7). Exact definitions of *mana* vary by society (Firth 1941), but it tends to refer to spiritual potency and efficacy – the power, granted to humans through their propitiation of gods and ancestors, of securing valued things such as food, fertility, and health (Craighill Handy 1941; Firth 1941; Keating 1995: 465; Schoeffel 1979). Chiefs are particularly possessed of *mana*, and adept at obtaining it, so that they can bless their people with prosperity (Firth 1941; Hogbin 1941; Sahlins 1985: 18-19; Sahlins 1958: 9; Sinclair 2001: 159; Spoehr 1949b: 77). Thus chiefs, themselves considered divine in some societies (Craighill Handy 1941), often filled the role of both political and spiritual leader (Beaglehole 1941: 65), such as the ‘chief priests’ of Ontong Java and Sikaiana (Hogbin 1941).

At first blush, women appear to have relatively low status in these societies: chiefs (and other inherited roles such as lineage heads) were usually men (Schoeffel 1979); women were sometimes symbolically equated with subversive elements such as younger brothers, fire, and achieved rather than ascribed position (Sinclair 2001); and women were barred from sacred masculine tasks due to their polluting influence (Sahlins 1981; Silverman 1971; Sinclair 2001). But women also had considerable recourse to authority. Women were eligible for chiefly rank in many societies (Beaglehole 1941: 43). Furthermore their subversive associations proved rather than belied their power; Karen Sinclair (2001) has shown how the pre-colonial Maori characterization of women as symbolic of death, darkness, fire, deceit, subversion, and illegitimacy indeed reveals the power that women, and other officially

unfavoured individuals such as younger brothers, wielded via achievement rather than ascription. While often considered subordinate as wives (Murdock and Goodenough 1947: 341), the symbolic polarity could be reversed (Sahlins 1985: 102-3) in their role as sisters. In Samoa, women in the context of husband-wife relationships were considered secular to his sacred, subordinate to his dominant, but those roles and symbols were reversed in the brother-sister pair (Schoeffel 1979). Thus, while they had low status among their affines, in their husband's village to which they usually moved after marriage, they had high status among their blood relatives, and could easily return to them should they desire to (Ibid.). Even as wives, Pacific women might wield considerable influence (Schneider 1961: 229). In Chuuk, a man might have to stay physically lower in the presence of a woman, as a commoner would in front of a chief, depending on the kin relationship (Schneider 1961: 224-226).

In Polynesia, patriliney tends to be emphasized (Beaglehole 1941: 42; Firth 1963 [1936]: 298-300), while in most of Micronesia matriliney dominates (Murdock 1965 [1948]). But these are only crude summaries: even in quintessential 'matrilineal' Micronesian societies like Chuuk, patriliney plays a role as well (Schneider 1961; Spoehr 1949a). In 'patrilineal' Polynesian societies, matrilineal descent may be important in practice even though it is downplayed, indeed sometimes repudiated, in ideology (Hogbin 1941; Schoeffel 1979: 79; Sinclair 2001) – an effectively cognatic system as suggested by 'generation type' kinship terminology in which mother-line and father-line relatives are identically named (Murdock 1965 [1948]; Spoehr 1949a). Succession rules were reflected in kinship terminology, where relative age, and thus seniority, were marked in sibling terms (Beaglehole 1941: 49-50; Spoehr 1949a: 108); in practice, however, competence (achievement) and not merely seniority (ascription) were also taken into account in succession (Sinclair 2001). Related to this, political and kin affiliation often follows, to use Sahlins's classification (1958), either a 'ramage' system—segmentary patrilineal descent groups in which leadership positions are inherited through primogeniture and rank is reckoned by calculating the distance

from the senior line of descent—or a ‘descent-line’ system—localized, land tract-based kin groups—or complex combinations of the two (Firth 1961; Sahlins 1958: xi). Thus an individual’s identity and socio-political status derive from both ‘blood and mud’ (Silverman 1971: 72-4), which is to say shared ancestry and shared residence (Firth 1963 [1936]: 64). Relatedness is also created, expressed, and maintained through the exchange of food, ideologically prized as a prime means, both conceptually and pragmatically, of constituting kinship, chiefship, hierarchy, solidarity, and love. This sociocultural emphasis on food is in evidence in numerous Pacific societies, for instance Palau (McKnight 1977: 31), Pulap (Flinn 1990b: 107), Chuuk (Schneider 1961: 220-221), and Tikopia (Firth 1963 [1936]: 103). Offerings of food were the prime way of honouring those above you and supporting those below you, thus constituting the hierarchy; chiefs and deities alike were offered food tribute, and chiefs and deities alike reciprocated by allowing the land to give food abundantly (Beaglehole 1941: 44-6; Craighill Handy 1941; Keating 2000: 306; Schneider 1961: 232-3), reminiscent of patron-client relationships more generally (Silverman 1977).

If stratification could be said to refer to the structural, sociological aspects of the society, hierarchy could be said to refer to the attendant ideology and cosmology, another foundational theme in Pacific ethnography. While discourses of hierarchy may coexist with discourses of egalitarianism on some Pacific islands (Besnier 2004; Keating 2000: 306), in stratified societies hierarchy tends to be strongly emphasized as the linchpin of morality and propriety. Cosmologically, Pacific hierarchical systems tend to correspond well to Mary Douglas and Aaron Wildavsky’s description—a ‘hallowed relation of a whole to its parts’ (1982: 180)—borrowing from Dumont (1966). Sahlins provides a rich portrait of the philosophy of chiefship in pre-colonial Hawaii. In the ideal scheme of relations, chiefs (*ali'i*) are symbolically ‘above’ the people, but this elevation entails noblesse oblige: the chiefs must be benefactors of the people, blessing them with the means of existence by making their land fertile, and earning their *aloha* (love) and loyalty in return (Sahlins 1992: 22, 34; Sahlins

1985: 18-19). At the same time, however, Hawaiian chiefs, as in many other Pacific societies, ruled by inborn right: they were considered divine (*akua*) and possessed prodigious *mana*. Indeed their *mana* was so abundant that, to prevent its dilution from generation to generation, chiefs were required to marry other members of chiefly lineages; brother-sister marriages were therefore permissible and encouraged within these lineages. In a pattern common in Austronesian societies, chiefs were considered foreign arrivals in contrast to indigenous commoners (Sahlins 1992: 17; Sahlins 1985: Ch. 3). Chiefs, foreigners, and deities were symbolically associated, all having arrived from Kahiki (the Hawaiian cognate of 'Tahiti'), the spiritual land beyond the horizon, and prosperity depended upon securing the means of life, in the form of food from the land, from these divine entities through proper worship.

Christina Toren (1999) provides another portrait of the ideology of chiefship and hierarchy in contemporary Fiji, demonstrating how the emphasis on hierarchy in Pacific societies usually extends beyond the chief-commoner realm, becoming a foundational theme of social relations in general. In Toren's description, Fijians associate hierarchy with order and propriety (not oppression) and egalitarianism with chaos and immorality (not freedom). All kin relations must be hierarchical: men above women, seniors above juniors, chiefs above commoners (also see Thomas 1997: 174). The only exception to this rule is cross-cousins, who are defined as equals. This threatening equality is made safely hierarchical through marriage. Since all marriages make the bride and groom into classificatory (if not actual) cross-cousins, marriage acts to contain this subversive egalitarian element by redefining the cross-cousins as husband and wife, a properly hierarchical relationship in which the former outranks the latter – thus turning *dodomo* (sexual love, associated with individualist amorality) into *loloma* (familial love, associated with hierarchical morality). Similarly, in Pohnpei, Elizabeth Keating (2000, 1998, 1995) has shown how hierarchy is 'constantly achieved' (Keating 2000: 306) through elaborate systems of exaltive versus humiliative language, precedence in eating, and vertical and horizontal positioning vis-à-vis other

individuals. A system of ranked titles held by almost everyone assures that no two individuals will be equal to each other and therefore unbound by a hierarchical relationship.

From tradition to traditionalism

This, then, in very generalized and somewhat static terms, was the ‘tradition’ that predominated in pre-colonial stratified Pacific societies. While it existed as a way of life, in many societies Pacific Islanders probably had not yet ‘substantivized’ it (Thomas 1992b): made it into a single, reified object of conscious consideration and manipulation (see also Wilk 1995). Such reification did not become vigorous until the experience of colonialism and its attendant cultural contact and subjugation. Histories of imperialism in the Pacific vary widely by society, with Germany, Spain, France, Britain, the United States, and Japan playing different roles in different societies, colonialism beginning anywhere from the 17th century (Guam) to well into the 20th (much of the New Guinea highlands) and experiences varying from those in which native peoples became small minorities in their own lands (New Zealand, Hawaii), were equalled by foreigners (Fiji), were subject to only small population influxes but heavy influence (most other Pacific Islands), or indeed were never formally colonized at all (Tonga); and from moderate resource extraction to the exploitation and physical devastation of entire islands (Nauru, Ocean Island).

Despite this diversity, some useful generalizations can be made. Perhaps most fundamentally, indigenous populations held deeply ambivalent and ambiguous attitudes towards these powerful newcomers. They were torn between welcoming them and banishing them – at the extreme, perhaps, between worshipping them and killing them. As possessors of prodigious wealth and technological might, the colonialists were perceived as menacing invaders who might bring about the destruction of native society and indigenous autonomy. On the other hand, by virtue of that same abundant *mana*, the colonialists were conduits to prosperity, potential benefactors of the highest calibre (an attitude which missionaries and imperialists used to their advantage countless times in the Pacific). This ambiguity stemmed

from pre-existing Pacific conceptions of powerful outsiders. Many Pacific societies equated chiefs, foreigners, and deities (Lieber 1977); colonialists were thus, like deities, ‘whimsical, awesome in their power to cause damage...and to bestow abundance’ (Ibid.: 41) in the view of the Kapinga, a Polynesian outlier society in the Caroline Islands, creating both ‘fear of and attraction to relations with them’ (Ibid.; see also Obeyesekere 1992: 8-9). In Melanesia, millenarian cargo-based movements revealed both envy and resentment towards European power (Christiansen 1969; Jarvie 1966, 1963).

The classic example of these ambivalent sentiments is that of Hawaii (Sahlins 1992, 1985, 1981). Following the Pacific pattern, Hawaiians equated chiefs, foreigners, and deities: chiefs, like other divine beings, were foreigners from Kahiki, the place of origins and spiritual power, and when they arrived they could be viewed as either cannibal invaders or incoming benefactors. Indeed one could be made into the other: an invader-king, if properly appeased, could be ‘domesticated’, feminized, and made to work for the good of the people. The reception of Captain Cook in this society stemmed in large part from these prior ambivalent attitudes towards foreigners, whether one accepts Sahlins’s account based on ‘mythopraxis’ (1985, 1981), Obeyesekere’s account based on ‘practical rationality’ (1992), or Jon Lanman’s perspective which rejects both (2007). Cook was first welcomed with jubilation, allowed into sacred temples, and treated as a god or at least a powerful chief of prodigious *mana*; women all but fought their way aboard the ship in order to have sex with his crew, possessors of this *mana*, in an act of what Sahlins has called ‘spiritual hypergamy’ (1985: 7). In Sahlins’s interpretation, the Hawaiians had concluded that Cook was Lono, a deity associated with fertility, due to the appearance of his ship, his fortuitous arrival during the Makahiki ceremony in honour of that deity, and the fact that his last Polynesian port of call had indeed been Tahiti (Hawaiian: Kahiki). When the *Resolution* later sprung a mast and Cook was forced to make an unplanned return to Hawaii for repairs, his reception changed dramatically. Now out of category, he became both a conceptual and political threat; he had

to be neutralized on both counts by being killed (thus rendered non-threatening politically) and subsequently installed as an ancestor-chief (thus rendered non-threatening conceptually). Even if Obeyesekere is correct to argue that Hawaiians had not truly deified Cook, but merely installed him as a chiefly ally, the joyous welcome followed less than a month later by bloodshed illustrates the ambivalence Pacific Islanders felt towards powerful newcomers. Indeed, Tongans had previously received Cook with a similar mix of hospitality and murderous intent (Obeyesekere 1992: 29-30).

Raymond Firth (1963 [1936]: 46-9) provides another example from Tikopia, a small Polynesian outlier. The island's four chiefs were unsure whether to accept missionary teachings. Tikopians considered missionaries, as Europeans, to be more powerful, knowledgeable, and wealthy than themselves, foreign models to be emulated, yet feared the repercussions of deserting their old gods. One chief, that of the island's Faea province, took the risk of converting to Christianity and insisted that his subjects do the same. The results were ambiguous—a death occurred which was attributed to the wrath of one of the pagan deities, yet excellent crop growth indicated that the conversion had been wise—a microcosm of the ambiguity of foreigners and the push-pull of modernity in general.

Through all of this ambiguity, Pacific colonialism's mix of exciting opportunities and terrifying risks, certain metacultural changes occurred. Islanders became more aware of their culture as a thing. Nicholas Thomas calls this process the 'substantivization' of culture (Thomas 1992b), a form of essentialist reification (Keesing 2000: 236) where culture is 'objectified, made into an emblematic icon to be sculpted and consciously emulated' (Linnekin 1983: 248). These works are part of a large and rich literature on notions of tradition and custom in the Pacific (Crocombe 1994; Howard 1990; Lawson 1993, 1990; Linnekin 1983; McArthur 2000; Silverman 1971; Thomas 1997, 1992a, 1992b): at the same time as this literature has illustrated the essentialization of tradition, it has also, as a result, de-essentialized tradition, showing that custom, and its accompanying sense of identity, are

often recently reified emic concepts arising from the experience of intensive contact with Westerners, colonialism, tourism (Kuwahara 2001), and colonial and postcolonial struggles to regain pride, autonomy, and distinctiveness.⁷

Part and parcel of this substantivization was identity formation. While it would be hyperbole to suggest that colonialism created ethnic identity *de novo* (Howard 1990), it certainly intensified and radically reconfigured identity in every society that it touched. As Roger Keesing shows, shared experiences of colonialism fostered unified identities according to the administrative boundaries of the territory (Keesing 2000: 237-9), strengthened by colonialists' desire to systematize and define identities for bureaucratic purposes (Howard 1990). Most Pacific ethnic groups now spoken of as single, unified nations were never politically united before colonialism (Beaglehole 1941: 43; Jarvie 1966: 308-9; Keating 1998: 401; Murdock 1965 [1948]: 245-6); colonial administration, or the post-contact supremacy of a single chief due to his access to European power, was the first taste of shared nationhood in these societies. In Fiji, Stephanie Lawson has shown how the shared experience of colonialism, the desire of many indigenous Fijians to disenfranchise the Indians who arrived during the colonial period, and the aim of particular chiefs to maintain hegemony over the country, have created a powerful, if contested, notion of a homogeneous Fijian identity and way of life (Lawson 1990; also see Keesing 2000: 232-3).

Martin Silverman (1971) provides another case of the substantivization of culture and increased self-awareness of 'tradition'. The people of Banaba (Ocean Island) in the Gilbert Islands came under intensive foreign influence due to the exceptional phosphate mining potential of their land. The island all but removed from the map by phosphate extraction, the people relocated to Rambi Island in Fiji. This momentous change required the people to state explicitly to themselves, to each other, and to outsiders what their traditional order consisted

⁷ This is itself part of a larger anthropological literature on the forging of identity and cultural self-consciousness in situations of culture contact (Barth 1969; Eriksen 1993; Hobsbawm and Ranger 1986; Jackson 1994; McClancy 1993).

of, and thus who they were as a people. This metacultural dialogue became a matter of practical urgency when Banabans were faced with the task of deciding which ‘traditional’ elements to conserve and which to discard in their new home, in particular regarding land division. Substantivization was intensified by the use of what Silverman terms ‘external models’: essentialized images of other groups, including Banabans themselves in the past (‘Banaban custom’) and foreign societies such as Nauruans whose management of phosphate riches they admired.

Another case is that of Hawaiian nationalism as described by Jocelyn Linnekin (1983). While substantivization of Hawaiian culture had undoubtedly occurred since Captain Cook’s arrival, it intensified in the 1960s among urban Hawaiians hoping to reclaim a by then mostly vanished former way of life. ‘Hawaiiana’—comprising items such as leis, hula, taro, ukuleles, fishing, and subsistence in contradistinction to cash—were embraced as emblems of an authentic Hawaiian tradition, while a more radical wing of the movement emphasized their spiritual attachment to the land, such as the militarized island of Kahoolawe, which now had to be recaptured from its foreign owners. Linnekin’s study illustrates the important point that the ‘tradition’ thus invented may differ dramatically from the pre-colonial lifeways suggested by archaeological and documentary evidence (also see Keesing 2000): ukuleles are of course not part of ancient Hawaiian society, but they come to symbolize that society nonetheless; nor was Kahoolawe ever of great practical or symbolic significance in pre-colonial times. In another case, Robert Borofsky (1987) has demonstrated that elders of Pukapuka, a Polynesian atoll, came to regard as ‘traditional’ a practice—the *akatawa* or splitting of the island into two social groups instead of the usual three—which all of them claim to remember from their youths but which most likely never occurred.

Although substantivized ‘tradition’ may thus break with the past, that is not say that it is plucked out of thin air (McArthur 2000), an arbitrary invention unrelated to pre-colonial lifeways; rather, it should be seen as the creative result of the friction between colonialism

and those earlier lifeways. As Nicholas Thomas has argued (1997, 1992a, 1992b), the ‘tradition’ which Pacific societies have come to reify is not a random collection of traits, but usually those specific cultural practices which colonialism and modernization have threatened: in Thomas’s words, Pacific Islanders come to ‘celebrate and affirm what colonialist discourse and practice subordinates and denigrates’ (1997: 190). While these emblems vary between societies, several common threads stand out in the literature.

Firstly, substantivized tradition tends to emphasize *land*. In Tuvalu, a Polynesian atoll society, loss of the islands themselves is spoken of as entailing loss of identity (Mortreux and Barnett 2009). The more militant branch of the Hawaiian renaissance sought the return of Kahoolawe, an island used for decades by the American military as a bombing range, in a bid to reclaim stolen tradition and identity (Linnekin 1983). In Fiji, land (*vanua*) has become a metonym for custom: *vakavanua* (‘in the manner of the land’) means ‘traditional’ (Tomlinson 2009: 5; Toren 1999: 45). While it has sometimes been suggested that mobility is a longstanding feature of Pacific societies and thus that people’s identity is ‘ungrounded’ (Farbotko 2005), the attachment to land is nonetheless real, and certainly of considerable metacultural salience in colonial and postcolonial settings (see Campbell et al. 2005: 21). Following Thomas’s theory, this emphasis on land makes sense in light of colonial history: it is celebrated because endangered, seized by foreigners in Hawaii and Fiji, physically destroyed on Ocean Island and Nauru, converted to commercial cash cropping on many other islands, and dominated administratively by colonial governments across the region.

Chiefs and hierarchy, in contradistinction to egalitarianism, tend to be emphasized as well. In Fiji, the chiefly establishment has become a metonym for the social system in general (Thomas 1997: 202; Tomlinson 2009; Toren 1999). Such views have sometimes manifested as opposition against democracy, a governmental system that has unseated chiefs in favour of commoners and non-indigenous Fijians (Lawson 1990). Again following Thomas’s theory, such emphasis is unmysterious in light of colonial history. Chiefs formed the existing power

structure, a hegemony challenged by the arrival of powerful outsiders, by a democratic system in which anyone can vote and seek election, and by a Western individualistic system that repudiates status by birth (Kaplan and Kelly 1994: 145).

Another common emblem is home-grown produce as opposed to store-bought food. The symbolic significance of food is amply demonstrated in Pacific ethnography (see for instance Firth 1963 [1936]: 103; McKnight 1977: 31), as well as in the anthropological literature in general (see for instance Mortland 1994: 22; Ortner 1978: 71), almost certainly predating the modern era of indigenism. Nonetheless, the ideological salience of food has undoubtedly intensified in colonial and postcolonial settings. Yapese speak of subsistence as a central feature of the old way (Kuwahara 2001: 16); self-consciously traditional Hawaiians characterize themselves as ‘fish and poi’ people (Linnekin 1983); and Pulapese extol the subsistence lifestyle that they have retained while condemning the moneyed ways of their urban cousins (Flinn 1990b). Food emblemizes tradition because it is under assault: throughout the Pacific, colonialism decimated subsistence practices (Secretariat 1999) through a combination of population growth, urbanization, loss of fishing and horticultural skills, and the Western-backed rise of cash cropping.

Another related traditionalist symbol is *communalism*, conviviality, and gift-giving as opposed to capitalism, greed, and market relations (Keesing 2000: 240; Thomas 1997: 181-2). Pulapese wax romantic about customary food exchange as the virtuous opposite of capitalistic acquisitiveness (Flinn 1990b). Fijians idolize their *kerekere* custom, by which all goods other than houses must be freely shared among kinsmen upon request (Thomas 1992b: 65-73). In Keanae, a Hawaiian village known for its self-conscious traditionalism, locals insist that here ‘you give, don't sell’ (Linnekin 1983: 244). Again, colonial history renders this intelligible: Western administrators denigrated, discouraged, and in some cases outlawed the gift economy in order to install capitalism. In Fiji, Nicholas Thomas has documented how

British officials attempted (unsuccessfully) to quash the *kerekere* system, which they felt destroyed any hopes of economic advancement (Thomas 1992b).

While I have presented these traditionalist emblems as separate items, in fact they are interconnected: communalism is expressed via exchange of food, food comes from the land, the land forms the basis of chiefship and hierarchy, and hierarchy is a keystone of communalism. Substantivized 'tradition', then, bears some resemblance to actual pre-colonial practices discussed previously, even if it is not reducible to them, and the opposed culture that it disclaims is not a fantastical fabrication, but something identifiable as 'modernity' or 'Western culture'. This repudiated foreign culture is associated with particular out-groups, creating a binary opposition between 'our culture' and 'their culture', a widespread conceptual trope in indigenist discourse in the Pacific (Crocombe 1994: 24; Keesing 2000: 240; Lawson 1993: 1-2, 15-16; Thomas 1997: 190; Thomas 1992b: 80-81; Toren 1999: 161), and in ethnogenesis across the globe (Leach 1976: 63-4). For instance, Fijians contrast their subsistence-based, hierarchical, communal, ordered, moral way of life with the moneyed, egalitarian, individualistic, chaotic, and immoral way of life of Europeans and Indo-Fijians (Thomas 1997: 182; Toren 1999). The cultural Others in question are not always Westerners or colonialists: in Fiji they are also Indo-Fijians, and in certain atoll societies in the Caroline Islands they are the ethnically identical yet Westernized denizens of urbanized high islands (Flinn 1990b). Here we find another binary opposition: that between villages and cities, the former the site of tradition retained, the latter the site of tradition abandoned; this view is widespread in Hawaii (Linnekin 1983: 242), Fiji (Thomas 1992b: 81; Tomlinson 2009: 82), and the Caroline Islands (Flinn 1990b), for example. Such views of corrupted urbanites and wicked foreigners are undeniably negative, but they should not be too quickly equated with bigotry or xenophobia; they function rather to create a neat diametric opposite to local tradition: an anti-ideal against which to define the ideal (McArthur 2000), since every

concept needs an opposite ('to sharpen its definition and fix its place in the wider system of things' [Barley 1988: 21]). They are, to use the famous phrase, good to think with.

The final binary opposition arising from cultural substantivization is that between the past and the present: yesteryear is the time of tradition, today the time of modernity and the cultural Other. We know from a wider anthropological literature that historical narratives articulate values, solidify identities, and justify resource claims (Appadurai 1981; Borofsky 1987; Hodgson 1968; McArthur 2000: 86; Price 1983), and the Pacific island literature poses no challenge to these generalizations. As Roger Keesing (2000) documents, across the Pacific people are inventing traditionalist pasts and putting them to political and ideological use: in Fiji, the notion of an erstwhile indigenous custom is wielded to deny Indo-Fijian access to political power (Ibid.: 233-4), in New Zealand and Hawaii it has motivated cultural renaissances (Ibid.: 234), and elsewhere in the Pacific it has justified secessionist movements (Ibid.: 232-3). Thus traditionalism is born: 'a method of idealizing the past and of judging and molding the present by the assumed standards of a past era' (Lawson 1993: 20).

From traditionalism to entropy

Once the past is idealized, the present is by diametric opposition de-idealized, a perception easy enough to foster given the severe problems that Pacific societies (and all societies) currently face. Past times were idyllic, present times arduous and troubled. Two points define a line: a narrative takes shape, that of decline from a pristine past, and thus we have what the Pacific island literature terms 'entropy'. This is a cosmology of no small ideational weight; 'as all good narratives' it is 'about the local and the global, and about life and death.' (Roepstorff 2003: 127)

Anthropological theory in the Pacific (Linnekin 1983; Toren 1999), as well as anthropological theory more generally (Camino 1994; Jackson 1994; Wilk 1995), tends to portray tradition not as static and brittle, but as dynamic, endlessly reinventable and therefore robust. Marshall Sahlins has argued that cultural identity is, for the very reason of its

mutability, resilient to modernization and globalization (Sahlins 2005), part of his wider project of finding continuity in change (Sahlins 1985, 1981). While there is undoubtedly much etic truth to this, there is little emic truth to it in most societies (see Kirsch 2001): the narrative of cultural breakdown is pervasive in the Pacific, even among the most securely ‘traditional’ societies (Keesing 1994: 191). Numerous cases can be found in the Pacific literature (see Keesing 1994; Kuwahara 2001; Neumann 1992; Silverman 1971: 147; Stewart and Strathern 1997; Tomlinson 2004: 652-4), but I focus here on several which are particularly well documented and theorized in the literature.

Indigenous Fiji, especially as described by Matt Tomlinson (2009, 2004) as well as by Christina Toren (1999) and Nicholas Thomas (1997: 176), is possessed with a vigorous degradationalist narrative. As I stated before, Fijians have substantivized their culture to a high degree, speaking frequently of their tradition (the ‘Fijian way of life’, *na i vakarau ni bula vakaviti*) as the upright, orderly opposite of Western and capitalistic ways of life (Toren 1999: 27, 36). With this proper lifeway associated with the past, and the present now threatened by Indo-Fijian encroachment, democracy, urbanization, and capitalism, a powerful discourse of decline takes shape. The ‘sense of loss is prominent and pervasive, created and displayed through everyday talk’ (Tomlinson 2009: 5): kinship has been weakened by individualism, hierarchical propriety is endangered by money, and tradition in general is under threat from the Fijian imitation of Westerners and Indians. The disintegration is said to be particularly advanced in urban areas (Thomas 1992b: 81; Tomlinson 2009: 82), and those who have spent time in the cities bring dangerous ideas with them back to the villages (Tomlinson 2009: 5). Power, vitality, and magical efficacy have also been lost: chiefly *mana* is in decline (Ibid.: 22) and the ancestors are spoken of as supernatural titans and physical giants (Ibid.: 73) (a common belief in Oceania [see Levy (1975: 218) on Tahiti]). In Tomlinson’s interpretation, this loss of power is ‘made both intelligible and palpable’ (2009: 109) by frequent ingestion of body-numbing kava (Tomlinson 2009, 2004). Fijians do not

surrender to this decline, however, but harness it to spur action, for 'such loss also inspires hope of recuperation' (Tomlinson 2009: 15). Indeed, it has motivated, or at least rationalized, multiple coups against governments not perceived to be properly dominated by indigenous Fijians and chiefs (Tomlinson 2004: 666; see also Lawson 1993, 1990; Overton 1992: 327).

Sahlins (1992: 17-35) provides another portrait of entropy in his account of Hawaiian views of kingship and landscape in the 19th century. Suffering under increasingly tyrannical kings and chiefs in the historical era, locals came to understand the past as a superior time when people built extraordinary physical monuments and *ali'i* (chiefs) were models of munificence, treating the commoners as first-born children, ensuring prosperity, and defending the homeland against invader-cannibals from abroad. These memories were inscribed in the landscape, whose architectural ruins and places of legendary significance, where kings had performed great deeds, recalled better times of potency and propriety. Such historical constructions were wielded by activists as an 'alternative system of royal benevolence' (Ibid.: 35), proof that current kings were mere despots and that an 'older, truer' (Ibid.: 25) way was possible and preferable.

Other well-documented cases of entropic beliefs can be found particularly in Papua New Guinea. Entropy is a central theme of Dan Jorgensen's ethnography of Telefolmin society (2005 [1981]). In Telefolmin cosmology, the universe has a natural propensity towards dissipation and disintegration: the tendency for garden plots to become overgrown, pigs to go feral, people to die, enemies to invade, sisters and daughters to be lost through exchange for marriage, and nature/bush/periphery to encroach upon culture/village/centre; eventually, the world will simply fizzle out and disappear. As a result of this tendency, people now are physically smaller, shorter-lived and sicklier than in the past, and crops are smaller and slower-growing. While human beings are not to blame for this entropy, as it is a natural property of the universe, it is their responsibility to keep the degradation at bay to the greatest

extent possible via efforts to staunch the out-flow of women, maintain gardens, and follow food taboos.

Errington and Gewertz (1986) provide another portrayal of entropy beliefs in a Pacific society. For the Chambri of Papua New Guinea, entropy is not a fundamental attribute of the universe, but rather a consequence of male competition for power. Chambri men strive through ritual and other means to gain access to ancestral power, necessary to attract food and women, to pay crippling affinal debts, to equal or better their male peers, and to wield some measure of clout in the face of more powerful senior agnates. But while the ancestral powers themselves remain undiminished, access to them is constantly endangered and dwindling. For instance, the possession of an ancestor's name is effective at conferring vitality on the possessor, but these names are frequently lost in the competition: men are reluctant to pass on the name to their sons, fearing the loss of power, and so die without transferring it; too many men use the same ancestral name, diluting its power; or men strategically garble and mispronounce names so that their rivals will not be able to use them correctly; thus the best names are lost. For Chambri men, entropy is thus not an abstract philosophical doctrine, but a day-to-day practical concern in their struggle for valued resources, and as such an inspiration for action. In Chambri society, that action is not just the competition for ever-dwindling access to ancestral power (an effort that creates the very entropy that it attempts to arrest), but also the eager importation, from neighbouring groups in the Sepik region, of ritual objects, forms, and ceremonies that have been proven by others to be effective in securing ancestral might.

The two Papua New Guinean cases above are distinct from the previous cases: there is no salient notion of 'tradition' (or 'kastom') as the object to be defended from entropy, and in the Telefolmin case, entropy is the natural tendency of the universe, having been operating since the beginning of time (Jorgensen 2005 [1981]: 137), rather than a result of human

actions. Nonetheless, the basics are identical: a general degradation of things against which people must fight.

Of course entropy is not the only historical discourse in the Pacific Islands; no aspect of society is perfectly uniform or uncontested, and notions of the past are no exception (Neumann 1992; Thomas 1997, 1992a; Turner 1988). Even in societies with a vigorous narrative of decline, counternarratives often exist. Thomas (1992a) argues that the reification of tradition can lead to its rejection as easily as its celebration – a fact unsurprising given the ambivalent sentiments towards Westerners that I discussed previously. For instance, some Fijians supported, rather than flouted, the colonial administration's stance against *kerekere* as an element of Fijian tradition inimical to economic development (Thomas 1992b), and in the 1960s the Bula Tale movement in Fiji explicitly rejected all tokens of perceived tradition, such as hierarchy and kava-drinking (Thomas 1997). Since custom is associated with the past, a denigrated custom entails a narrative of progress, of breaking the shackles of past forms, and thus is starkly different from the narrative of entropy I have described.

Two varieties of such anti-traditional, progressivist narratives in the Pacific are particularly common. One is that of modernist progress, a discourse of economic development in which the past was bad because materially poor and technologically deficient, and the present is good because laden with cargo. Such a view can coincide with traditionalism, despite being contrary to it. For instance, in Pulap, islanders inveigh against money as anathema to the old ways of subsistence and conviviality, yet also seek money and prestige in the modern context, wishing not to be seen as backward (Flinn 1990b: 117).

The other narrative of progress is that of Christian enlightenment, in which pre-missionary times were bad because pagan and benighted, and present times are good because Christianized and enlightened. Views of a dark, violent pre-Christian past are found in many missionized Pacific societies (Errington and Gewertz 1995: 109; Linnekin 1983: 242; Silverman 1971: 91, 137, 216; Tomlinson 2004: 654; Toren 1999: 156; White 1991: 8, 142),

and more generally among recent Christian converts (Coleman 2003: 19). Festivals denigrating the heathen degeneracy of the ancestors are performed in certain Pacific Island societies (Errington and Gewertz 1995: 77-8). Such narratives of progress can coexist alongside entropy narratives (Neumann 1992: 204-5): different factions within a society may emphasize one or the other (such as in Fiji where Methodist church authorities emphasize Christian enlightenment while chiefs emphasize traditionalist decline [Tomlinson 2009, 2004]), while in other cases it is indeed the same individuals who espouse both religious progress and cultural regress.

Elsewhere I have argued that the apparent contradiction between progressive and regressive narratives in the Pacific is truly a contradiction, not simply a failure of ethnographic insight, and that it arises from the tensions between traditionalist and Christian identities in societies that adhere fervently to both (Rudiak-Gould 2010). While some Pacific societies have managed to reconcile Christianity and tradition by finding common ground or by declaring Christianity to be *part* of tradition (Barker 1990; Flinn 1990a; Thomas 1997: 211, 220), the dilemma remains unresolved, or only partially resolved, in others, as many Oceanists have argued (Levy 1975: 218; Neumann 1992; Robbins 2004; Thomas 1997: 190-1; White 1991). Ideological paradoxes result (Rudiak-Gould 2010), not surprising considering that many individuals and societies can tolerate quite high levels of inconsistency and ambiguity (Astuti 2007; Borofsky 1987: 70-1; Gellner 1970; Knight and Astuti 2008; Stringer 1996; Tedeschi et al. 1971: 687), a situation that has been specifically demonstrated in the Pacific context (see Besnier 2004; Brunton 1980; Robbins 2004).

Given the existence of these contrary narratives, what becomes of my focus on entropy? The answer will vary by society. According to the particularities of the society in question, the narrative of entropy may be dominant, may compete on equal footing with other narratives, or may be subordinate; it may be salient in some circumstances and not others, wielded by some individuals or factions and not others. In the next section I will show that,

whatever may be the case in other Pacific societies, in the Marshall Islands the competing existence of progressive narratives does not undermine my emphasis on entropy, since these competing narratives are far less salient. For now, I will set aside contrary narratives in Pacific societies and again focus on entropy, but it should be borne in mind that alternative narratives exist.

The literature on Pacific entropy exposes a point of fundamental importance: the regressivist narrative is not mere ‘nostalgia’, a rose-tinted recollection of one’s childhood. It is all too easy to dismiss it as such, but such a conclusion would be misleading. The time period being described is usually one far beyond the recollection of the people describing it, and indeed, in all the cases discussed above, it appears that the belief in entropy is as vigorous among the young as among the elderly (Tomlinson 2004: 656). As Tomlinson aptly puts it, it is not nostalgia but *lament* (2009: 10). Islanders invoke the idyllic past ‘not [merely] as the better days whose passing they nostalgically mourn, but as an alternative present for which they yearn and for which they might fight’ (Neumann 1992: 246). Even among the Telefolmin (Jorgensen 2005 [1981]), for whom dissipation is the natural and immutable nature of the universe, entropy is a cause for action, indeed the central idea around which action is organized. As Jorgensen writes, ‘all of these issues are for Telefolmin matters of immediate relevance. Entropy is not merely contemplated, it is experienced...Order, then, is not merely an aesthetic preoccupation but a vital necessity – it is the means whereby men achieve some measure of control over their own lives.’ (2005 [1981]: 272) Similarly, for a Kwaio traditionalist activist, custom must be preserved not for decorative or sentimental reasons, but as a way of ‘preserving the fabric of social life’ (Keesing 1994: 194). Entropy, then, is not merely a grumpy conservatism among the elderly, or a dispirited reflection on colonial disempowerment, but a lively moral cosmology that can inspire action.

Land, tradition, and entropy in the Marshall Islands

As we can see, broad themes can be perceived in the Pacific literature. An interconnected system of land, food, chiefs, and hierarchy are sociologically central. With the advent of colonialism and its attendant Westernization and modernization, reconfigured images of these items have been substantivized as emblems of tradition under siege. The resulting traditionalism is often cast in terms of the contrast between past and present, becoming a narrative of entropy. Thus land was fashioned into tradition, tradition was reified into traditionalism, and traditionalism gave birth to entropy.

The Marshall Islands case fits these themes well. I will now describe the environmental, cultural, historical, and metacultural setting of the Marshall Islands in the terms outlined above. My portrait of Marshallese ‘tradition’ in the first section weaves older accounts of the country (Chamisso 1986 [1821]; Erdland 1914; Kotzebue 1821; Kramer and Nevermann 1938; Spoehr 1949b) together with my more recent ethnographic observations, in order to give a sense of the longstanding features of Marshallese society that have remained important to the present day.

From land to tradition

Austronesian voyagers discovered and colonized the Marshall Islands approximately 2000 years ago (Weisler 2001a: 3). Like all atolls, the islands presented numerous challenges to habitation. The islands have always existed ‘on the margins of sustainability’ (Weisler 2001a), deficient, like all atolls, in land area, soil quality, and fresh water availability (Sahlins 1958: 218-46; Weisler 2001b). There are a mere 70 square miles of land in this archipelago of 1,225 islets. While the reefs offered more abundant resources, these too could be threatened: initially abundant protein stocks such as fish, coconut crabs, sea turtles, and sea birds were all too vulnerable to overexploitation, becoming exhausted on and around

inhabited islets (Weisler 1999), as they have been in many other Pacific Islands (Kirch and Weisler 1994: 295).

The archipelago was also perpetually vulnerable to meteorological disaster (Bridges and McClatchey 2009: 145; Erdland 1914: 17-8; Kramer and Nevermann 1938: 23-4). The thin, flat islets could be quickly denuded of vegetation, cut in half, or even washed out of existence altogether. In 1870 a cyclone reduced the population of Ujelang Atoll from 1000 to 20 (Spennemann and Marschner 1994: 9). A 1905 typhoon caused flooding and famine that killed over 300 people, including all but two of Nadikdik Atoll's inhabitants, and obliterated three of Mili Atoll's islets (Spennemann 1996), leaving nothing but a bare, submerged reef platform. Another storm in the mid 19th century devastated Ujelang Atoll to such an extent that a visiting Westerner assumed that a volcanic eruption must have occurred (Spennemann and Marschner 1994: 8). For related reasons, open-ocean canoe voyages were also perilous (Haddon and Hornell 1975: 374).

Another environmental hazard was seasonal scarcity and danger. On the yearly scale, Marshall Islanders recognize two seasons: *añōneañ* ('north wind') and *rak* ('south'), roughly coinciding with northern hemisphere winter and summer, respectively. *Rak* is a season of fruitfulness and security. The weather is expected to be windless (*lur*) with smooth seas (*lae*); traditionally people may have sailed between atolls only at this time (Winkler 1901: 504). Rainfall is plentiful. Breadfruit can be harvested in abundance and eaten immediately or fermented and preserved into a form called *bwiro* to be eaten in less abundant times of the year, as in other Pacific societies (Beaglehole 1941: 57; Thomas 2009: 577). *Añōneañ*, in contrast, is a season of scarcity and danger. The weather is windy (*lap kōto*) and the waves are large (*lap ño*). Islanders told a Russian explorer in the early 19th century (Otto von Kotzebue, about whom I will say more below) that in this season the wind 'not seldom rises into a furious hurricane, rooting up the cocoa and bread-fruit trees, desolating the islands...which...were sometimes swallowed up by the waves. The savages look forward with

terror to this season.’ (Kotzebue 1821: 147). Open-ocean boating is treacherous in this season. The highest tides and largest waves are expected to strike in December and January. One expects a *Kapilak* storm, bringing strong winds, rains, large waves, and/or high tides during this season. *Añōneañ* is also the dry season, when drought threatens. Breadfruit is in shorter supply than in the *rak* season and is absent entirely in December and January; pandanus and arrowroot are available but cannot always supply all of people’s dietary needs.

Working from Marshall Sahlins (1958), these ‘poor and dangerous reefs’ (Chamisso 1986 [1821]: 233) seem ill-suited to yield the sort of surplus that allows social stratification. But the precariousness of life in these islands may have been overstated in the above analysis, as it does not lend sufficient latitude to the people to respond to environmental threats and indeed to reshape the environment to fit their needs (Thomas 2009); atoll dwellers employ many strategies to extend and secure their resource base (Alkire 1999). Marshall Islanders settled on the widest and most sheltered islands and on the more protected lagoon shores (Spennemann 1996), areas which could remain relatively secure over many centuries (Yamaguchi et al. 2005). They settled in numbers proportional to the fresh water availability of the island, and therefore its agricultural capacity (Williamson and Sabath 1982); the wetter islands farther south were in fact highly productive by atoll standards (Alkire 1999: 88-9). They carefully kept population below the subsistence ceiling of the islands by infanticide, abortion, and birth control (Chamisso 1986 [1821]: 231; Kramer and Nevermann 1938: 188; Spennemann 1993: 115-9). They conserved scarce land by burying only chiefs on land, while deceased commoners were buried at sea (Chamisso 1986 [1821]: 231; Kramer and Nevermann 1938: 206-7). On some islands they expanded the land by reclaiming it from the sea (Bridges and McClatchey 2009). They developed a plethora of fishing techniques, including elaborate fish traps. They transformed the islands into cultivated landscapes to fit their subsistence needs. The existence of staple crops—coconuts, pandanus, breadfruit, taro, and arrowroot—was not a happy coincidence, but a deliberate strategy: the voyagers who

discovered the islands most likely brought these vital species with them (Merlin et al. 1997). They developed numerous crop varieties suited to the local environment (see Thomas 2009: 587). They divided the larger islands into zones of vegetation, digging wet taro pits in the centre of the island, planting breadfruit and pandanus around the perimeter, and coconuts along the shore (Spennemann 1993: 120-36). Typical of atoll societies (Alkire 1999: 86), they developed a land tenure system in which land tracts were typically strips proceeding from lagoon to ocean, thus allowing everyone access to each zone of vegetation. They refined their already prodigious canoe-building and navigational skills (Haddon and Hornell 1975) to levels perhaps surpassing even those of the Polynesians (Ibid.: 372). In particular, they developed a unique system of navigation suited to their archipelago (see Spennemann 1993). The voyagers also ventured well outside of the archipelago, certainly to the Gilbert and Caroline islands and possibly to Hawaii as well (Haddon and Hornell 1975: 374; Kramer and Nevermann 1938: 217; Spennemann 2000). These sailing skills allowed them to maintain kinship and clan-based ties to other islands that could provide assistance in times of need, a common strategy in atolls (Thomas 2009: 583), as well as to visit distant uninhabited islands with abundant bird life to be harvested (Spennemann 1991). Indeed, the northernmost atolls, being too dry to grow breadfruit (Kiste 1974), may have survived only by trading fish hooks, mats, and other finished goods for food from more fertile atolls (Kramer and Nevermann 1938: 160-2; Weisler 2001a: 127-8).

Thus Marshallese engagement with the environment allowed sufficient surplus for a chiefship to flourish, indeed an impressively stratified one considering the apparent resource poverty of the islands. Chiefs (*irooj*) formed the political backbone of the islands. They had considerable authority over the land and demanded a share of its produce from the commoners (*kajoor*, literally 'strength') in the form of first-fruits tribute (*ekkan* or *ejjek*), as well as their assistance in other important matters such as defence and conquest. The degree of stratification was fairly high, as measured by Sahlins's variables: chiefs were immediately

recognizable (Kotzebue 1821: 7) with insignia of rank especially in the form of special tattoos (Spoehr 1949b: 77); they were surrounded by complex taboos (Erdland 1914: 33-4, 104); they had the authority to confiscate items by force; they were divorced from the process of food production; their life-cycle rituals were held on a large scale (Ibid.: 133); and they could exact violent sanctions against enemies. In former times they may have had life and death authority over their subjects, and the right to sexual relations with any commoner (Ibid.: 196). The degree of stratification thus easily exceeded that of the Polynesian atoll societies of Pukapuka, Ontong Java, and Tokelau, and approached that of the high volcanic island societies of Mangareva, Mangaia, Easter Island, and Uvea (though not that of the highly stratified societies of Hawaii, Tonga, Samoa, and Tahiti).

Marshallese use the metaphor of height to represent hierarchical relationships; as in many cultures in the Pacific (Sahlins 1992: 31) and indeed across the globe (Leach 1976: 53), it represents power. Chiefs are compared with the frigate bird (*ak*) because it is the highest flying bird; the proverb ‘*Jab ālkwōj pein ak*’ (‘Don’t bend the frigate bird’s wing’) warns against disobeying those above you, violating the hierarchy (Kabua 1993: 23). It is said that around a chief one should stay low, that women should stay physically low because they are below men, and that people should not build tall houses lest they offend the chief. The superiority of the chief is also described in terms of something called *aao*, perhaps the closest equivalent to *mana* in the Marshallese language (Spoehr 1949b: 77) (although the actual cognate is *mōṇmōṇ*, which means ‘haunted’ [Abo et al. 1976: 209]). Chiefs are said to possess unusual amounts of *aao*: an impressive aura of clout, charisma, and spiritual force. People other than chiefs can have *aao* but chiefs are especially known for having it.⁸

Hierarchy extends beyond the domain of chiefship and land tenure: it is important throughout Marshallese practice and ideology. The ideal scheme as usually described by

⁸ For more on chiefs in discourse, practice, and history, see Carucci (1997a), Erdland (1914), Kramer and Nevermann (1938), Mason (1987), Poyer (1997: 24, 53-55), Spoehr (1949b: 75-78, 163-4), Tobin (1952), and Walsh (2003).

Marshall Islanders is as follows. Chiefs (*irooj*) are above commoners (*kajoor*), men (*emmaan*) above women (*kōrā*), adults (*rūtto*) above children (*ajri*), older siblings above younger siblings, *ałaps* (lineage heads) above all others with rights on the corresponding land parcel. As in Fiji (Thomas 1997: 174; Toren 1999: 62), these basic pairings are often, though not always, considered metaphorically equivalent: ‘The commoners are like children to the chief’, it is sometimes said. Each is dependent on the other. High people decide, low people advise; high people command, low people obey. Above all, high people must care for (*lale*) low people, while low people must respect (*kautiej*, literally ‘make high’) high people. The exchange is mutual: high people give to low people when they are in need, to show their benevolent protection, and low people give to high people to show their loyalty. For instance, in an old practice commoners offered their service as warriors in a chief’s campaign and were rewarded with land in return (see Kabua 1993: 8-9): both sides thus fulfilled their hierarchical obligations. In daily life, however, opposite members of a hierarchical relationship tend to stay separate: women and men pursue different activities with members of their own sex, children hardly mix with adults, and chiefs and commoners are usually far removed.

Many Marshallese legends teach the importance of hierarchy by showing the bad ends that people will come to if they disobey their superiors. In particular, there are many stories of naughty children who are killed by demons when they ignore their elders’ warning not to visit haunted parts of an island. In one legend, a boy defies his older brother by venturing with his friends to a dangerous part of the island, and his friends are promptly eaten by a vampire-like monster (*mejenkwaad*) (Deunert et al. 1999: 73-4). Other legends communicate the dangers of disobeying a chief: in the story of the origin of the Jebwa dance of Ujae Atoll, a dancer raises his stick high at a point in the dance where he is supposed to keep it low, thus disrespecting the chief’s supremacy both literally and metaphorically; the chief promptly kills him.

In theory chiefs have always been the ultimate ‘owners’ of all Marshallese land, but in practice land tenure is much more diffuse, a system of ‘overlapping stewardship’ (Sahlins 1958: 6, 148) as described previously. Except where the chief has declared a tract to be *mō* (forbidden, taboo), and therefore exclusively his own, subordinate landowners—matrilineages and individuals connected to them in various ways—have rights (*marōñ*) to land tracts which a chief should not lightly tamper with. On a given land parcel (*wāto*), the *irooj* (chief) is considered the supreme landowner, while the *aḷap* (head of the lineage with rights on the *wāto* in question) is subordinate to the *irooj*, and various individuals (nowadays called *rijerbal*, ‘workers’) with various claims by ancestry or marriage to the land are subordinate to the *aḷap*.⁹ The lineage with rights to the *wāto* is called the *bwij*, and if the *wāto* has belonged to that *bwij* for many generations it is called *lāmoran* or *kapijukunen*, ‘heritage land’ (Mason 1987: 13). Marshallese inheritance of land rights and chiefly titles is strongly matrilineal (inheritance by *bwij*, literally ‘navel’), with only a limited role for patrilineal inheritance (inheritance by *bōtōktōk*, literally ‘blood’). (For instance, in a situation where no matrilineal heirs exist, a man may pass on *ninnin* [‘suckling’] land to his son [Spoehr 1949b: 166-7].) This inequality was expressed traditionally with the metaphor of a canoe: the mother’s side of the family was the hull while the father’s side was the outrigger. In addition, the proverb ‘Jined ilo kōbo, jemād im jemān ro jet’, translatable as ‘Our mothers are forever, [but] our fathers are the fathers of others’, refers to the centrality of matrilineal inheritance and peripheral role of patrilineal inheritance (Hezel 2001: 17-18). Therefore, land rights and the accompanying *aḷap* or *irooj* title were usually passed from a man to his sister’s oldest son or oldest offspring, as long as this individual was considered fit for the role. Thus, as Sahlins (1958) would predict for an atoll society, and Firth (1961) for stratified Pacific societies more generally, there are elements of both a ramage system (an emphasis on unilineal succession

⁹ For details of the Marshallese land tenure system, see Kiste (1974), Mason (1987), Poyer (1997: 51-3), Tobin (1952).

and primogeniture) and descent-line systems (distinct lineages rather than a single lineage of which all are a part).

Kinship terminology accords with the matrilineal *bwij* system; more generally it can be said to be a basically Hawaiian-type 'generation' kinship terminology with matrilineal features (special terms for mother's brother, sister's son, and opposite-sex cross-cousins) added (Spoehr 1949a). The term *mama* or *jine-* refers to ego's mother but also ego's mother's sisters: that is, women in ego's *bwij* that are one generation above ego. Accordingly, all progeny of ego's *jine-* (that is, members of ego's *bwij* in the same generation as ego, ego's matrilineal parallel cousins) are classificatory siblings, and a female ego's sister's children (members of ego's *bwij* a generation down from ego) are referred to by the same term, *neji-*, as her children. Similarly ego's father's brothers are referred to by the same term as ego's father, *baba* or *jema-*, and their children, ego's parallel cousins, are ego's classificatory siblings, and a male ego's brother's children are referred to as his children. Beyond one generation up or down, these distinctions are elided, with both maternal and paternal grandfathers referred to as *jimma-*, all grandmothers referred to as *būbū* or *jibbwi-*, and grandchildren also as *jibbwi-*; such terminological non-specificity is unsurprising given that inheritance occurs between adjacent generations and therefore relations between farther-removed generations do not need to be specified by matrilineal versus patrilineal descent. Sibling terminology distinguishes between older siblings (*jei-*) and younger siblings (*jati-*), reflecting the order of succession. Following the heavy emphasis on matrilineal descent (Murdock 1965 [1948]), there are special terms for the mother's brother (*wūllepa-* or *rūkorea-*) and the sister's son (*mañde-*); traditionally the former was the latter's predominant authority figure, as the latter was usually the former's heir, but authority by the father has now displaced some of this authority as the nuclear family has gained more prominence (Hezel 2001).

Relations in a (real or classificatory) brother-sister pair are formal and governed by strong incest taboos, while relations in same-sex pairs are far more relaxed. Relations between cross-cousins of opposite sex (*riliki-*) are also relaxed, and indeed sometimes sexual: this is a favoured matrimonial match (Spoehr 1949b: 196). Marriages were traditionally brittle, with no ceremony to mark them, and easy to dissolve. Following the philosophy that a single husband-wife pair as father and mother is not important, adoption was, and is, common.

The husband-wife pair is unambiguously defined as one in which husband is high, wife is low (which is not to say that women act meekly in such relationships, only that conceptually the hierarchical relation here is certain). But following Schoeffel's (1979) exposition of the contrast between husband-wife and brother-sister in Samoa, we should not hastily assume that such definitions entail the society-wide subordination of women. As in Samoa though in differing manner, the brother-sister relationship in the Marshall Islands is distinct from the husband-wife relationship. There is ambiguity as to whether age trumps gender or vice-versa in succession rules: while some Marshallese insist that the oldest man, not the oldest sibling, ought to inherit *ałap* and *irooj* titles, others insist that the oldest sibling, regardless of sex, should inherit, and they are upheld by sibling terminology in which relative age between siblings is marked but gender is not. When the second rule is followed, an older sister outranks a younger brother, and wields significant authority as such (Tobin 1952: 31). Thus, female *ałaps* as well as female chiefs (called *lerooj*) exist, although in practice they are outnumbered by male *ałaps* and chiefs.

As this indicates, the position and power of women in Marshallese society is somewhat ambiguous. On the one hand, due to the predominantly matrilineal inheritance of land, many Marshall Islanders say 'An kōrā aelōñ kein' ('The Marshall Islands belong to women'). On the other hand, the *irooj* and *ałap* who administer land are in practice usually men, and it is said 'Mōmaan maroñroñ' ('Powerful men') to affirm male supremacy. More

generally it is said that the male-female relationship is analogous to the chief-commoner or parent-child relationship, with women performing the supporting role in island affairs such as (traditionally) war, where they would beat the drum to make men stronger and throw rocks from behind, and more generally ‘sharpen’ (*jemjem*) and strengthen (*kakajoor*) men, to ‘shake their spirit’ (*pikpikūr kōlo eo*) or invigorate their morale. Women are said to have an obligation to stay below men (just as commoners stay below chiefs), to let men speak in mixed company, and to avoid sitting in high places. Women were once considered polluting, and a variety of taboos separated them, especially when menstruating, from entities associated with power and masculinity, such as chiefs, fishing, and canoe-building (Ashby 1985: 228; Erdland 1914: 135, 336-7; Kramer and Nevermann 1938: 188; Tobin 1952: 30); some of these notions, such as the conviction that a man will have bad luck in fishing if a woman is on board or if he has had sex the previous night, are still believed. But in a pattern found in many parts of Micronesia, women’s relative lack of overt power and decision-making is counterbalanced by covert power and advising (Hezel 2001: 47-50), just as, ideally, a chief makes decisions only after seeking the input of his commoners.

Several *bwij* together comprised a *jowi*: an exogamous matrilineal clan (Spoehr 1949b: 176-7) similar to that of Chuuk (Schneider 1961) (also called a ‘sib’ in some Micronesian literature [Murdock 1965 [1948]: 244-5; Murdock and Goodenough 1947]), of which there are at least 30 in the Marshall Islands (Kabua 1993: 7). *Bwij* of a single clan may be scattered around the country, but they share a clan name and sometimes are said to have a common ancestor. Often the shared ancestor is a conqueror figure; the Ranno clan, for instance, is said to be descended from Jobi, a legendary warrior who conquered the islands from Mili Atoll, in the south of the Ratak chain of atolls, all the way to Mejit Island, in the north of that chain. In former times clans were totemic and ranked in relation to each other (Erdland 1914: 116-7, 343-5), but this is now unknown. Clan affiliation is of negligible importance in the contemporary Marshall Islands. Nowadays not everyone knows the

reputation of his or her clan, or even its name; indeed, one study concluded that one-third of Marshall Islanders between the ages of ten and 25 were not familiar with the word *jowi*, and more than half thought that one's clan was inherited patrilineally (Walsh 1999). *Jowi* have now entered the domain of items that are remembered primarily in order to display a respect for tradition, rather than to be used for pragmatic purposes. In some communities, however, it has some bearing on marriage (Carucci 1997b).

It is the *bwij*, not the *jowi*, that holds land (Mason 1987: 10)—one has no rights to land merely by dint of its ownership by a member of one's *jowi*—but clans were formerly important for other reasons. Each clan had associated reputations, legends, talents, and magical powers. For instance, the Jibuklik clan had a special relationship with chiefs: they acted as servants to them, walked freely in their midst, and dug their graves when they died (Petrosian-Husa 2004: 48). In Chapter 4 I will describe a clan (or rather the symbolically charged memory of a clan) with the erstwhile ability to control the weather and therefore a special relation to climate change.

Competition over land and adjoining reefs was the mainstay of traditional politics and warfare (see Kiste 1974), and land remains a point of contention in the modern day. An ambitious chief, or a particularly magnanimous one, might succeed in extending his hegemony across several atolls, but to our knowledge no chief ever conquered the entire archipelago (Mason 1987: 11; Poyer 1997: 21); the islands remained a mishmash of shifting chiefly domains. Probably for this reason, prior to colonialism Marshall Islanders had little or no sense of themselves as a single unified people (Meto 2000: 4), despite intra-archipelago ties and recognized cultural and linguistic uniformity. They had names for the two chains of atolls that make up the country (Rālik and Ratak), toponyms which also easily became informal ethnonyms (Spennemann 2000). But they had no term for the archipelago as a whole, other than the vague *Aelōñ Kein* ('these islands'), and no name for themselves as a people (Kramer and Nevermann 1938: 13).

Land has immense practical value, and this practical value gives rise to symbolic value. In fact the role of land in Marshallese society, often described as central, challenges the distinction between ‘practical’ and ‘symbolic’: land is deemed important due to its practical value as the giver of life but also because, as the giver of life, it underlies the social structure and hierarchy (Kiste 1974: 5). The fruits of the land are what lower people use to express loyalty to higher people and what higher people use to support lower people; that is, commoners express their loyalty to the chief by giving him tribute (*ekkan* or *eqjek*), a portion of the land’s produce, and chiefs are supposed to prove their munificence by granting land rights to the deserving (Carucci 1997a: 200; Poyer 1997: 24). The society was thus shot through with exchange and reciprocity. A system of delayed reciprocity (Carucci 1997a: 200-201) has always governed the relations between chiefs and commoners: commoners gave fresh produce, preserved food (*bwiro* and *jāānkun*), mats (*jaki*), and other valuables to the chief, who, ideally, was obligated to redistribute these valuables to deserving parties, either those who had been particularly loyal or helpful to him, or those who were in particular need, such as the victims of droughts and typhoons. The role of the chief as collector and redistributor of goods (Sahlins 1958), for which he gains prestige and the loyalty of his subjects, applies closely here (Poyer 1997: 24). He was also a redistributor of land: the Marshallese language contains a plethora of specialized terms for land parcels given by a chief to one of his commoners for specific reasons; *kwōdaelim*, for instance, is land granted to a commoner for having bailed the chief’s canoe during a war voyage. Within kin rather than between commoners and chiefs, exchange of food is also frequent and vital, not only in daily subsistence activities but in ritual contexts such as the Keemem, a child’s first birthday party, and formerly in puberty ceremonies. The pre-Christian religion, based on the little we know of it, was also modelled on food exchange: a small pantheon of gods (*ekajab*) from the spirit island of Eb in the west, as well as various other ancestral and non-ancestral spirits (*anij*), were supplicated with real or symbolic offerings of food in the hopes that they would

reciprocate in the form of fair weather, good harvests, and general prosperity (Erdland 1914: 316-9), in much the same way as commoners gave tribute to chiefs and expected support in return.

Land and food are thus the two interconnected foci of wealth, exchange, and redistribution. Food is particularly emphasized in Marshallese discourse. Proverbs (*jabōn kōnnaan*) express this: ‘Ajej dikdik, kōjatdikdik’ (literally ‘Sharing a little bit, hope’) means ‘Give what you can, even if it is small’. ‘Enrā bwe jen lale rere’ (literally ‘Food basket so that we take care of each other’) expresses the link between food and conviviality. ‘Etetal mōmōñāñā’ (literally ‘Walking around, eating again and again’) refers to the possibility of being fed again and again, at every house one stops, in a properly generous Marshallese community. ‘Jab ālkwōj pein ak’ (literally ‘Don’t bend the frigate bird’s wind’), as I stated before, warns against disobeying those above you, especially the chief, but can also mean that one should never refuse an offer of food, because the exchange itself is more important than the satisfaction of one’s hunger. The two meanings are indeed one: the more central meaning is ‘Do not disrespect the status quo’, a system based largely on reciprocal exchange between low and high people, an exchange in which one has an obligation to both give and receive, thus creating the chiefly system and the rest of the hierarchy and social structure.

From tradition to traditionalism

Thus, longstanding features of Marshallese society accord closely with the general themes of Pacific ethnography. Food, land, kinship, hierarchy, and chiefs are tightly interwoven both sociologically and cosmologically. I will now trace the substantivization of images of these lifeways via Marshallese experiences with the influx of outside people and forces.

The West had little influence on the islands until well into the 19th century. Spanish voyagers had occasionally visited as early as 1526, and had even claimed the islands as part of Spain’s dominion. But the ownership was on paper only: the Spanish were far more

interested in the Spice Islands, and Spain's influence on the Marshalls was limited to a handful of brief and insignificant landings. British ships rediscovered the islands in the 18th century, occasionally trading with the locals, but again the archipelago was only a pit stop on the way to more lucrative shores, in this case China's. A British voyage commanded by Captain John Marshall lent the islands the name that would later be adopted as a toponym (*maje!*) and an ethnonym (*rimaje!*) by the people themselves.

More significant was the several-month-long stay of Russian explorer Otto von Kotzebue in 1816-17, easily the most extensive interaction between Marshall Islanders and Europeans to have yet occurred and our first source of ethnographic information (see Chamisso 1986 [1821]; Kotzebue 1821). The interactions can be fruitfully analyzed in terms of the themes outlined in my earlier regional review. Islanders were awed by the visiting Europeans' material and technological resources: curiosities such as mirrors and clocks, as well as practical items such as firearms, and above all iron, which locals zealously coveted. Kotzebue quickly established friendly relations with the local chief by giving abundantly of these items, and proved his might by firing the ship's cannon to demand the return of a captive sailor. Having shown both power and generosity, Kotzebue was declared a chief (Kotzebue 1821: 101) in the usual fashion for such early Pacific Islander-European encounters. He may have been considered divine in some sense, as his claim to have visited the heavens (*lañ*) was apparently credible to locals (Ibid.: 115). Such attitudes, however, are not necessarily indicative of meek submission, but may rather demonstrate the exercise of Marshallese agency to use these newcomers to local advantage (Walsh 2003); thus the relations followed the common Pacific practice by which chiefs bolster their authority, and serve their people, by securing power from foreign deities (Sahlins 1985).

As the century progressed European interest in the islands increased greatly. The islands attracted whalers and blackbirders, seeking to plunder the region's cetaceous, and human, resources. The abuses of these profiteers turned the formerly friendly islanders

hostile, and the archipelago acquired a reputation for danger (Hezel 1983: 200). Thus an image of foreigners as rapacious invaders had come to compete with the earlier view of foreigners as powerful benefactors, in a manner reminiscent of Cook's rapidly changing reception in Hawaii. This ambivalence was equally in evidence in Marshallese dealings with missionaries. Perhaps more encouraged than daunted by the recent reputation of ferocity, the first missionaries chose this time to arrive. They were Americans, a pair of Congregationalists sponsored by the New England-based American Board of Commissioners for Foreign Missions. Arriving on Ebon Atoll in 1857, they initially met with positive sentiments: they received a cordial welcome from the powerful chief Kaibuke (Hezel 1983: 201; Utter 1999: 34-5), who was evidently eager for a profitable alliance. Without local opposition, missionary activity proceeded smoothly: the missionaries quickly set about establishing a school and church, devising a written form of the language, translating parts of the Bible, and preaching the gospel to a growing congregation. Locals increasingly observed the Sabbath, abandoned non-Christian rituals, and became more secretive about tattooing (see Spennemann 1993: 50-74), given its spiritual associations (Hezel 1983: 205; Spennemann 1993: 72). Other Protestant proselytizers, both Americans and Hawaiians, began to arrive in the islands. Although Marshall Islanders now remember the missionaries as Americans, in fact it was the Hawaiians who stayed the longest and arguably made the largest impact (Walsh 2003: 163).

Initially, the missionaries had been able to secure the local chief's goodwill by offering him gifts and promising alliance. But soon the influence of Christianity, and the prospect for any Marshall Islander, even a commoner, to obtain wealth and prestige through cooperation with the missionaries, had begun to undermine chiefly authority. The view of foreigners as benefactors had again transformed to that of foreigners as invaders. Thus, in the classic Sahlinsesque manner (Sahlins 1985, 1981), an act of cultural reproduction—a chief's attempt to harness power from a foreign source—resulted in cultural transformation, when

reality refused to behave according to customary expectation. Kaibuke launched a backlash, but it was now too late for effective resistance (Hezel 1983: 208-10). A mere 15 years after the first missionaries arrived, islanders had become their own missionaries, spreading the word unaided and heading most of the country's churches themselves (Ibid.: 210).¹⁰

Conversion to Christianity marked the first major foreign influence upon the islands, and it facilitated further social change. But the islands nonetheless remained politically independent and unconquered. This changed in 1884 when Germany, lured by an already burgeoning trade in copra (coconut meat), bought the territory from Spain. German rule was the islanders' first real taste of imperialism, although the Germans governed with a light touch. Rather than challenging the authority of the chiefs, the Germans made them intermediaries in governance and trade, enriching them and arguably entrenching their power in the process (Walsh 2003: 173), as occurred elsewhere in the Pacific (Sahlins 1992). But this is not to say the German administration only bolstered, rather than threatened, the existing cultural order. The Germans outlawed the archipelago's chronic warfare (Spoehr 1949b: 90), stabilizing the country, if also rendering inflexible the social system and distribution of resources (Ibid.: 31), as colonial changes have been argued to have caused in other Pacific nations such as Fiji (Overton 1992: 327-9). This Pax Germanica also accelerated the already quick spread of Christianity. The first Catholic missionaries arrived in the 1890s, but with Protestantism already entrenched they left only a modest influence on Marshallese society (Utter 1999: 45). Most importantly of all, perhaps, was the advent of cash-cropping and the related advent of cash. With chiefs having a stake in the trade, and commoners too hoping to purchase the foreign goods that were now flooding their shores, it was not difficult to convince the Marshallese to remake much of their land into copra (coconut meat) plantations. Subsistence was not abandoned, but was scaled back as imported food purchased

¹⁰ For more on this period of Marshallese history see Hezel (1983: 200-210).

with cash began to supplant home-grown produce, and as taro and breadfruit land was replanted with coconut trees, creating the landscape still extant today.

In 1914, German commercial interest in the islands having waned, and matters closer to home having become more pressing, Japan took unofficial control of the islands. That occupation became official after World War I when the new League of Nations granted the territory to Japan as a mandate. In many ways the Japanese ruled more strictly, and with less cultural sensitivity, than the Germans: they weakened rather than strengthened the chiefs (Walsh 2003: 179-89), removed the chiefs' exclusive ownership of particular tabooed reefs (Tobin 1952: 11), and even tried (unsuccessfully) to eradicate the islanders' matrilineal inheritance patterns in favour of a Japanese-modelled patrilineal system, as they attempted elsewhere in Micronesia (Murdock and Goodenough 1947: 336). Nonetheless, elderly Marshallese remember this time, and the Japanese, as mostly agreeable. This was to change dramatically, however, in the run-up to the Pacific War. Japan withdrew from the League of Nations, imported military personnel to the island, and heavily fortified many atolls in this strategic eastern edge of their Pacific empire. The archipelago witnessed heavy fighting in the war. As bombs fell, supply lines failed, food stocks dwindled, the Japanese soldiers became desperate and cruel to the Marshallese, forcing them to work, confiscating their food, and banning Christian activities (Poyer 1997: 31; Spoehr 1949b: 33).

It is therefore with fondness that elderly Marshallese now recall the victorious arrival of American forces (Carucci 1989). As they expelled the Japanese they ingratiated themselves to the locals, giving food freely and reinstating church services. The Marshalls had changed colonial hands once again, becoming an American-administered United Nations Trust Territory – a de facto American possession. America was now the islanders' third colonial master in little more than three decades. Again the remote archipelago, presumably peripheral to geopolitics, would be at the forefront of global affairs. The United States chose the territory as its premier nuclear testing site. Relocating the people of Bikini and Eniwetok

Atolls in the northern Marshalls, the American military conducted 67 nuclear detonations through the 1940s and 50s. The 1954 'Bravo Shot', in which an H-bomb was dropped on Bikini Atoll, was the most powerful test ever conducted by the United States. In addition to displacing the people of Bikini and Eniwetok and irradiating their land, the tests also exposed hundreds (perhaps thousands) more to radiation, causing cancer and birth defects (see Barker 2004; Dibblin 1988; Kiste 1977, 1974; Niedenthal 2001). The people of Bikini are still unable to resettle their atoll, and court battles rage to the present day regarding clean-up costs, medical treatment, and reparations for atomic victims.

With the testing concluded, the Marshallese leadership hoped for self-governance yet recognized that the islands were now highly dependent on American subsidies and would likely need to remain so for many decades. The desire for independence and the reality of dependence reached a compromise in 1986 with the Compact of Free Association, a treaty between the United States and a newly sovereign Republic of the Marshall Islands (RMI). The Compact makes the archipelago as close to a U.S. possession as possible without in fact being one. That is, the country is self-governing and has its own seat in the United Nations, yet roughly two-thirds of its budget derives from various forms of American aid (Situation Analysis 1996: 3), its currency is the US dollar, it is eligible for US federal programs, its defence is a responsibility of the United States, and Marshallese citizens can serve in the US armed forces and freely live and work in the United States for any amount of time. In addition, the United States maintains a military base on Kwajalein Atoll, part of the Ronald Reagan Ballistic Missile Defense Test Site where anti-missile defence technology is tested; those with traditional claims to the atoll have been enriched by rent payments. The RMI and the US remain as closely tied as any two countries can be.

In the 1990s, another foreign group began to exert influence on Marshallese society. Through a government-run passport selling scheme, a few hundred mainland Chinese people acquired Marshallese citizenship, settled in Majuro, and opened shops that out-competed

local businesses (see Juumemmej 2006: 73). Smaller numbers of American expatriates, Pacific Islanders, Filipinos, Taiwanese, and other non-indigenous people have also settled in Majuro in the last few decades (Ibid.). While only 2% of citizens are non-indigenous (Statistical Yearbook 2005: 20), a tiny fraction of the percentage in such Pacific societies as Fiji, the existence of foreigners, in particular Chinese, is a major concern to Marshall Islanders: it is a subject of frequent discussion, songs, and, in the *Marshall Islands Journal*, articles, political cartoons,¹¹ and letters to the editor.

The Marshallese population is itself in considerable flux. Urbanization has proceeded rapidly since World War II (Juumemmej 2006: 20). Two-thirds of Marshall Islands (Ibid.: 73; Meto 2000: 63) now live in the country's two urban centres—Majuro, the capital and largest city with around 25,000 inhabitants, and Ebeye, population 11,000, a bedroom community in Kwajalein Atoll for Marshallese who work at the nearby US military base—rather than in the hundreds of small villages scattered over the country's 29 atolls and five single islands, where subsistence and copra farming are economic mainstays, amenities like running water and electricity are not assured, and trade goods are not always available. Extremely high birth rates have skewed the demographics towards children and young adults (Juumemmej 2006: 79), and precipitated a population boom since World War II. Having reached nearly the point of saturation, and with few economic opportunities at home, large numbers of Marshall Islanders have migrated to America. Since the early 1990s approximately 1000 Marshallese citizens have done so each year (Ibid.: 74), settling in particular in Hawaii, California, Oregon, Washington, Arkansas, and Oklahoma; there are as many as 10,000 Marshall Islanders in Springdale, Arkansas. All told, an estimated 15,000 Marshall Islanders now live in the United States (Ibid.: 20), and the number is growing.

Foreign missionary influence also continues. Early missionization was decisive, with almost all citizens now unhesitatingly identifying themselves as Christian, and none claiming

¹¹ For instance: 20 March 2009, p. 8; 10 December 2004, p. 7; 4 June 2004, p. 22; 13 December 2002, p. 30.

adherence to any sort of native religion (which is not to say that some pre-Christian religious practices, such as divination [*bubu*] and magic [*anijnij*] do not persist). More recent missionaries have therefore aimed to shore up people's existing Christianity or to convert them to other world religions such as Mormonism. The religious makeup of the country is now as follows (Freedom Report 2009). Catholics comprise 8.4%, the low number being a legacy of the late arrival of Catholic missionaries (Utter 1999: 45). Within the Protestant category, 51.5% of Marshall Islanders belong to the United Church of Christ (the continuation of the Protestant church originally established by the American Board of Commissioners for Foreign Missions), 24.2% to the Assemblies of God (a Pentecostal denomination), and 2.2% to Bukot Non Jesus ('Searching for Jesus', another Pentecostal denomination). Mormons now almost match Catholics at 8.3%, along with small numbers of Seventh-day Adventists, Baha'i, and Jehovah's Witnesses; these numbers are rising and the societal force of these alternative faiths, especially Mormonism, is increasing.

This, then, has been a brief history of Marshallese encounters with the outside world. Guided by the themes outlined in the regional review, I will now analyze the way in which these encounters have inspired and shaped the substantivization of Marshallese culture. As I stated before, pre-colonial Marshall Islanders appear to have had no conception, or only a weak conception, of themselves as a unified ethnic group defined by shared tradition. This changed dramatically during the colonial era. The missionaries had little interest in or appreciation for the existing religious practices: they called upon locals to simply renounce their evil customs rather than incorporate them into Christianity (Erdland 1914: 305; Utter 1999: 36-7). This experience made Marshallese culture into an object of consideration, and defined it as something different from, and (according to the missionaries) opposed to, Christianity; Marshall Islanders now had reason to substantivize their tradition even as they set about dismantling parts of it. German imperialism had a similar effect, albeit in a somewhat gentler fashion: the Pax Germanica ended native warfare and thus, we can surmise,

created a sense of opposition between an European way and a Marshallese way; the same can be said of the attempts by Germans, and others, to buy land, which I will discuss in a moment. The efforts of the Japanese to replace matrilineal inheritance with a Japanese-modelled patrilineal system also created such a conceptual opposition. Cultural self-consciousness increased thereafter, as Marshall Islanders differentiated themselves from Americans and achieved independence from them. Through all of these regimes—German, Japanese, American, and Marshallese—the political unification of the islands under a single administration encouraged a sentiment of unified identity. Most recently, substantivization has been strengthened by experiences with Chinese immigrants (an encroaching out-group against which to define the in-group, its superior culture, and its traditional rights to the country) and out-migration (intensifying contact between Marshall Islanders and a foreign way of life, and forcing a conscious choice between retaining Marshallese ways and abandoning them).

Given these experiences, it is not surprising that a unified ethnic identity, and belief in an authentic, homogeneous cultural tradition, are now extremely vigorous in the Marshall Islands. People strongly and effusively identify as Marshall Islanders (*rimaje!* or *arnej in maje!*), in distinction to other identified ethnic groups such as Americans (*ripālle*) and Chinese (*rijāina*), and speak often and passionately of their tradition (*manit*), the Marshallese way of life (*mantin maje!*) in contradistinction to other peoples' lifeways, in particular American culture (*mantin pālle*). Marshallese custom, it is very often and effusively said, is the greatest way of life in the world, the one correct way for Marshall Islanders to live. It is celebrated self-consciously in yearly Manit Day festivities. It is nearly unthinkable to criticize *manit*; only well-educated individuals will do so, and will only do so in private and with heavy qualifications. The Marshallese constitution declares that tradition is 'a sacred heritage which we pledge ourselves to maintain', and one of the greatest compliments a foreigner in

the Marshall Islands can receive is to be told (not literally, but nonetheless approvingly) that she is Marshallese.

The emphasized elements of this substantivized tradition are reminiscent of those in other Pacific societies. Firstly, there is strong emphasis on subsistence, indicated in the Marshallese language by the phrase *ejjelok wōñāān* ('free of charge'). The informal Marshallese name for the nation, *aelōñ kein* ('these islands'), is said to refer to the three zones from which people eat: *ae* ('ocean current') represents the ocean, *lōñ* ('up') represents the sky, and *kein* the land. Marshall Islanders, it is said, eat from all three spheres—plants from the land, fish from the sea, and birds from the sky—and such a subsistence lifestyle is said to guarantee an easy abundance for all; freeness is freedom. Marshallese food (*mōñā in majel*), in particular produce which comes from the land, is spoken of with extreme frequency and in highly positive terms. Its enjoyment by a foreigner is spoken of as a prime indicator of going native, and its refusal is an insult to the hosts and a symbolic rejection of Marshallese culture in general.

Another closely related element of perceived tradition is what could be called conviviality: kindness and generosity within and between families (*ippān doon*, 'togetherness', *lale doon* 'taking care of one another', or *iokwe doon* 'loving one another'), as well as proper respect (*kautiej*) for those in hierarchical roles above oneself, such as parents, older siblings, and chiefs, and appropriate support (*lale*) for those below oneself, such as children, younger siblings, and commoners. These proper and generous relations are often said to be the most precious and fundamental part of *mantin majel*. Subsistence and conviviality are closely connected, indeed for Marshall Islanders nearly synonymous: subsistence promotes conviviality because when food is free of charge, people will generously share it, fostering togetherness, it is said; subsistence/food is also the way that hierarchical roles are expressed and maintained. (For more on this discourse see Rudiak-Gould [2009a: 17-39].)

Related to both of the above, Marshall Islanders emphasize chiefs and land. The chiefly establishment, and proper respect for it, are often spoken of as linchpins of Marshallese tradition. A frequent answer to the question ‘What is most important in *mantin majel?*’ is ‘*Kautiej irooj ro ad*’ (‘To respect our chiefs’). Land (*bwidej* ‘land, dirt’; *āne* ‘island’; *aelōñ* ‘country, atoll’) is also highlighted. The Marshallese constitution declares that the people ‘valu[e] nothing more dearly than our rightful home on these islands.’ Well-educated locals, in particular, aver that land is necessary for identity. ‘Without our lands I don’t know how can we keep our culture.’ ‘Our culture is attached to our land.’ ‘For Marshallese people, you are all connected to your land. Your land is your identity. So if we go somewhere else, you don’t have an identity. You’ve lost it.’ The archipelago (*aelōñ kein* ‘these islands’; *aelōñ kein ad* ‘our islands’; *aelōñ in majel* or *majel in* ‘the Marshall Islands’) is said to be a gift from God (*mennin leļok jān Anij*) and a precious inheritance (*jolōt*) from the ancestors. It is spoken of as *the* Marshallese homeland; there is no other homeland for the Marshallese and the Marshall Islands is homeland to no other. It is not a temporary living space for a people with other origins and destinations. Most Marshall Islanders have no knowledge of or interest in prehistoric Pacific migrations; although they consider themselves related to other Pacific Islanders, they never speak of their ancestors having originated in Southeast Asia or having arrived in the Marshall Islands by way of other archipelagos. As far as they are concerned their people have always lived in the Marshall Islands and have always been Marshallese. Their identity and their homeland are natural and eternal, not accidental and transitory.¹²

The connections between these emblems are intimate: subsistence fosters conviviality, conviviality entails hierarchy, hierarchy is invested in chiefship, chiefly authority depends on land, and land grants subsistence. The tradition thus defined is spoken of as a set of protocols

¹² Similarly, Mortreux and Barnett report that Tuvaluans consider their culture ‘irrevocably tied to place’, namely to their home archipelago of Tuvalu (2009: 110; also see Kim 2010: 56-73, 81-90).

that, if followed, guarantees harmony and prosperity for all – it is ‘the good life’. This idyllic traditional life is well expressed in a set of several dozen murals painted in Majuro, product of a small but vigorous artistic movement that has arisen primarily in the last decade (Journal 2003a; Journal 2000; Madsen 2006).¹³ (See Figure 1 to Figure 4 below.)



Figure 1. Mural on the exterior of the Youth to Youth in Health building, Majuro

¹³ Responsible for this movement are a handful of self-taught Marshallese artists including Henry Lometo, Amram Enos, and Anno Aisaia, whose paintings hang in various government offices, businesses, and private homes. Local groups have sponsored and organized community-led efforts, sometimes supervised by the artists above, to paint similar murals in Majuro. These murals now grace various exterior walls and in particular more than two dozen small bus stop shelters. In all cases the images are of ideal Marshallese life, the past, the outer islands, and Marshallese legends. The paintings, by all indications, are primarily for the benefit of locals rather than the rare tourist.



Figure 2. Detail of the Marshall Islands High School mural



Figure 3. Detail of the Marshall Islands High School mural



Figure 4. Detail of the Marshall Islands High School mural

In these images, the weather is always fair, the trees always green and laden with fruit. The environment is perfectly clean, benign, and bountiful; the social world is similarly faultless. Men are always doing what men should do: fetching and husking coconuts, fishing, sailing, building canoes. Women are doing what women should do: preparing food, tending fires, taking care of children, weaving pandanus-leaf mats. Children are doing what children should do: sitting obediently, learning skills from adults. Copious coconut-frond baskets are to be found, filled with food, ready to be shared. The houses are thatched from local materials. People are graciously engaged in collective endeavours: house-building, a Keemem (first birthday party), or the *alele* fishing method in which dozens of men surround a school of fish with a coconut-frond scarer (see Figure 4). People rely entirely on local resources and customs, so life is proper, prosperous, and harmonious.

This good Marshallese life, *mantin majel*, is juxtaposed, in binary opposition, with particular foreign cultures. I stated earlier that the slot for ‘diametrically opposed foreign culture’ can be variously filled by British colonialists, Indian immigrants, Westerners in

general, and urbanized Pacific Islanders, according to the particularities of the country's history of ethnic relations. In the Marshall Islands, unsurprisingly given its post-war history, it is Americans (*ripālle*) who play the conceptual role of the Other. American culture (*mantin pālle*) is spoken of as the polar opposite of *mantin majel*: subsistence is replaced by a cash economy (*mour kōn mani*: 'living by money') and conviviality is replaced with individualism (*kwe wōt kwe, ña wōt ña*: 'you are just you, I am just me'). Just as subsistence and conviviality are seen to mutually reinforce each other, so too are the cash economy and individualism: money is inherently divisive, something that only *some* people can possess, and leads inevitably to selfishness, discord, and division, it is said. Chinese people are also cast as the cultural Others, though not as frequently. In contrast to the compassionate and peaceful ways of Marshall Islanders, Chinese people are said to be rude, aggressive, and greedy, caring only about money; they steal, disrespect Marshallese custom, and hurt local businesses. They are also dirty, smelly, purveyors of inferior goods, and the women are prostitutes. The negative statements about American culture are not applied to individual Americans, who are in fact welcomed warmly; thus, the negative discourse about U.S. citizens can be considered mainly a conceptual aid, good to think with. In contrast, the unfavourable stereotypes of Chinese are applied to individuals: there is real resentment here, not merely a discourse of alterity.

Perhaps the most fundamental attribute that Marshall Islanders associate with these foreigners, and repudiate, is money. 'Living by money' (*mour kōn mani*) becomes a metonym for everything bad about American culture, and everything antithetical to Marshallese custom. It is closely associated with America, a conceptual link strengthened by the country's use of the American dollar. But the negative discourse about money is not merely a product of its foreign associations, but the evil powers with which it is credited. Money is said to undermine the lifestyle of easy subsistence by requiring people to buy rather than grow and catch food. A man from Ujae, an outer island, voiced a widespread sentiment:

It's hard...In Majuro you have to live entirely by money. You go to the hospital and you have to spend money. You go to church, and you spend money. We also buy canned food, and it's expensive. Nowadays gas is very expensive. There's a big difference between being in the urban centres and the outer islands, because in the outer islands you can eat Marshallese food...On Ujae, you wake up, take a shower, and eat—eat native island food that we got from Marshallese trees. We don't buy it.

Money is also said to undermine conviviality by allowing and encouraging selfishness. A song entitled *Mani ej okran nana*, 'Money is the root of evil', expresses this:

Money is the root of evil in our lives	<i>Mani ej okran nana ilo mour in adeañ</i>
It will be hard, so hard, to rid ourselves	<i>Epen im pen an naaj jako nañinmej jab</i>
of this disease	<i>in,</i>
From when I was just a boy until the	<i>Jān ke iaar laddik bajjek, maantak ñan</i>
present day	<i>raan kein adeañ,</i>
I see many relatives wrongly hating	<i>Ij lo bōd bwe elōñ nukun ko redike doon</i>
each other	

Cartoons in the Marshall Islands Journal communicate the same message. In one,¹⁴ a woman is standing outside of her house while a man on the street speaks to her. The man says 'Sister, can you give me one of your rooms to stay in? I haven't found a job yet.' ('*Sister, komaroñ ke letok juon aō room ibbam bwe ijañin ello aō job?*') The woman replies 'I don't need a jobless person [in my house]!' ('*Ij jab aikuj jobless!*') The caption reads 'Money destroys tradition' ('*Money erube manit eo*'). The cartoonist indicates the presence a television, air conditioning unit, and radio at the woman's house, indicating that this woman, despite having resources to spare, refuses to follow the Marshallese value of *lale doon* (taking care of one another), even with her own kin, due to the pernicious influence of money.

Money also, and relatedly, is said to undermine the supremacy of chiefship and land. The only form of infinitely storageable good in traditional Marshallese society was land (in the extended sense of islands and adjoining reefs); thus land was the pre-eminent form of wealth. With chiefs considered the ultimate authorities over all land, it was impossible to be entirely outside of their sway; more generally, with land the only source of sustenance, one had to belong to the hierarchical system of land tenure whether one wished to or not. With the advent of money, a new storageable source of income was introduced. Given its

¹⁴ The Marshall Islands Journal, 4 June 2004, p. 22.

storageability as well as its tiny size per unit value, cash is uniquely suited to hoarding and hiding, allowing and encouraging greed. Moreover it is anonymous: unlike a hand-woven mat (*jaki*), for instance, it bears no traces of who made it; and unlike a land parcel (*wāto*), it bears no marks of its previous owner. It is perfectly impersonal (Bloch and Parry 1989: 6): unlike a gift, it cares nothing for a relationship. All of this makes it, in the Marshallese view, the ideal carrier of individualism (*kwe wōt kwe, ña wōt ña*), something that Marshallese ideology reviles as antithetical to conviviality and hierarchy. (Indeed, many societies across the globe associate the cash economy with acquisitiveness and individualism, while the subsistence economy symbolizes generosity and collectivism [Bloch and Parry 1989].)

As we would surmise from the literature reviewed previously, these ideologically emphasized elements of Marshallese custom, and their antitheses, are not random or inexplicable, but fairly predictable given the country's history. The system of subsistence, conviviality, hierarchy, chiefship, and land has come under attack numerous times. In the era of missionization, as we saw previously, the power of foreigners rivalled that of chiefs even as the chiefs attempted to harness that foreign power to entrench their own hegemony. During the German administration, the advent of money challenged the pre-colonial system in the ways suggested above. The conversion of much of the Marshall Islands into copra plantations weakened the subsistence-based, unmoneyed lifestyle. More fundamentally, money offered a new and subversive source of sustenance: with cash one could have no stake in the land, no loyalty to a chief, and yet still eat. Money supplanted land and buying supplanted growing: the chief's supremacy, and the entire social system that accompanies it, were powerfully threatened in symbolic terms, even if the chiefs' stake in the copra trade allowed them to maintain literal supremacy. Cash endangered land in a more direct sense as well: both German administrators in the early 20th century and American administrators in the mid 20th century attempted to buy land outright from its traditional owners. In 1911, a German administrator offered chief Leit 18,600 marks for Rongerik, Rongelap, Ailinginae, Bikini,

and Wotho atolls, to be used as copra plantations (Walsh 2003: 174-6). In 1957, the American administration offered Amata Kabua—a powerful chief, landowner, and later the Republic's first president—\$187,500 for indefinite use of 250 acres, effectively buying the land; at one point he was offered \$300,000 in cash on a table in front of him (Ibid.: 222). In both cases the offers were rejected and land remained in the chief's hands, but the temptation and the threat were real enough: Chief Leit was interested in doubling the sum for Bikini alone, before deciding to refuse the offer altogether.

American atomic testing mounted a further attack on the centrality of land, chiefs, and subsistence. In some cases land was destroyed outright—three islets in Bikini Atoll were vaporized, leaving nothing but submerged craters in the reef—while in other cases the land remained but lingering radiation robbed islanders of their ability to enjoy its fruits. Evacuated to other islands, the nuclear refugees found themselves on inferior land, uninhabited for a reason, where subsistence was difficult or impossible (see Barker 2004; Dibblin 1988; Kiste 1977; Kiste 1974; Niedenthal 2001). In the most famous case, Bikinians were relocated to Rongerik Atoll, where they nearly starved due to the poisonousness of many of the fish, and then to Kili Island, the so-called 'prison island' which had been only sparsely and sporadically inhabited in pre-colonial times due to its poor anchorage and lack of a lagoon (Kiste 1977, 1974; Niedenthal 2001). Some later moved to Ejit Island in Majuro Atoll, an islet far too small for farming. In these and other cases of nuclear exodus, men, unable to provide, lost their 'moral standing and self-esteem' (Barker 2004: 75), and the traditional leadership was undermined because its power had depended on control of productive land (Ibid.: 75-77). Land lost, the people were compensated in *money*, in the form of charity and reparations. Thus the nuclear-affected communities had in effect been forced to sell their islands, to trade *manit* for *mour kōn mani*, tradition for modernity.

Other threats have appeared more recently. The formal power of chiefs, if not their informal influence, has been reduced by a democratic system that invests legislative authority

in an elected parliament, the Nitijela, and relegates chiefs to a Council of Iroj with merely advisory capabilities; chiefly powers are now less enforceable, more reminiscent of the traditionally weakly stratified Polynesian societies such as the Marquesas, Tikopia, and Futuna. The progressivist United Democratic Party, opposed by the more self-consciously traditionalist Aelōñ Kein Ad party, has suggested expropriating certain plots to become public land, thus ensuring the smooth functioning of government services such as schools. The migration of the population into urban centres, far too densely populated for horticulture, as well as the movement of thousands of Marshallese to America where moneyed life is inevitable, have also threatened subsistence; land-based chiefly authority has suffered from the resulting abandonment, in body if not in sentiment, of *lāmoran*, heritage land. Meanwhile, an American has managed to purchase subordinate land rights, but not chiefly rights, to part of an islet in Majuro Atoll. In the Marshallese view, conviviality has come under siege by Chinese immigration; Chinese-run shops have displaced Marshallese businesses probably in large part because Chinese immigrants, being outside of the Marshallese system of mandatory reciprocity, can administer their businesses like good acquisitive capitalists. In opposition to this, Marshall Islanders emphasize their communalism and ethic of sharing.

It is thus apparent why subsistence/conviviality/hierarchy/chiefship/land have become salient emblems of Marshallese culture: all are in the crosshairs of history. Note that certain other pre-contact practices, such as warfare and animism, are not said to be part of *mantin majel*, while certain customs that are not pre-contact practices, such as a unified nationwide identity and peaceful relations between chiefly domains, *are* said to be parts of it. Following the theories reviewed previously, then, emic views of Marshallese tradition are neither reducible to nor unrelated to pre-contact practices.

From traditionalism to entropy

From this Marshallese variant on the Pacific-wide substantivization of culture, it is but a small step to a discourse of entropy. The past (*jemaan, etto, raan ko lōk*) is considered

the site of Marshallese tradition, a time when custom was upheld, chiefs revered, conviviality vigorous, strife and privation unknown; it is described as a Golden Age resembling the paintings shown previously. But this Arcadia did not last. It fell prey to the advent of outsiders, especially Americans, whose foreign ways lured islanders away from their *manit*. With the Americanization and foreignization of Marshallese society, it is said, the good life transformed into its degenerate mirror image: the contrast between past and present is identical to that between Marshallese culture and American culture. In countless ways Marshall Islanders nowadays violate tradition (*kòkurre manit*), locals say. ‘In the future we won’t have brown skin, we’ll have white skin!’ said one man, metaphorically, with a laugh. The Marshallese language (*kajin majel*) has declined, people say, and this decline is an indicator or proxy for the decline of *manitin majel* in general. Children—and even government officials—do not speak proper Marshallese any more: they use too many English words and they have forgotten *kajin etto*, the old Marshallese language. Soon Marshall Islanders will simply speak English, it is said. The language is considered an integral part of the culture, and its replacement with English a sign of the replacement of Marshallese culture with American culture. Meanwhile people decry the loss of traditional lore and skills, such as *katu* (weather forecasting) and *meto* (navigation). The influx of foreigners is seen as a cause, a symptom, and a symbol of tradition’s demise. Marshall Islanders have learned the American way, in all its degeneracy, from Americans themselves, as well as from American films as vehicles of seductive foreign ideas. ‘Soon our children will be half American, half Chinese’, it is said. Furthermore, people say, as these foreigners flood into the country, locals leave in droves for the United States.

Meanwhile subsistence and home-grown produce are giving way to cash and foreign imports, locals lament. People these days are said to prefer imported staples such as rice, flour, and sugar over local crops such as coconut, breadfruit, pandanus, and taro, even though local crops are healthier, more conducive to conviviality, and more authentic to Marshallese

culture, in addition to being free for the taking. People are said to be lazy and therefore to prefer spam, canned tuna and canned mackerel over seafood that they must catch themselves. Some crops, like arrowroot, are said not to grow well anymore because of modern changes such as radiation. A man on Leb expressed the difference between past abundance and present scarcity in the form of fruit: he pointed to a small, misshapen, and discoloured breadfruit and said ‘You see this breadfruit? It is bad. It is a *mā in raan kein* – a breadfruit of nowadays.’ Then he showed me a plump, shapely, healthily green breadfruit and said ‘And you see this one? It is good. It is a *mā in jeḡaan* – a breadfruit of the past.’ More generally people’s relationship to the land is weakening. A Bikinian man lamented that the land on Bikini Atoll was degraded, not merely because of nuclear testing but because Bikinians were no longer there to tend to it. A woman in Majuro told me that her attachment to the heritage land of her *jowi* was strong, but her daughter, heir to those same landholdings, had no interest in them because she had grown up in Hawaii; the pattern, said the woman, was typical.

As land/subsistence is supplanted by money and abundance by scarcity, conviviality gives way to social strife. Whereas people once ate together at one fire, they now eat separately, family by family or individual by individual, it is said. People ‘grieve alone.’ They are rude and stingy towards those without money, even their own kin. They fail to give freely as they once did, lying to each other that they have nothing in order to avoid sharing. They assault and kill each other and beat their children in ways previously unheard of. They violate kinship taboos, acting too freely around proscribed relatives, and they are remiss in their hierarchical obligations. In particular, low people fail to properly respect high people: children are disobedient and slothful, and commoners fail to present a food tribute to the chief. In particular, women fail to be properly meek: they break the old rules by which a woman should not shout in the road, should not sit in high places or climb trees (for to do so is to violate one’s position in the hierarchy). In addition they drink, smoke, flirt, and wear trousers, things that only men should do. They wear immodestly short skirts and sell their

bodies for money. In addition, high people fail to properly take care of low people: men are lazy and feckless, chiefs care more about amassing money than feeding their commoners, parents abuse their children and many children have no fathers. On all sides and in all ways the harmony, love, generosity, respect, and propriety of the past are disintegrating into discord, hatred, meanness, insolence, and indecency.

The following statements—the first two from outer islanders of limited formal education, the last two from well-educated urbanites (specifically then-President Kessai Note and then-mayor Eldon Note of Kili, Bikini, and Ejit)—illustrate this discourse well:

I think the Marshallese traditions of the past are gone. In the past, they didn't say 'Oh, buy it. Buy fish. Buy coconuts.' Everyone took care of each other. In the past, the old days, when a canoe broke and drifted from Majuro to Ujae, and they saw the castaways, they would say 'Oh!' The chief would say... 'Take care of those people.' That's tradition... They would bring the castaways and put them with their kinsfolk... And then they would take care of each other. They took care of each other very well. 'Oh, hello! Come and eat.'

The past was good, because there was no airplane, [so] nothing came in from abroad... When you made *bwiro* [preserved breadfruit]... everyone on the island came. Absolutely everyone. They came and brought food... Everyone ate together.... The men carved canoes... and the women brought [food]... Now this has disappeared... The people of the past were very tall and large. But people these days are very short and thin, because things arrived that didn't previously exist in the Marshall Islands, like cigarettes, alcohol, rice, and flour. We use them so much. We used to eat only pandanus and Marshallese food. Now we're very sick with diabetes.

There's no question that life was better in the past. Everyone worked together, helped each other, fed each other, and made food. No one was hungry. Everyone worked and ate and respected their chief. Nowadays, you see crime, theft and fighting. None of these things existed before because they were against Marshallese custom. They didn't exist because taboos and chiefs, elders in the community, and one's own family controlled people. They made sure their children and friends didn't do bad things or make trouble. No one stole and no one fought, because everyone was provided for. They weren't hungry. There wasn't any money or things like that yet. It's harder nowadays because of the economic reality. People need money for all kinds of things. Once Westernization, Western culture and all of those things came, people were influenced by it. They need money, and they need things that aren't in their community.

Ever since we moved from Bikini... we lost, I might say, our culture... Culture, custom, togetherness, respect [of] each other.... They are all gone.... The community on Bikini, they used to be a community of sharing things together.... It was like a family.... People were gathering and eating all night, never thinking about what they were going to eat tomorrow.... When you finished the meal, you would never think about the next meal. It was an easy life.

All of these signs of degradation are said to have struck the urban centres far more severely than the outer islands, both nostalgic urbanites and outer islanders themselves agree.

In the outer islands, ‘one smells only the scent of Marshallese culture’ (*‘Kwōj āt wōt bwiin mantin majel’*). When students in Majuro were asked to compare rural life with city life, all said they preferred the former (Journal 2007a): some of the reasons given were ‘because we learn how to live in traditional ways’ and ‘[because] we can learn how to live like in the past, like cooking local food, doing handicrafts and eating local food.’ A song composed in 2006 by the Rita Boys called *‘Mour ilo Outer Island’* (‘Life in the outer islands’) expresses the same, in particular the reliance on local resources in distinction to the urban centres:

Life in the outer islands is better than life in the city	<i>Mour ilowaan outer island</i>
Every day I make copra	<i>emmanlok jān centre in</i>
Every day I go fishing	<i>Aolep raan ij kōwainini</i>
Hoo, wa, hoo, the people of the outer islands	<i>Aolep boñ ij eḡñōd ek.</i>
Hoo, wa, hoo, life in the outer islands	<i>Hoo, wa, hoo, ri-outer island</i>
	<i>Hoo, wa, hoo, mour ilo outer island</i>

One often hears, ‘In the urban centres you have to pay for everything. If you want to sleep in a house, you have to pay. If you want to drink a coconut, you have to pay. In the outer islands you can sleep for free, drink a coconut for free. Life is easy in the outer islands.’

Thus, the urban centres are to the outer islands as the past is to the present, and as the Marshall Islands as a whole is to America. Therefore all can be represented in a single chart: a set of binary oppositions between places, times, and lifestyles, encompassing the most important nodes of the Marshallese discursive world, as well as providing a narrative of change (see Figure 5 below).

<i>Emman mour</i> Good life	→	<i>Epen mour</i> Difficult life
<i>Jemaan</i> The past	→	<i>Raan kein</i> The present
<i>Majel</i> The Marshall Islands	→	<i>Amedka</i> America
<i>Outer island</i> Outer islands	→	<i>Center</i> Urban centres
<i>Mantin majel</i> Marshallese culture	→	<i>Mantin pälle</i> American culture
<i>Kajin majel</i> Marshallese language	→	<i>Kajin pälle</i> English language

<i>Lale doon; ippān doon</i> Take care of each other; togetherness	→	<i>Kwe wōt kwe, ña wōt ña</i> Individualism
<i>Kautiej</i> Respect (Hierarchy)	→	<i>Jab kautiej</i> No respect (Lack of hierarchy)
<i>Ejjeļok wōñāān</i> Free of charge (subsistence)	→	<i>Mour kōn manī</i> Live by money (cash economy)
<i>Mōñā in majel</i> Marshallese food	→	<i>Mōñā in pālle</i> American food

Figure 5. Binary analysis of the entropy narrative

Physical and supernatural vitality, too, have waned. People are said to be physically smaller than they were in the past: the ancestors were giants, seven or eight or even ten feet tall. Islanders are increasingly wracked by disease; this is blamed on radiation, on unhealthy imported food, or on the influx of foreigners who bring with them previously unknown maladies. As a result people live shorter lives; people used to live 100 years or more, it is said. In addition people these days are lazy, and their magic lacks the potency of yesteryear: once it was possible for a Marshallese magician to merely look at a coconut tree and say ‘I admire those coconuts’, and they would fall, or make someone’s leg break with a word, but these skills have now vanished, locals say.

Even the cosmos itself is in flux: time is faster nowadays. This statement is not merely a metaphor for the increased agitation and frenzy of modern life, but by all indications a literal statement. ‘The days are faster (*eṃōkajļok raan*). They used to be slow. It’s noon now but very soon it will be night.’ ‘Days go by faster. In the past, you would wait and wait for it to get light in the morning.’ ‘Time is really fast now. You chat and you don’t know but it’s already midnight!’ ‘We don’t sleep enough because morning comes so soon.’ ‘It used to be that you could sleep a long time, wake up, keep sleeping, sleep till you’re sick of sleeping, and then get up, and it’s still dawn. Now you wake up and it’s already late morning. The daytime comes quickly these days.’ The world in general is on the decline, and Biblical End Times may well be at hand. The signs of apocalypse are already obvious: foreign wars, family squabbles, selfishness, illness, and strange perturbations in the cosmos. The Iraq War,

swine flu, the 2009 eclipse, local land disputes, a hermaphroditic pig – all are disturbing intimations that the end of the world may be near.

If there is a single force that, in the Marshallese view, threatens all customary values and produces all of these negative effects, it is money. ‘Once the green paper came, it changed everything’, an elderly man told me, referring not to a living memory—since money has existed in the country for well over a century—but to an imagined pre-cash past. A commentator in the Marshall Islands Journal (Murphy 2007) bemoans that *mantin majel* (the Marshallese way) is gone, replaced with *mantin mani* (the way of money) and its violent results. Another man complained that people had taken the ‘t’ out of *manit* (tradition) and turned it into *mani* (money). Locals cite *mour kōn mani* as the central malady of the present today; it could be translated literally as ‘living by money’ or more freely as ‘the cash economy’, but perhaps the most insightful gloss is ‘modernity’, because *mour kōn mani* refers to the entire lifeway of the present day.

All of these laments about the cash economy, in particular the aforementioned man’s lament that ‘Pretty soon, money will be chief’ are intelligible in terms of the attributes of money previously discussed. People, he said, used to serve the chief because he had land, but now they serve whoever has money. If the Bible says ‘You cannot serve both God and money’, Marshall Islanders would say ‘You cannot serve both chief and money.’ The former is tradition (*manit*), the latter modernity (*mour kōn mani*), and the one can be followed only to the exclusion of the other; for Marshall Islanders, modernity is bad because it provides security from an improper source: oneself and money, rather than the chief and the land.

The opposition between land and money—and indeed the Marshallese ideology of entropy more generally—are well expressed in the mythological figure of ̄etao (also known as Etao). One of the most popular characters in Marshallese mythology, and starring in numerous legends still told today, ̄etao has much in common with the Polynesian legendary character Maui (see Sinclair 2001): a wily trickster who creates wonders yet also delights in

upsetting the status quo, using his magical and intellectual power to swindle, humiliate, and kill. Like Maui (Ibid.: 161-2), he is the legendary bringer of fire: first he impresses a boy by showing him how fire can be used to cook food and make it tastier; then he tricks the boy by burning down his house (Williamson and Stone 2001a: 88). In traditional Marshallese mythology he is the grandson of the creator god Lowa (Erdland 1914: 308-310; Williamson and Stone 2001b: 32). In the present day, however, his association is not with now-esoteric bits of an abandoned traditional religious scheme, but with a more contemporary entity, namely the United States. He is explicitly equated with America: at the end of ̄etao tales, the storyteller often says ‘And then ̄etao sailed to America and lived there – and that’s why Americans are so clever, but lie so much.’ In this view, Americans (and by extension, I will argue, money and modernity in general) are, like ̄etao, clever and efficacious but also devious and subversive, giving something very different than that which they promise.

A particular legend expresses this particularly well. ̄etao sails to one of the Gilbert Islands and meets a chief. He offers to make food for the chief and the chief’s people by putting himself into a well-heated earth oven (*um*). The Gilbertese chief discourages ̄etao from doing this, certain that the latter will be cooked to death in the process, but ̄etao insists. ̄etao confidently enters the steaming *um*, covering himself with rocks. The chief and his people wait for hours. When they open the oven, they are amazed to find that in ̄etao’s place there is now a cornucopia of delicious cooked food. ̄etao triumphantly reappears. The Gilbertese chief, deeply impressed, now demands that he must do the same himself. ̄etao warns him of the oven’s heat, but the chief is undeterred. The chief enters the oven, and his people cover him with stones and wait for a few hours. When they open the oven, they do not find any food – only a very thoroughly cooked chief. Furious, the people try to capture ̄etao,

but he has already absconded.¹⁵ He sails to America, and, the storyteller will say ‘That’s why Americans are so smart, but lie so much.’

Before we analyze this legend as an allegory for American influence, let us analyze the events in themselves: once we have done so, the similarities between ʔetao and America/money/modernity will become obvious. When ʔetao produces his magical cornucopia of food, he demonstrates his ability to amply provide. He thus challenges the chief’s authority, which derives from his ability to care for his subjects and therefore to demand their loyalty. ʔetao’s magic threatens to supplant the chief’s land as the source of food, wealth, life, and power, enticing the commoners to worship a new master. The chief must therefore learn the magic himself if he is to maintain his dominance. He dies in the attempt, a victim of the trickster’s wiles. Now ʔetao’s victory is complete: in a single cunning move, he has both killed the chief and proven him unable to provide. (Indeed these were the two avenues by which, traditionally, one chief could supplant another: by force, or by superior guardianship.) Now the traditional system, the old way of securing the necessities of life, has been shattered: the people have lost the protection of their chief. ʔetao promised prosperity in exchange for sedition: they took the bait, only to find that they had destroyed the social system that supported them. When ʔetao escapes, they have lost, too, the prospect of his custody and the life-giving magic that comes with it; they are left with nothing. Tempted from the status quo by the prospect of an easier life, the islanders have lost even the modest prosperity that they began with.

This is exactly how Marshall Islanders speak of money, modernity, and technology: all of the things that ʔetao brings with him to America at the legend’s end. They are, like ʔetao, seductive newcomers, flaunting their ability to provide more ably than land, chief,

¹⁵ Note the similarities between this legend and the previous one. In both, ʔetao introduces a powerful force that has the ability both to help and to harm. Indeed, in both legends the linchpin of ʔetao’s trick is the dual nature of fire, which brings both cooked food (life) and destruction (death). Thus ʔetao is, like Maui, both creator and destroyer (Sinclair 2001: 159), and associated with fire like so many trickster characters (Myth Encyclopedia n.d.).

subsistence, and tradition. The newcomer's power and wealth are unquestionably prodigious, and the islanders are enticed. Yet when they agree to the deal, pledge their allegiance to the United States, they find that the same technology that brings the trickster such power brings local people only hardship and discord; *mani*, apparently a greater provider than *manit*, ends up making life harder, not easier. ̄etao's unceremonious departure echoes the looming discontinuation of American aid, which forms the cornerstone of the Marshallese economy: when the cash flow ceases, people will find that they have already jettisoned their traditions—baked their chief—and have nothing to live on; the old provider is dead and the new provider has run away. Thus, in the local view, Marshall Islanders have fallen for the same Faustian bargain that cooked the Gilbertese chief. Be tempted by a new way and you will live to regret it: this is the message and the fear expressed by the legend of ̄etao and the chief.¹⁶

The legend also hints at a crucial aspect of the Marshallese discourse of entropy: it is Marshall Islanders themselves who are primarily held culpable for cultural decline – in the legend, it is the chief's disloyalty to tradition, not ̄etao's deceptive ruse, that is the true crime. When I asked my survey respondents who was to blame for cultural decline, the 65 respondents to this question overwhelmingly blamed Marshall Islanders themselves: 90% specifically blamed Marshall Islanders while only 5% blamed outsiders such as Americans. (5% blamed humans in general.) Some of the statements were as follows:

Us Marshallese. We cannot blame foreigners.

It's Marshall Islanders' fault for imitating Americans (*kappāllele*).

It's everyone's fault. Even chiefs and high people (*riutieŋ*) make errors.

It's adults' fault for not teaching their children.

¹⁶ It must be stated that no Marshall Islander has explicitly told me this interpretation of the legend. I have devised it myself. However, it fits so well with the narrative of cultural entropy and the conscious connection made between ̄etao and America that I believe it is likely that many Marshall Islanders have it in mind when telling or hearing the legend. For slightly different versions of this legend, and other analyses of the significance of ̄etao, see Carucci (1997b: 148-9), Kramer and Nevermann (1938: 239-250), and McArthur (2000). For other ̄etao legends, see Kelin (2003).

It's *not* America's fault! It's *our* fault. Ourselves. *We* don't eat breadfruit. It's because we're lazy – American food is so easy to cook.

It's Marshall Islanders' fault, because we abandon tradition (*jo!ok manit*).

The same viewpoint is clear in interviews and public discourse: the speakers are too busy castigating their fellow Marshall Islanders for adopting American culture to bother condemning Americans for having brought it. Thus, foreigners and their ideas were only the *catalyst* for societal deterioration; ultimately it is Marshall Islanders' own fault for giving in to these forces.¹⁷

In this thesis I will refer to this blame strategy as 'self-blame' for simplicity, but in reality it is best described by the phrase 'in-group blame': it is not that each Marshall Islanders blames *himself* for cultural entropy, but that each Marshall Islanders blames *Marshall Islanders in general* for cultural entropy. This is not a society wracked by guilt: rather, the emotion is moral indignation, but it is primarily directed at other members of one's own society, not at foreigners. The situation is akin to Hunter S. Thompson's statement on racial hypocrisy in the South: 'almost nobody has anything against Negroes, but everybody's neighbor does.' (Thompson 1979: 46) No Marshall Islander contributes to cultural entropy, but every Marshall Islander's neighbour does.

This, then, is the narrative of self-inflicted cultural entropy. *Manit* is to Marshallese philosophy what the garden of Eden is to Christianity, the original place of prelapsarian ease and abundance and righteousness; Westerners were the Serpent, their prodigious technologies and cash economy were the Forbidden Fruit; and the Original Sin, the fall from grace, was to be seduced by its gadgets and money, to eat the apple of modernity. For this lamentable fall, blame is focused on the tempted rather than the tempter, just as, in the Garden of Eden myth,

¹⁷ This in-group-blame strategy predominates in the Marshall Islands. There are some damages, however, that are blamed on out-groups. For instance, woes from Chinese immigration are blamed primarily on Chinese people themselves, rather than Marshall Islanders. Damages from nuclear testing are often blamed on Americans (as I will discuss more in Chapter 5), since they were so clearly the culprits. Nonetheless, blame for nuclear testing is much less vociferous than one might suspect, true anti-Americanism almost unknown, and even in the domain of atomic harms, Marshall Islanders often place some blame on their government for having been insufficiently zealous in winning compensation.

the serpent's punishment of being cursed to slither on the ground seems secondary to that inflicted upon Adam and Eve, who are exiled from the garden and condemned to the pains of childbirth and toil.¹⁸

One could theorize to no end about the reason for this self-blame. One might hypothesize that in the Marshall Islands, the early missionaries' vigorous preaching of a doctrine of salvation based on works (Utter 1999: 35-6) and constant harping on people for their moral failings (Ibid.) entrenched collective self-flagellation as the foundation of public morality, and this was later applied to the rather different realm of tradition. One might also posit that this inward-facing morality with its emphasis on self-blame is a pragmatic choice for a small nation which can hope only to change itself rather to influence others. In this thesis, however, I will set aside the issue of *why* this self-blame exists, and focus instead on its repercussions.

Counternarratives

The narrative of entropy that I have described is at the heart of Marshallese public discourse.¹⁹ It is extremely pervasive, found vigorously in all age groups, among both men and women, educated and uneducated, in outer islands and urban centres. Elderly people may voice this lament a bit more adamantly than young people, but nearly everyone espouses

¹⁸ I use this analogy merely as a device to render the Marshallese narrative more intelligible by comparing it to another narrative which is more familiar to most readers. However, the parallels between the two narratives are so striking that one cannot help wondering if this is not accidental. Perhaps the traditionalist narrative has been in some way inspired by the Christian narrative (as Tomlinson [2009] suggests for Fiji); indeed, religious elements, such as the notion of coming End Times, sometimes enter the entropy discourse. There is no direct evidence, however, to suggest that Biblical myth inspired regressivist narratives, and I never heard any Marshall Islander explicitly liken cultural entropy to the Fall. In fact, as I will discuss in the next section, the usual Christian historical narrative in the Marshall Islands is entirely contrary to the narrative of entropy. The close fit between the two narratives may instead be attributable to the fact that the stories resonate with cross-culturally recurrent needs to explain the existence of suffering, or other widespread psychological propensities that could give birth to similar narratives in two divergent cultural contexts.

¹⁹ This narrative has been largely neglected in the literature on the Marshall Islands. Other treatments of the discourse have been extremely brief and frequently obscured by other issues: see for instance Carucci (1997a; 1997b: 167) and Poyer (1997: 72-3, 81). Kiste (1974) mentions that Bikinians speak of their pre-nuclear lifestyle as one of consummate harmony and bountifulness, but the foci of his analysis are elsewhere, and he treats the narrative as particular to Bikinians rather than universal to Marshall Islanders. Thus, the contribution of this thesis is to plug an important gap in the ethnographic record of the contemporary Marshall Islands, not merely to explicate climate change attitudes.

fervent belief in it. In an interview, one need not broach the subject: the informant will usually do so herself, prompted by associations as diverse as language, immigration, crime, and education. She may willingly discuss this topic for the entire length of the interview, even if other topics are brought up. This fixation on cultural change is reflected in the survey I conducted: in Chapter 4 I will show a chart of concerns in which ‘changing lifestyles and mores’ (synonymous with entropy) is the second most pressing concern, only narrowly outdone by economic hardship (which is itself often spoken of as an aspect of entropy). The narrative is found not only ‘in captivity’, as it were, in the artificial circumstances of an interview or survey, but also found ‘in the wild’, in speeches on the radio, in government documents (Situation Analysis 1996), in the murals I showed above, in written articles (Kabua 2008; Murphy 2007), in letters to the editor in the newspaper (Jormelu 2007; Nysta 2003; Rowa 2001), and in cartoons. At a conference sponsored by the Customary Law Commission, the main agenda—to reach a consensus on the definition of certain Marshallese customs such as the meaning of a *jowi* (clan)—had to wait until participants had spent the entire first morning of the gathering lamenting cultural decline. Such is the power of the narrative. Locals disagree only in their level of optimism about how much *manit* can be retained or regained, with a few dismissing it as a lost cause while others believe that a traditionalist revival could accomplish much.

Nevertheless, counternarratives exist in this society. As predicted previously in my review of the regional literature, there are two narratives of progress—one religious, the other modernist—which compete with the narrative of entropy.

In the religious narrative of progress, the past is a time of pagan wickedness rather than traditional rectitude; foreigners are saviours rather than tricksters; Marshall Islanders saved themselves by adopting a good way of life, rather than doomed themselves by abandoning such a way of life. This narrative is espoused by most of the same individuals who espouse the narrative of cultural entropy. For instance, a middle-aged man on Ujae said:

It is better now. In 1857, the missionaries came....They brought the light. When they showed people the Bible, then there was enlightenment and the fighting stopped. Now people take care of each other. Now they no longer kill each other. They used to kill each other very often.

Such views are not only stated explicitly in interviews, occasional speeches, and sermons, but also clearly implied in Gospel Day celebrations, such as the one in which I participated on Ujae in 2003: the advent of foreigners, their religion and their trade goods, was re-enacted and celebrated (see Rudiak-Gould 2009a: 64). Similarly, a Gospel Day parade organized by the Majuro Protestant Church in 2009 aimed to commemorate the ‘turning of darkness to light, hate to love, and war to peace’ (*‘ukot marok ñan meram, kijdat ñan yokwe, im tarinae ñan ainemon’*) (Journal 2009a). This view of darkness banished and sin abandoned appears to extend back to the first Marshallese converts in the mid 19th century (Utter 1999: 36).

The narrative of Christian progress appears to flatly contradict that of cultural entropy – and indeed it does. I have argued at length in Rudiak-Gould (2010) that the two narratives are indeed distinct and contradictory, even for locals, and that Marshall Islanders are usually unable to reconcile them yet equally unwilling to jettison one in favour of the other. I analyze this as a microcosm of one of the central tensions in Marshallese ideology and society: the conflict between the indigenous identity and the Christian identity, two domains which have been only partially reconciled in Marshallese ideology. Given that this narrative of progress cannot be subsumed into that of entropy, what of my emphasis on the latter narrative? It is unaffected. I stated previously that the status of the entropy narrative as dominant or dissident depends on the society in question. In the Marshall Islands, it is dominant. While the two narratives, traditionalist regress and religious progress, are equally *sacred*, in that locals refuse to explicitly reject one in favour of the other, that does not entail that they are equally *salient*. Indeed, one of the two narratives is far more salient than the other, and that is the narrative of entropy. When I asked people general questions about the past (*‘Emman ke mour jemaan?’* – ‘How was life in the past?’), without predisposing them to think about tradition or religion, my informants narrated traditional decline far more often than Christian progress.

Traditional decline also came up spontaneously far more often. Also note that locals paint murals of the good old days but *not* of the bad old days; out of dozens of murals not one can be found that alludes to a barbaric pagan past. In addition, they rarely show a good Christian present: churches are rarely portrayed (in 26 painted scenes that I have documented, some of them very large with many elements, I count only two churches, neither of them emphasized) yet always show aspects of a good *Marshallese* life, such as fertile fruit trees, traditional skills, and proper gender roles. The very fact that churches are normally absent and yet life is portrayed as idyllic indicates that the painters are in a more traditionalist than Christian ideological frame of mind. Thus, the traditionalist narrative of entropy is far more salient than the religious narrative of progress.

There is another historical narrative in the Marshall Islands, which could be called the modernist narrative of progress. This discourse borrows heavily from Western notions economic development, equating an increase in material affluence with an increase in human well-being. For instance, John Silk, the Minister of Resources and Development, told me:

I think the lives of people have improved. And one of the indicators I look at is...what the government is trying to do to uplift the economy, and try to improve the lives of people. I look at the water catchments that they're putting up. I look at the renovations of the schools and dispensaries. I look at the program that the government is now working on to bring solar power to the outer islands...I look at the field trip ships that the government provides....So if you look at the overall picture, you'll see that we've made some progress.

Individuals who espoused this narrative sometimes even voiced the belief that certain aspects of *mantin maje!* might need to be discarded in order to foster economic development.

Again we see a narrative starkly opposed to that of traditional decline, and we must ask how this impacts my emphasis on cultural entropy. It does not. The modernist narrative of progress is voiced mostly by unusually well-educated Marshall Islanders, in particular members of the government elite. In my survey, with 146 respondents, almost 90% considered changes from the past to be a problem. Again looking at the murals, never do we see images that presuppose the modernist narrative of progress, such as portrayals of an

impoverished, underdeveloped past, or a wondrously cargo-laden present or future. Thus, the narrative of regress is far more salient than either of the two narratives of progress.

A few objections must still be overcome. Walsh (2003) argues that the modernist discourse of progress is dominant in the Marshall Islands: in contrast to other Pacific Island societies that have given birth to vigorous traditionalist movements, Walsh writes that ‘for the Marshall Islands the post-war period is characterized by *denigrating* the past (and symbols and images of ‘tradition’) in favour of participating in the powerful discourses of modernity, development, and progress’ (Ibid.: 19-20, emphasis in the original); Marshall Islanders favour, she writes, ‘a progressive self-representation in contrast to the traditionalisms of other Pacific Island neighbor nations’ (Ibid.: 21). Walsh contends that this ‘absence of any defensive culture rhetoric’ (Ibid.: 380) stems from ‘the same cultural models that demand respect for authority’ (Ibid.), that America is seen as a chiefly figure and so American modernity and development are embraced in both discourse and practice (also see Carucci 1989; McArthur 2000).

This argument is not wrong, only partial. Walsh has succeeded brilliantly at documenting a particular aspect of Marshallese society: the modernist narrative of progress that is often espoused by government officials, and the positive feelings towards ‘America the chief’ that often predominate in the nation despite nuclear testing and despite the narrative of cultural entropy (in which America is a tempter and American culture wicked). However, this portrait is incomplete: America plays another crucial role in Marshallese cosmology, namely that of the tempter in the cultural entropy discourse. Without wishing to criticize Walsh’s work, which I consider highly insightful within its ambit, I would like to point out that she appears to have interviewed mostly well-educated citizens and government officials, and thus received a disproportionately high number of progressivist narratives. Since this thesis focuses, as I stated previously, on the non-elite society, Walsh’s conclusions do not apply: the ‘society’ she is writing about is different from that which I am writing about. In addition, in

order to cast stark light on progressivist narratives, she appears to have downplayed findings that might have indicated the parallel existence of a regressivist narrative, such as the fact that Marshall Islanders contrast their perceived communalism and kindness with the selfish individualism of American society, a discourse that Walsh notices but relegates to a mere footnote (2003: 380).

In the contrast between America the trickster and America the saviour chief, between the traditionalist narrative of regress and the religious and modernist narratives of progress, one hears echoes of the old Pacific ambivalence towards foreigners, the uncertainty as to whether to worship Captain Cook or kill him. But in Marshallese public discourse, the dominant sentiment is clear: Cook's influence must be resisted, and his people must not be emulated.

I do not mean to suggest for a moment that Marshall Islanders are unthinking, slavish traditionalists – in Obeyesekere's words, 'given to unreflective traditional thought, [and] governed by a rigid cosmic or mythic world picture' (1992: 16). In countless domains of Marshallese life, the lure of *bwiin eppāllele*, 'the American smell', 'the smell of new things', is strong indeed – people's desire to have electric lights with which to see at night, imported foods which are easy to store and cook and now predominate (Economic Report 1997: 2-3, 60; Meto 2000: 131; Poyer 1997: 50, 61; Secretariat 1999: 65; Situation Analysis 1996: 5, 8-9), DVD players to provide entertainment, and money to buy all of these things (see Spennemann 1993: 297-8). There are even cases in which money, supposedly antithetical to Marshallese custom, is openly and proudly presented as a token of conviviality during self-consciously traditional activities (Rudiak-Gould 2009a: 62-5; also see Bloch and Parry [1989] and Toren [1999: 28] on ambivalent sentiments towards money). But the traditionalist discourse exists not in spite of, but because of, this lure: as Ernest Gellner wrote, 'moralists, in any field, seldom castigate sins which do not tempt their clientele' (1985: 34).

I thus take entropy as the central and most salient narrative, and leave the other two aside. This decision follows that made by Sheila Jasanoff in her study of the reception of biotechnology in the US, UK, and Germany (2005). Jasanoff notes that in each country biotechnology could be framed as *process*, *product*, or *program*; all three narratives existed in each country (Ibid.: 45). Crucially, however, in each society a particular narrative was primary, and so came to dictate the ‘dominant framing’ of the issue in that society (Ibid.). I will follow Jasanoff’s approach by focusing primarily on the dominant framing. This is, of course, a simplification, but not a crippling one, as I will show that the narrative of entropy can by itself explain very much of how Marshall Islanders react to climate change.

Wielding entropy

In common with other degradationalist narratives discussed previously, entropy in the Marshall Islands is not merely an inert nostalgia. This is obvious firstly because the time being described is far beyond the realm of memory, and also because young people espouse the view as readily as elders. Furthermore, the narrative is wielded for practical action in many settings. Again employing the Biblical analogy: after the fall of man, hope remains. Humans, exiled from the garden, may still regain oneness with God through repentance or a self-disciplined return to righteousness. Similarly, in the narrative of entropy, some semblance of tradition may still be regained (see Tomlinson 2009: 15), if people have the wisdom and fortitude to reject foreign temptations. Thus both narratives provide an explanation for the existence of suffering, as well as a prescription for lessening or eliminating that suffering.

I will now summarize some of the situations in which the narrative of entropy and its accompanying traditionalism is brandished as a ‘leverage for change’ (Silverman 1971: 13). Each of these cases ideally requires a detailed study of its own, which I cannot attempt here. Instead I will provide brief sketches in order to give a sense of how traditionalist entropy is wielded.

In the realm of migration, the notion of an endangered tradition and the dangerous temptation of foreign ways is used to inspire people to maintain certain activities seen as key to *manit*, such as Keemems (first birthday ceremonies spoken of as epitomizing conviviality) and tributes to chiefs, even though the people no longer depend on or live on their land.

In the realm of education, the notion of lamentably declining customary ways is explicitly used to advocate the '*majeŋization*' of education (Hilda Heine, personal communication), in which traditional and local topics are given weight equal to that of modern and international subjects.

In the realm of gender, the prominent NGO WUTMI (Women United Together Marshall Islands) wields entropy in its advocacy of women. Marshallese women, they argue, were accorded high dignity and status in past Marshallese culture; the abuse and disrespect they now experience are the result not of adherence to a sexist tradition, but rather the abandonment of a non-sexist tradition. WUTMI thus presents itself not as revolutionary but as traditionalist, even when promoting what seem to an outsider to be quite progressivist causes; the only change WUTMI advocates is a move back to what they argue to be the traditional role of women. The opponents of certain of WUTMI's aims, however, can also enlist traditionalist entropy to their cause: the narrative of declining *manit* is used both to argue that women have too little power nowadays and to argue that they have too much. For instance, there was a controversy (see Journal 2005, 2004), ultimately played out in court, over whether a woman can be deemed *aŋap*, head of her *bwij* and steward of its land tracts. WUTMI argued that women ought to have such a right, as they were traditionally granted it; various opponents argued that women ought not to have such a right, because they were not traditionally granted it. Both sides thus claimed that their viewpoint on the issue was the one that scrupulously followed traditional forms; indeed, for both sides, the existence of the *other* side was proof of the fact that people these days violate and misunderstand *manit*, and the preservation of *manit*, against such dangers, was the reason that *their* side ought to win.

In the realm of immigration, the notion of a threatened *manit*, a formerly homogeneous and harmonious society, was used to argue for the discontinuation of the sale of passports to Chinese and other Asian immigrants. With many such immigrants having already settled in the country, the same discourse has inspired a few cases of physical violence against the newcomers, although most Marshallese do not support these attacks.

In the realm of nuclear testing, displaced Bikinians leveraged entropy to argue for maximum reparations for their forced relocation, and to gain sympathy in the international arena (Kiste 1974): they invoked the ‘Myth of Bikini’ (Jessica Schwartz, personal communication), a subnarrative of the metanarrative of entropy in which prenuclear life on Bikini was idyllic, while today’s life on Kili Island is its ugly opposite. The past served here as a description of everything that Bikinians had been robbed of and therefore everything they ought to be compensated for; Bikinian children were taught to say ‘Kili is bad’ (Kiste 1974: 111). (This example is atypical in that outsiders, not insiders, were primarily blamed for the decline; but it nonetheless shows the way in which the narrative of entropy is used for practical purposes.)

In the realm of parenting, the phrase ‘*Kwojaje manit*’ (‘You don’t know tradition’, ‘You don’t know the way’) is used to shame naughty children into more proper behaviour.

In the realm of language, a girl who pronounced the English word ‘six’ with an American accent (instead of with the Marshallese pronunciation that is usually used even for English loan words) was scolded by her friends: ‘*Jab kappallele!*’, they said (‘Don’t act like an American!’). During a meeting of the Nitijela (Parliament), a senator invoked the notion of entropy in order to argue, to the Secretary of Education, that Marshallese language instruction must be improved. The notion of entropy also motivated a Marshall Islands Journal column (called ‘*Jelā kajin jelā manit*’: ‘Know language know tradition’) that defends the Marshallese language from decline by teaching readers proper usage and ancient words. Similarly, phrases and proverbs in *kajin etto*, the old Marshallese language, are enthusiastically employed as

mottoes and slogans, in particular by individuals running for political office. The actual meaning of the phrase is secondary, since many Marshallese find it difficult or impossible to understand *kajin etto*; it is the sense that one's campaign is sanctioned by tradition that matters.

In the realm of material culture and expressive arts, the notion of dwindling cultural resources has inspired the founding of the Alele museum, which houses old Marshallese handicrafts; the establishment of the Historic Preservation Office, which conducts and oversees research into Marshallese culture; Waan Aelōñin Majeļ ('Canoes of the Marshall Islands'), which teaches traditional canoe-building skills to Majuro teenagers partly on the grounds that these skills are in danger of being lost in the urban centres; the maintenance and performance of the Jebwa dance of Ujae Atoll, proudly claimed by people of that atoll to be the country's only remaining traditional dance; and a yearly Mani Day holiday which demonstrates and celebrates traditional seamanship, crafts, cooking, attire, and dance.

In the realm of land rights, those with lucrative claims to Kwajalein land, which the United States rents for use as a military base, shame those who wish to deny them their returns by saying that these opponents have forgotten custom like so many others. A senator from the Aelōñ Kein Ad ('Our Islands') political party criticized the United Democratic Party for putting government above custom – for instance, in its belief that the government should seize land into the public domain instead of maintaining the chiefly status quo. I once observed two women in Majuro arguing about whether the *aļap* land title could be passed patrilineally or only matrilineally; both claimed that tradition was behind them. After one had left, the other remarked 'It's so sad how people don't know *manit* these days', invoking entropy both to make sense of the disagreement and to cast her adversary in a negative light.

Conclusion

As I have shown, Marshallese culture, history, and metaculture fit the mould of anthropological portrayals of the Pacific region more generally: the conceptual and historical line that starts at land, proceeds to tradition and traditionalism, and ends in entropy. In an important Marshallese twist to the situation, blame for entropy rests primarily on the in-group.

As we have seen, under this metanarrative of cultural entropy one finds many subnarratives: the narrative of migration, of social dissolution, of the evils of money, or of the pre-nuclear idyll of Bikini. Individuals can and do add their own personally experienced examples, thus improvising new subnarratives of the larger metanarrative. As long as the essential narrative structure, and the core moral commitments, are retained, one can play with specifics; as Ernest Gellner wrote, 'Most, or all, ideologies allow some free play inside.' (1968 [1959]: 181) There is thus great scope for grafting new ideas into this older conceptual structure. The next chapter will describe the new idea of climate change, and the subsequent chapter will show how this idea is indeed a good candidate to be added as a new subnarrative of the metanarrative of cultural entropy.

Chapter 3: The climate change message

Having described the ideological milieu into which the climate change message is entering, I now describe the climate change message itself. How do Marshall Islanders become aware of climate change, either as a presently experienced danger or as a future-oriented prediction? In Chapter 1 I highlighted reception and observation, and indeed these are primary sources of climate change information; however, the situation in the Marshall Islands and in other field sites is slightly more complex. Heather Lazrus, in her ethnographic work in Tuvalu, writes that one of her informants, in his assessment of the threat of climate change, ‘triangulated’ between his personal observations of the environment, the history of the environment as locally remembered, and the scientific information he had heard about global warming (Lazrus 2009: 240). Mortreux and Barnett (2009), also writing about Tuvalu, and Gold (1998), writing about Rajasthan, similarly discuss the influence of local observation and scientific education, but also add religious prophecy as a source of information. For instance, one of Gold’s informants combined ideas of global warming that he had heard in the media with local observations of a degraded environment as well as religious notions of a coming apocalypse (1998: 182). In Carla Roncoli’s work among African farmers (Roncoli 2006; Roncoli et al. 2002) the sources of information are different again: her informants use observation, the divinations of seers, and prophecies from both the Bible and the Koran to forecast the weather (Roncoli 2006: 85). In short, people are quite willing and able to combine distinct forms of evidence from different sources to answer a question that concerns them; what sources of information there are is particular to the culture at hand and the question to be answered. In the Marshall Islands, the climate change message arrives through three channels: reception, observation, and exegesis – the interpretation of Biblical texts so as to speak to the issue of climate change.

The first channel: reception

The scientific concept of global climate change, and the attendant predictions of an inundated, devastated Marshall Islands, have been communicated through various outlets. This information has not come in one burst, but rather various times over several decades. The Marshall Islands is nowhere near a natural experiment in this regard: it is not an uncontacted tribe with which a group of climatologists made first contact in order to deliver news of climatic disaster. Nor does any community in the Marshall Islands, even the most remote outer island, fit this description, as the country is far from isolated: the educated elite, with satellite television, trips to conferences in Honolulu, and emails to relatives living in Oregon, could have been aware of the idea of climate change as early as publics anywhere. Moreover, these connections are not just available to the most affluent: there are high rates of migration to the United States and sometimes back, as well as considerable media access. In such a porous society, with an idea that has been significant in global discourse for decades, it is extremely difficult to determine exactly how the idea first came into the society. Certainly there was some government discussion of the issue as early as the 1980s (Kluge 1993: 49), although it is unclear how aware the Marshallese public was at this point; most informants told me that they had heard of the concept for the first time within the last five or ten years. Therefore, rather than attempting the prohibitively difficult task of listing all of the times the concept has entered the country from outside, I will list the significant sources of information on the topic which are available to Marshall Islanders now.

The sources from which survey respondents in 2009 said they had heard about the scientific concept of climate change were, in order of frequency of mention: radio, word of mouth, television, newspaper, school and university classes, educational sessions, conferences, meetings, training sessions, discussions in the Nitijela (Parliament), and on the internet. Counting the number of mentions of different informational outlets (with 97

individuals answering the question, and 130 total mentions) yields a rough measure of the relative importance of various sources of information: see Table 1 below.

Source of information on climate change	Number of mentions of this source	Percentage of total mentions of sources
Radio	48	37%
Word of mouth	20	15%
Television	18	14%
Newspaper	13	10%
School and university classes	12	9%
Educational sessions, conferences, meetings, training sessions, etc.	11	9%
<i>Nitijela</i> (Parliament) discussion	6	5%
Internet	2	2%

Table 1. Sources of climate change reception

This can be considered only an approximate measure. For instance, only 9% of mentions were of educational sessions (and only 9% of respondents said they had attended one) but this number undoubtedly underestimates the importance of such sessions because the information thereby disseminated is afterwards relayed by word of mouth, broadcast on the radio, and reported in the newspaper, ending up in those tallies.²⁰

The easiest source of information to rigorously track is the newspaper. The Marshall Islands has only one newspaper: the Marshall Islands Journal. An independent weekly publication, it is widely read by locals. A majority of its articles are in English, thus reaching the educated audience more than the uneducated, and it is not sold in the outer islands, thus reaching the urban audience more than the rural. Nonetheless, it has significant societal influence, because some articles are written in the Marshallese language, copies are frequently carried to the outer islands, and the information is relayed informally by word of mouth; in each community there are likely to be at least a few individuals with sufficient English reading proficiency to absorb the information and communicate it to others.

²⁰ High school-aged respondents to the Marshall Islands High School survey reported having heard about climate change through the following sources (with 61 respondents): school (39%), television (21%), radio (20%), word of mouth (18%), and newspaper (2%).

The newspaper has featured numerous articles, some in the Marshallese language, about various aspects of climate change. A count of this coverage during the first decade of the 21st century is shown in Table 2 below.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total 2000 through 2009
Front page article devoted primarily to climate change	0	0	0	0	0	0	0	1	1	2	4
Other full-length article devoted primarily to climate change	2	8	3	1	4	2	1	10	11	30	72
Cartoon about climate change	1	0	1	0	0	0	1	0	1	2	6
Short item primarily devoted to climate change	3	4	5	2	2	1	2	7	5	17	48
Mention of climate change in an article on another topic	1	3	4	1	9	14	15	29	30	73	179
Number of issues with at least one mention of climate change	7 out of 52	10 out of 52	13 out of 52	5 out of 52	12 out of 52	10 out of 52	13 out of 52	26 out of 52	30 out of 52	44 out of 52	170 out of 520

Table 2. Climate change coverage in the Marshall Islands Journal, 2000 through 2009

An index²¹ of these numbers provides a measure of total coverage: see Figure 6 below.

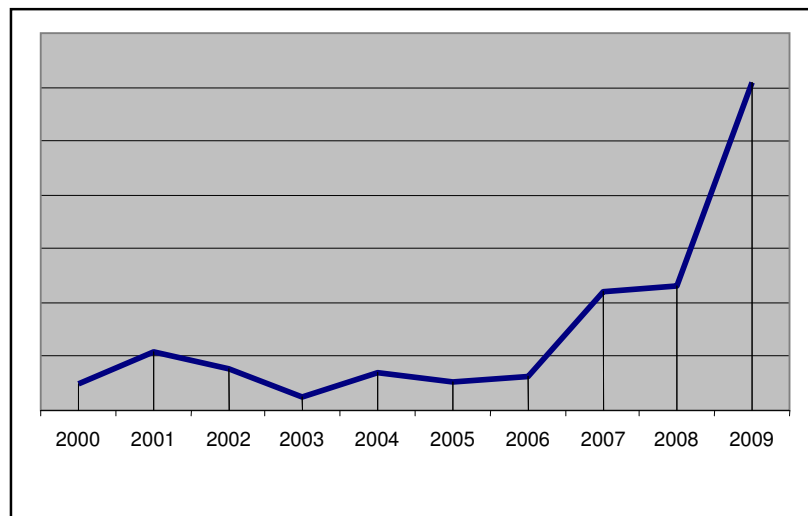


Figure 6. Index of climate change coverage in the Marshall Islands Journal, 2000 through 2009

²¹ This index is computed in the following way: 10 x (first page articles) + 5 x (other full-length articles) + 5 x (cartoons) + 3 x (short items) + 1 x (mentions).

Thus, until 2006, coverage was only moderate, with a small spike in 2001 due to the Bonn climate change negotiations and President Bush's decision to withdraw the United States from the Kyoto accords. Coverage then increased in 2007, when the first front-page article appeared. Thereafter coverage skyrocketed. By 2009, 44 out of 52 issues of the newspaper had at least one mention of climate change.²²

While some of these newspaper articles communicate the threat of climate change only obliquely, via reportage of climate policy negotiations in foreign countries, many of them are direct: the articles state that weather patterns are changing and sea level rising in the Marshall Islands and elsewhere in the Pacific, link these changes to a larger process called 'climate change' or 'global warming' (or Marshallese equivalents such as '*oktak in mejatoto*', which I will discuss in Chapter 4), and advocate concern about the devastating consequences that these changes could bring in the future. For instance, one article published on 30 October 2009 is entitled '*Ene ko retta renaj ibwiji*' ('Low islands will be flooded') (Johnson 2009); it quotes a climate scientist as saying that the ocean is rising faster than expected, that it may rise three feet during the present generation, and that relocation from low-lying Pacific islands may therefore be necessary by 2050.

The newspaper also occasionally features climate change-themed cartoons. Two of these are presented below in Figure 7 and Figure 8.

²² Global English language media shows a similar skyrocketing news coverage during the first decade of the 21st century, but it appears to have begun earlier, in 2004 rather than 2007 (Boykoff and Roberts 2007). For more on climate change reporting in Pacific Island nations, see Jackson (2010).

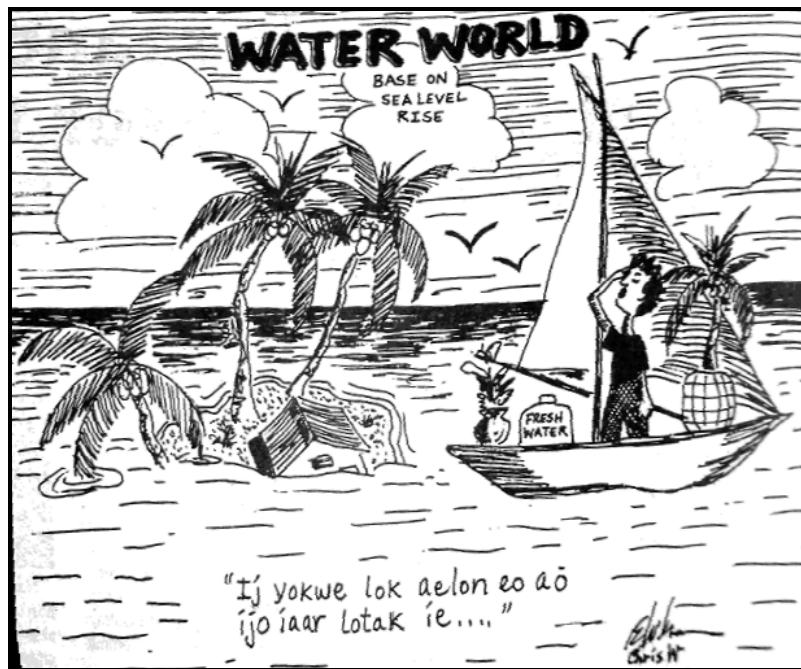


Figure 7. Cartoon from the Marshall Islands Journal, 1 February 2002 p. 10

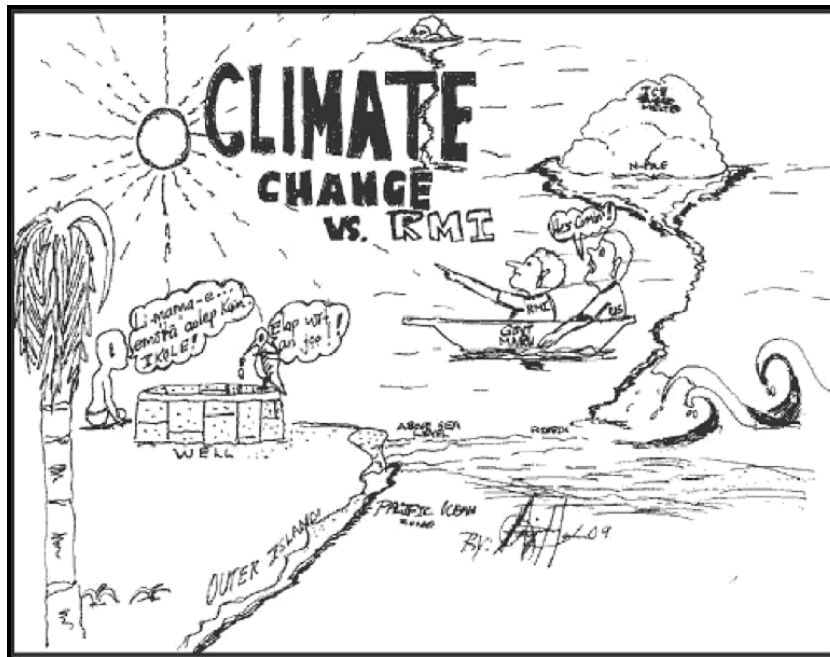


Figure 8. Cartoon from the Marshall Islands Journal, 27 February 2009 p. 8

In the first cartoon the man is singing 'I love the islands where I was born', the first line of the Marshallese national anthem. In the second cartoon the child is saying 'Mommy, everything is so dry. I'm hungry!' and the bird is saying 'The water is so salty.'

On the radio, Marshall Islanders hear locally reported news in the Marshallese language as well as BBC world news in English; both have broached the issue of climate

change on numerous occasions. A large percentage of locals, in the urban centres as well as the remotest of outer islands, have access to radios and listen to them zealously for many hours every day. A few locals have heard about climate change on television, although only a small minority of urban residents have cable TV access, there are no local stations, and none of the programs are presented in the Marshallese language.

Marshall Islanders also hear about climate change in various educational sessions, classes, conferences, and workshops. Some of these are international conferences conducted in Majuro, including the Micronesian Traditional Leaders Conference in October 2008; the National Climate Change Adaptation Workshop in February 2009; the Regional Climate Change Adaptation Workshop in April 2009; the Micronesian Chief Executives' Summit and Micronesian Presidents' Summit in July 2009 (with theme 'Climate Change and the Energy Challenge: Proactive Leadership for a Resilient Micronesia'); and the Pacific Climate Change Roundtable in October 2009. These international conferences were conducted in English and thus reached primarily the educated elite, but nonetheless trickled down to some extent to the people at large through radio coverage and word of mouth. Of more interest for our purposes are various sessions, especially in 2009, that were conducted in the Marshallese language and aimed at a wider range of locals. These included the United Church of Christ in the Marshall Islands' (UCCMI) school of deacons and pastors (which invited participants from communities around the country to share stories of the local impacts of climate change) in August 2004; an environmental awareness raising activity for 10th graders at Marshall Islands High School sponsored by the EPA in June 2007; a climate change-themed Education Week organized by the Ministry of Education (including a climate change adaptation activity in which high school students in Majuro planted coastal trees as a traditional protection measure [see Stege 2009], a staged debate between the city's two tertiary institutions about climate change migration, a climate change forum, and an Energy Fair with theme 'Conserve Energy Now!') in February 2009; the Women's Forum on Climate Change and Clean Water

organized by WUTMI (Women United Together Marshall Islands) in April 2009; the Marshall Islands Youth for Christ National Youth Convention (including two presentations on climate change by a representative from the Pacific Council of Churches to representatives from all of the major communities in the country) in June 2009; the Assumption Schools Symposium on Climate Change in June 2009; the Women’s Forum on Climate Change and Energy organized by WUTMI in July 2009; and the WUTMI Annual Executive Board Meeting (including three presentations on climate change) in August 2009. These events were conducted in Marshallese and reached people from many communities in the Marshall Islands, thus potentially having a significant influence on climate change awareness.

The climate change message is thus arriving with increasing frequency, with a large surge in local media coverage and educational sessions in 2009 while I was conducting fieldwork. It is important to make it clear at this point that all of these sources are telling Marshallese people that they should believe that climate change is real. Although a minority of locals doubt or dismiss the scientific prediction of climate change, there is no *organized* opposition to its reality, nor do sceptics publicly voice their scepticism.

Given these sources of information about the scientific concept, how aware are locals of the concept? Table 3 presents the percentages of 146 survey respondents who indicated awareness of the scientific concept of climate change according to various criteria.

Has heard of the English phrase ‘climate change’	60%
Has heard of the English phrase ‘global warming’	46%
Has heard of the English phrase ‘greenhouse effect’	40%
Has heard of the English phrase ‘climate change’ and can say what it means	54%
Can give an explanation of why, according to scientists, climate change is occurring	34%
Is at least slightly aware of the scientific concept of climate change, as revealed by any of the above measures	61%

Table 3. Awareness of the scientific concept of climate change

These numbers, however, are undoubtedly an underestimation of awareness because it is quite possible to have heard that scientists have predicted sea level rise yet not to be

familiar with the term ‘climate change’. Unfortunately, I could not ask survey respondents directly whether they had heard scientists’ predictions of climate change because their ‘yes’ answers were clearly subject to the acquiescent response bias. I also found that I could not ask if the individual had heard of the usual Marshallese translation of ‘climate change’ (*oktak in mejatoto* or related terms such as *okmāānān* [‘warming’] – see next chapter), rather than the English terms that are also used, because these Marshallese terms sound so unremarkable and untechnical that respondents would say they had heard of them even if they had not encountered them in the context of climate change discussions. Thus, based on more general impressions from conversations and interviews, I estimate that the more accurate figure for the number of adults who are at least slightly aware of the scientific concept of climate change is around 80%. This conclusion is strengthened by an informal report that in 2007-2008, ‘most’ adults on Wotje Atoll had heard of the scientific idea of climate change (Jacob Appelbaum, personal communication).²³ In the survey of high school students at Marshall Islands High School in February 2009, with 94 responses, 96% said they had heard of ‘climate change’, though this may be quite skewed by the acquiescent response bias.

Unsurprisingly, more educated islanders are significantly more aware of the scientific concept of climate change; each two years of schooling, on average, makes an individual aware of one of the following: ‘climate change’, ‘global warming’, or ‘greenhouse effect’ – or an additional four years of schooling makes one able to describe what climate change is or what causes it. The survey found no difference in awareness between men and women, or between old and young.

²³ If the 80% figure is correct, this puts the Marshall Islands below most industrialized nations, but within the same vicinity. The 2006 Nielsen Global Omnibus survey gives figures for having ‘heard or read anything about the issue of global warming’ ranging from 99% for the Czech Republic to 75% for Malaysia, with the United States and the United Kingdom coming in at 83% and 92%, respectively (Boykoff and Roberts 2007).

The role of WUTMI

One of the agents of the above-described climate change communication stands out. WUTMI (Women United Together Marshall Islands), a Majuro-based NGO, has been the most dedicated force in educating the Marshallese public about climate change. Launched in 1987, WUTMI is an umbrella organization for 24 local women's groups in various communities in the Marshall Islands and two Marshallese communities in the United States, and counts nearly 1000 official members. While it focuses its educational efforts on women, its mission is more general. It engages with women as a conduit to Marshallese communities in general (Chutaro 2009). Often the group invites influential women from each outer island community to attend a workshop so that they will relay the message to others in their community. As another way of engaging with a wide cross-section of Marshall Islanders, WUTMI hosts a radio program. Headed by director Daisy Alik-Momotaro and president Mona Levy-Strauss—both of them well educated, well connected, articulate and visible public figures in Majuro life—WUTMI has assembled a women-led force to complement the mostly male-dominated worlds of the government and the chiefly system.

As I stated previously, WUTMI does not present itself as progressivist or radical, but as traditionalist. One of the stated missions of the organization is to protect Marshallese culture, an effort which is spoken of as being able to address all sorts of modern deficiencies in education, health, economy, and environment. Thus, while the rhetoric tends to be traditionalist, the issues are contemporary: earlier programs have dealt with human rights (*maroñ in armej*), violence against women, substance abuse, environmental issues such as sea turtle conservation, and childhood nutrition.

In 2009, with ongoing programs in voter education, computer training, sustainable livelihoods, and early childhood parent education, WUTMI decided to tackle climate change. Rather than taking the issue on its own, they have combined it with other issues; and rather than advocating a sense of disempowerment, or resentment at foreign countries, they have

focused on what Marshall Islanders themselves can do now to deal with the problem. In April 2009, the Women's Forum addressed climate change along with clean water, emphasizing the intersections between the two. Invited speakers from the Office of Environmental Policy and Planning Coordination and the EPA provided a list of climate change impacts and said that, unchecked, climate change would likely destroy *mantin majel*, Marshallese tradition. In particular, water resources would become threatened long before the islands would disappear, and individuals ought to respond proactively by conserving water, planting trees, and using electricity sparingly, even if ultimately sea level rise might be inevitable. The WUTMI climate change forum in July 2009 was entitled 'Maroñ in Oktak' ('The power to change') and again focused on what Marshall Islanders themselves could do locally to staunch climate change and protect the environment. In particular, presenters defined non-renewable energy, stated that it causes climate change and that Marshall Islanders ought to stop relying so heavily on it. Attendees were also told that local actions such as dredging and disturbance of the reef exacerbate the effects of climate change such as erosion and coral bleaching. The WUTMI Executive Board meeting (despite the name, this was also a workshop attended by numerous WUTMI members besides the Board), while not wholly devoted to climate change (its theme was '*Kōrā in Koonmaanloḵ/Women as Agents of Change*'), included a presentation from an official from the Ministry of Resources and Development that emphasized the links between climate change and energy, and encouraged energy conservation. At the latter two events, I also presented in Marshallese, emphasizing the link between *mantin majel* and action against climate change. I narrate these events in more detail in the next chapter.

As I will discuss in the next chapter, these workshops appear to have been effective in conveying the notion of climate change in a persuasive and culturally resonant manner, and the very evident increase in societal attention on climate change during my fieldwork in 2009 compared to my fieldwork in 2007 probably owes much to the efforts of WUTMI.

The second channel: observation

The second source of information is locally observable change which could be considered (by scientists or locals or both) to be a manifestation of global warming. I will first present a largely etic view of environmental change, enumerating the sorts of environmental changes that have been measured to be occurring in the Marshall Islands. Then I will present an emic view, describing how many locals report these and other changes.

First, temperatures have been measured to be rising appreciably in the last 50 years (Journal 2009e; Solomon et al. 2007: Section 3.2.2.7), part of a global trend in that direction.

Second, the sea has been measured to be rising in the Marshall Islands. The IPCC reports 0.75 ± 0.27 inches per decade at Kwajalein Atoll (Solomon et al. 2007: Section 5.5.2.5). A scientist at the College of the Marshall Islands reports 4.3mm a year, or 1.7 inches per decade (Journal 2009b).

Third, there has been a measured increase in erosion in the country. This is incontrovertible in Majuro Atoll, where a scientific survey concluded that 50 kilometres of lagoon coast has experienced erosion (Xue 2001). Some beaches have been stripped of sand and coastal trees are falling in various areas outside of the main urban area. Many families have put up seawalls; virtually everyone who I asked about this said that they had done so specifically in order to protect their houses from floods, waves, and erosion, rather than merely to extend their land. Many neighbourhoods in Majuro, such as Jenrōk, are lined with a virtually uninterrupted fortress of makeshift seawalls cobbled together from concrete, piled rocks, metal drums, and in some cases discarded cars and tankers. Most people reported in 2009 that they built these seawalls only recently, with the median response being 2001: less than a decade before I asked the question. This indicates that the risk of erosion has increased significantly in the recent past. (Marshall Islanders use the English word for 'seawall' – there is no equivalent in Marshallese, attesting to the newness of this need.) Meanwhile, Laura, a less urbanized community on the opposite end of Majuro Atoll, has experienced erosion

along both its ocean and lagoon shores. A man showed me a plot of land which used to be a garage five years before and now has been washed away. The end of Laura (*maan Laura*), a beach and popular recreational area, is often cited as an area of noticeable erosion.

Erosion is also increasing in the outer islands, according to anecdotal evidence. Easily visible erosion was shown to me on Ujae Island in Ujae Atoll and Piñlap Island in Jaluit Atoll; Marshallese say that the ‘waves eat the land’ (*‘No rej kañ āneo’*). I documented erosion on Ujae Island in August 2007: in an area of shoreline a little over half a mile in length, there were ten trees fallen from erosion, 19 heavily eroded and likely to fall from erosion, and 24 somewhat eroded. The lagoon shore of this island had reportedly retreated by ten to 15 feet in one area since about 15 years before, and a shipwrecked Japanese fishing vessel resting on the shallow reef had recently begun to erode rapidly. Another outer island community, the semi-urbanized island of Jabwor in Jaluit Atoll, has many seawalls, indicating erosion troubles. I was occasionally told that entire (very small) islands had been washed away by the sea, such as an islet just east of Kalalin in Majuro Atoll, and an island in Wotje Atoll; these accounts were not very widely known, however, and I was unable to verify them. For locals, the most worrisome effect of erosion has not been the destruction of trees, which has not proceeded far enough to threaten people’s livelihoods, but the erosion of graveyards, which have symbolic and sentimental value. On Ujae Island, erosion on the lagoon shore has more than once uncovered and destroyed ancient graves. On Piñlap Island, an ancient graveyard called the Bōn has been heavily eroded, as I will discuss in detail in Chapter 4. The fact that this graveyard is many hundreds of years old shows that erosion has reached areas that have been safe since prehistory. I heard other reports of eroding graveyards on Anekallimur Island and Laura. A newer graveyard in the Jenrōk neighbourhood of downtown Majuro has been all but washed out of existence by waves. Images of erosion are presented below in Figure 9 to Figure 12.



Figure 9. Remains of the Jenrōk graveyard, Majuro Atoll



Figure 10. Fallen coconut trees, lagoon shore, Laura village, Majuro Atoll



Figure 11. Ocean side erosion, Woja, Majuro Atoll



Figure 12. High tide eroding a tree, lagoon shore, Ujae Island, Ujae Atoll

Fourth, the country has been struck by several floods and high wave events. Foremost among these was a flood in December 2008. A few weeks before Christmas, the country—in particular Majuro—was impacted by three wave events in the space of a week. Several neighbourhoods of Majuro were flooded. Seawalls broke, more than 200 houses were damaged (BBC 2008), and at least 20 homes were destroyed (Radio Australia 2009), not insignificant numbers in this small town of 25,000. At least 600 Majuro residents (Journal 2009f) were temporarily forced out of their homes – representing a little over 1% of the country’s population. Dead fish, coral, rocks, and hundreds of tons of rubbish were washed onto streets and yards (ABC 2008; Journal 2008a). On Arno Atoll, 130 people were forced to leave their homes temporarily (Hezel 2009b). An island in Maloelap Atoll was reportedly split in two. Some food crops were damaged in the outer islands when salty water contaminated the soil. The day before Christmas the Marshallese government declared a state of emergency. At least \$1.5 million of damage had been inflicted in Majuro. The event could not by any means be called devastating, but it touched the lives of a large majority of Majuro

residents. 71% of 146 survey respondents said they had witnessed the flood firsthand, 75% reported that friends' or relatives' houses had been damaged, and 30% said that their own houses had been damaged.

Fifth, there has been a downward trend in rainfall (Journal 2009e), and El Niño-induced droughts have struck in 1983, 1992, and 1998. Residents remember these events as times of significant hardship, although not of desperation, as the situation was mitigated by help from the Marshallese and American governments. In the 1998 event, many children in Ebeye—the country's other urban centre—routinely missed school in order to take the ferry to nearby Kwajalein, site of the American military base, to wait in long queues to fill tanks of water from faucets connected to the US military's never-failing water supply. At least one child was named El Niño after the event. During the 1983 event, the local band Ladrík in Takinal ('The Sunrise Boys') wrote a song with the lyrics:

First I will tell you	<i>Moktata inaaĵ jiroñ kom</i>
About how sunny and rainless it has become	<i>Kōn wāwein an laplok det in.</i>
How will it rain hard	<i>Ekōĵkan an naaĵ wōtlelep</i>
So that our water tanks are filled?...	<i>Bwe en boo! aebōĵ kañ ad...</i>
We're facing a hardship that is dangerous to this life	<i>Jejujāl mae juon abañ ekauwōtata ñan mour in</i>

It is difficult to say with certainty whether these impacts are due to global anthropogenic climate change: attributing any single event to global warming is always scientifically problematic (Allen 2010). The December 2008 flood was caused at least in part by a low pressure system north of Majuro combined with high tides expected at that time of year (Johnson 2008); thus sea level rise per se was only one factor. As for the erosion in Majuro Atoll, this probably owes less to global warming than to various local human activities (Juumemmej 2006: 97; Spennemann 1993: 19-26; Xue 2001). The US military joined several islands together to make what is now the D-U-D (downtown) area of Majuro: natural channels were thus sealed, altering currents and exacerbating erosion. The same has resulted from the human removal of salt-tolerant coastal trees which bind the soil together

and protect less salt-tolerant trees from ocean spray. Seawalls only worsen the problem they are intended to solve: they prevent erosion where they are constructed but increase erosion around them, and they prevent the wash-up of debris that naturally builds up the islands and protects against waves. In addition, extensive dredging has occurred in Majuro Atoll in order to create landfill, and this increases erosion as well: building more land in the Marshall Islands always means stealing it from somewhere else (UNFPA 2009). Thus, some of the environmental impacts—specifically flooding and erosion—may have causes other than global warming. However, other changes, such as sea level rise, increased temperatures, and decreased rainfall, are certainly not the result of local actions, and here global climate change is a likely culprit. The erosion on certain uninhabited islands also falls into this category.

In truth, the cause of these changes is irrelevant for our purposes here. I include this discussion of the causes of local environmental change for completeness and to deflect the criticism that I am subsuming all local environmental change under the trendy titles of ‘climate change’ or ‘global warming’. The important point is not that these impacts are caused by, or part of, global climate change but that they exist at all: they are presently occurring, potentially noticeable by Marshall Islanders, and consistent with the scientific prediction of climate change. While these changes are not yet devastating people (and so far no one, or virtually no one, is leaving the country because of them), they are occurring, and they are a potential source of information about the threat of climate change.

I now present an emic view of the same. Table 4 presents the percentages of 146 survey respondents who answered ‘yes’ to directly posed questions about environmental change.

Says that the <i>lañ</i> (‘weather’) has changed?	72%
Of those who say ‘yes’ to the above, says that this change is a problem?	96%
Says that the <i>mejatoto</i> (‘climate’) has changed?	73%
Of those who say ‘yes’ to the above, says that this change is a problem?	92%
Says that processes like the erosion of the Jenrök graveyard did <i>not</i> happen in the past?	66%

Says that events like the December 2008 flood did <i>not</i> happen in the past?	27%
--	-----

Table 4. Answers to directly posed questions about environmental change

Table 5 shows the percentage of 146 survey respondents who reported various more specific environmental changes; these were free-response questions.

Reports sea level rise?	35%
Reports sea level fall?	5%
Reports increased temperatures?	62%
Reports decreased temperatures?	1%
Reports increased erosion?	16%
Reports decreased erosion?	1%
Reports increased flooding?	14%
Reports decreased flooding?	2%
Reports increased droughts or decreased rainfall?	19%
Reports decreased droughts or increased rainfall?	2%
Reports changed seasons? ²⁴	21%

Table 5. Spontaneous reports of environmental change

Most individuals thus report that the weather has changed and that this is a problem. Furthermore, the specific changes in the weather that they report are quite consistent with each other: in mutually exclusive pairs such as increased versus decreased temperatures, strong consensus exists that one of them is occurring and the other is not. Furthermore, these agreed-upon reports are remarkably consistent with scientific predictions of global warming and with the changes that have been recorded by scientific methods to be occurring in the country: almost no one reported, for instance, sea level *fall*, *decreased* erosion, or *cooler* weather.

While most of the individual sorts of environmental change are only reported by a fairly small minority of respondents (the only exception being increased temperature, which is reported by a majority), a large majority of people report at least one of the changes: of the six observations that I tallied (sea level rise, increased temperatures, increased erosion, increased flooding, increased droughts, and changed seasons), the percentages of people who

²⁴ People in many countries are reporting changing seasonality, an effect likely due to global climate change (BBC World Service Trust 2010; Jennings and Magrath 2009).

reported at least one of them, at least two of them, and so forth are presented below in Table 6.

Reports 1 or more of the changes	76%
Reports 2 or more of the changes	47%
Reports 3 or more of the changes	30%
Reports 4 or more of the changes	11%
Reports 5 or more of the changes	2%
Reports all 6 changes	1%

Table 6. Proportion of respondents who report various numbers of environmental changes

Thus, Marshall Islanders report quite a bit of change. They are not the only ones to report local ecological perturbations consistent with the scientific prediction of global climate change. Many indigenous groups in Siberia (Crate 2008), the Canadian arctic (Krupnik and Jolly 2002), Greenland (Nuttall 2009), sub-Saharan Africa (BBC World Service Trust 2010; Patt and Schröter 2007), the Himalayas (Byg and Salick 2009), Australia (Petheram et al. 2010) and elsewhere report local observation of climate change (Barnett and Busse 2002; Crate and Nuttall 2009b: 9; Nuttall 2008a; Parker et al. 2006). Reports of environmental change in indigenous communities tend to be quite consistent between individuals (see for instance Byg and Salick 2009: 158), though there are exceptions (Fox 2002: 32-3; Hitchcock 2009).

Are Marshallese observers of environmental change merely parroting media reports of global warming, or are they ‘genuinely’ observing change? Some evidence suggests that the observations are genuine. Even individuals who were not familiar with the scientific notion of climate change often reported environmental change (though less often, as I will discuss below). Moreover, in my survey of 146 individuals, older respondents reported, on average, more environmental change, as can be seen in Figure 13.

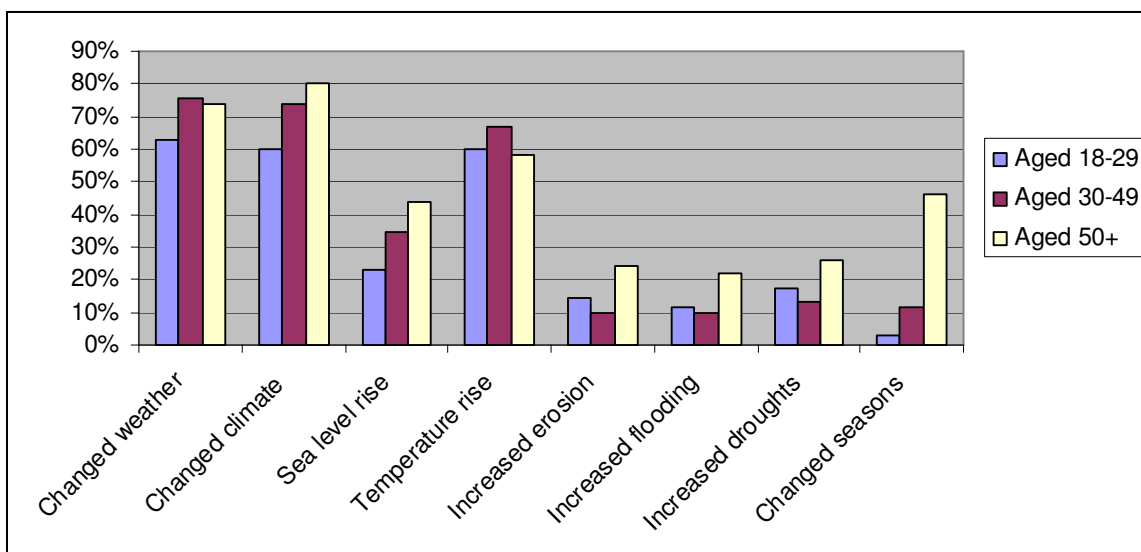


Figure 13. Percentage reporting various environmental changes, plotted against age

In all cases but one, individuals aged 50 years and above were more likely to report environmental change than those aged 18 to 29 years. In some cases, the effect is quite large: between the youngest age group and the oldest, the percentage reporting sea level rise nearly doubles, and the percentage reporting changed seasons jumps from 3% to 46%. The same age effect has been found in some other communities (see Mortreux and Barnett [2009: 110] in Tuvalu) but not all (Byg and Salick [2009: 164] in Tibetan communities).

In the Marshall Islands this effect is not mediated by other variables such as education, so age indeed appears to be causal. Several explanations may account for the fact that old people report more environmental change. There may be an effect of prior expectations, either a generational gap in which people of the generation that is now elderly have always been convinced, since a young age, that the world is changing, or a pure effect of age in which older people become more convinced as they age that the world is changing. But since, as I stated in the previous chapter when discussing the narrative of entropy, both old and young are strongly convinced that the world is changing, this ‘pure’ effect of age or generation can explain little. In addition, if older people were reporting environmental change merely because they had a prior conviction that the world was changing, one would expect their reports of environmental change to be resolute, yet scattered and inconsistent; instead,

we find that people's answers are remarkably consistent with each other. (Even if they were choosing environmental observations to fit a specifically degradational view of change, they could easily, for instance, point to sea level *fall* as often as sea level rise, since the former can be as devastating as the latter [Nunn 2003].) The most plausible hypothesis, therefore, is that older people report more environmental change simply because they have lived longer and therefore have seen larger changes in their longer lives. This is especially likely because the reports are, as I have said, very consistent with measured environmental changes.

Genuine Marshallese observation of environmental change is unsurprising given the many opportunities that locals have to monitor the environment through daily activities. In this country one is always near the water. In Majuro no house is farther than 250 yards from the sea, and the vast majority of are within 100 yards of it. During *añōneañ* season, people must be wary of drought and of wave damage (in particular urbanites whose dwellings lie perilously close to the shore). During *rak* season outer islanders must prepare preserved breadfruit to last them through *añōneañ* and/or any shortages of imported food that result when funds are insufficient or supply ships are late or understocked. At any time of year people must pay close attention to the sea level; different tides lend themselves to different fishing techniques, to launching and beaching canoes, to crossing fringing reefs in boats, and to walking between islets on the exposed reef without being stranded or washed out to sea.

There is also, however, compelling evidence to suggest that these observations of climate change are not *entirely* 'genuine', but rather are influenced by expectations based on reception of the scientific notion of global warming. Below, in Figure 14, I present a nexus of reception and observation: the percentage of survey respondents who reported various sorts of environmental change (*observation*), divided into those who are unaware of the scientific concept of climate change, moderately aware, and highly aware (*reception*).

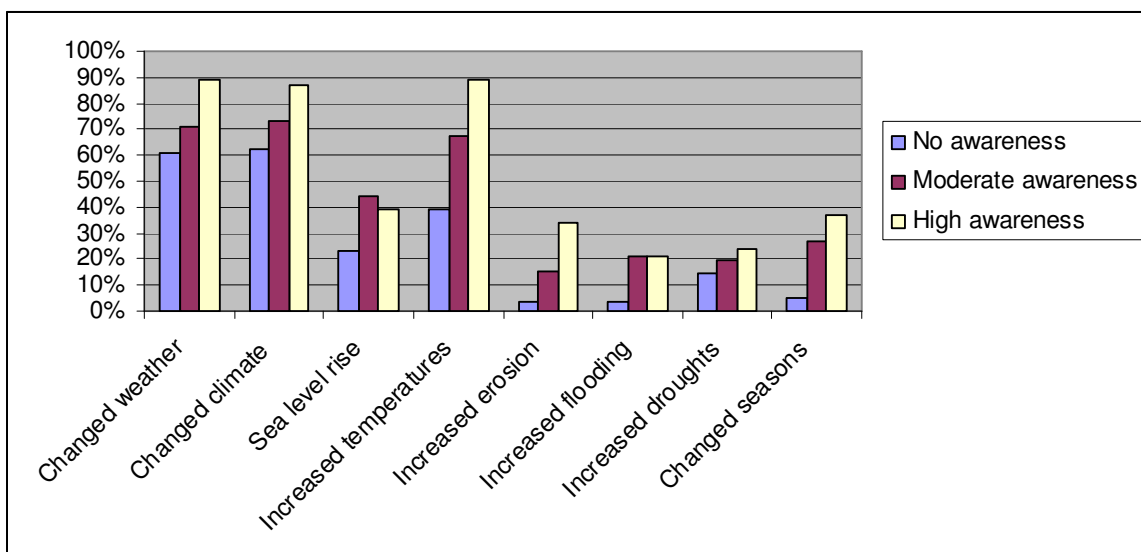


Figure 14. Percentage reporting various environmental changes, plotted against awareness of the scientific concept of climate change

In every case, those who are highly aware of the scientific concept are more likely to report the change than those who are not aware: ‘high reception’ individuals tend to also be ‘high observation’ individuals. The difference is sometimes extremely stark, such as in the case of increased erosion, where those with high awareness are more than 8 times more likely to report the change than those with no awareness; or in increased temperatures, where the percentage jumps from 39% to 89%; or in increased erosion, where the percentage jumps from just 4% to 34%. In addition, the ‘moderate awareness’ category is in most cases intermediate between the two other groups. Thus, this is a very consistent, compelling, and robust pattern: the more people are aware of the scientific concept of climate change, the more local environmental change they report.

While I do not have the space to describe it in detail, it is worth noting here that statistical analysis supports the idea that this correlation is robust, that there is a probable causal link, and that the direction of this causal link proceeds from reception to observation. Tellingly, high-observation individuals are no more likely to have attended an educational session regarding climate change, when climate change awareness is held constant; so

observation is not causing reception. Instead, the evidence strongly suggests that reception causes observation.

Two mechanisms might explain this. The first is the focusing of attention. That is, awareness of the idea of global warming makes people notice changes that otherwise are too inconsequential for them to register or care about. This is possible. Contemporary Marshall Islanders may not be as closely attuned to the environment as their ancestors. They are increasingly insulating themselves from the vicissitudes of the environment: they enjoy more or less year-round access to imported food; they have abandoned inter-atoll sailing; many outer islanders have chosen to live in typhoon-resistant homes built by the US's Federal Emergency Management Agency; and nowadays the main source of weather forecasting is reports on the radio from Majuro's weather station, rather than an older indigenous practice of weather forecasting called *katu*.²⁵ Moreover, Marshall Islanders have much to pay attention to other than their natural environment. In terms of the immediate effect on day-to-day life, a modest increase in temperature or sea level pales in comparison to an increase in the price of a bag of rice or a decrease in the price of copra; in addition, these changes happen much more quickly than environmental change, and are much more easily comparable and quantifiable. Indeed, many of the environmental changes may be difficult to notice without encouragement to do so. Sea level rise, for instance, is hugely obscured by large fluctuations on the daily, monthly, yearly, and inter-yearly level; it is not a foregone conclusion that

²⁵ In the past, practitioners of this art, called *rikatu*, were especially valued for forecasting weather in anticipation of an oceanic voyage (Haddon and Hornell 1975: 374). Nowadays, however, the technique is only known by a few (Joe Genz, personal communication). People only rarely mention *rikatu*, even when asked about the climate. For instance, no one answered the question 'Has the weather changed from the past, or stayed the same?' by saying 'You should ask a *rikatu* about that.' Nor did any informant ever tell me that their belief in, concern about, or other attitudes towards climate change had been influenced by a *rikatu*. Furthermore, *rikatu* are credited only with the power to make short-term predictions, not the long-term predictions that feature so prominently in the global warming message. Thus, *katu* appears to have little bearing on attitudes towards global warming in the present day. The same can be said more generally of *meto* (navigation) and much of the more sophisticated knowledge of waves, weather, and stars on which it depended (see Erdland 1914: 69-92; Kramer and Nevermann 1938: 217-232). These skills were once vigorous among specialists, but are now known by extremely few, practiced very rarely, and usually referred to by ordinary Marshall Islanders only as erstwhile skills, now lost. Even in their heyday they were not collectively held, but jealously guarded by individual practitioners. What is left is the non-specialist's informal environmental monitoring.

people would notice a small average change in sea level unfolding over decades (Bridges and McClatchey 2009: 143; Swim et al. 2009: 33).²⁶ Similarly, the rise in temperature in the Marshall Islands has been fairly small and is not the cause of any major hardship. Thus, some individuals may need reception in order to enable observation.

The second possible mechanism is confirmation bias. That is, having heard about the idea of global warming makes people imagine changes that are not actually occurring: they see it because they expect to see it. This, too, is plausible. Marshall Islanders who have heard of the scientific idea of climate change and believe it is true may imagine environmental changes that are not in fact occurring, or exaggerate the extent of changes that are occurring, or see only the evidence of those changes that they expect to see while not seeing the evidence of other changes that they do not expect to see: for instance, they may notice erosion but ignore accretion, notice unusually high tides but ignore unusually low tides, and notice times of drought but ignore times of high rainfall.

It is not clear exactly how much of the effect is due to the first cause and how much due to the second cause. Probably both are in effect. (It may also vary by the individual: for instance, the 'hyperconvert' described below almost certainly is influenced by confirmation bias.) We will remain agnostic about this issue for present purposes. The more important point for the time being is this: reception bolsters observation. This is not the only example of an indigenous or lay community willing and able to incorporate outside scientific knowledge into their observations of local environmental change (Ellen 2007: 3): see for instance Roncoli (2006: 83), Roncoli et al. (2002), Suarez and Patt (2004), Fulsås (2007), and Gold

²⁶ While societies with many generations of accumulated experience in observing the environment are likely to possess prodigious skills in these areas (Bolin 2009: 232; Cherrington 2008; Leduc 2007; Roncoli et al. 2009: 91), and many studies attest to truly ingenious local methods of monitoring and forecasting the weather (see for instance Jernsletten 1997; Krupnik 2002; Leduc 2007; Orlove et al. 2002; Orlove et al. 2000), sometimes out-predicting climate scientists (Orlove et al. 2002: 433), limitations also exist: memory is fallible, attention is finite, and observations may be skewed, via confirmation bias, to fit pre-existing beliefs about the environment (Roncoli et al. 2009: 97). Accordingly, studies that compare local observations of environmental change to scientific measures of the same are mixed: some show that locals can quite accurately report climatic trends, while others indicate the opposite (see Puri 2007: 51-52 for a summary).

(1998: 182) – muddying the distinction between ‘traditional ecological knowledge’ and scientific knowledge (Lazrus 2009: 240; Peterson and Broad 2009: 76). As Sheila Jasanoff and Brian Wynne write, ‘People seem capable of informal scientific savvy when it is attuned to their own concerns and needs.’ (Jasanoff and Wynne 1998: 40) More generally, the dual nature of Marshallese environmental reports, as both observations of really occurring environmental change and the products of pre-existing expectations, reflects the duality of indigenous environmental knowledge as both a priori and a posteriori (Paarup-Laursen and Krogh 2003) and the duality of ‘nature’ as both constructed and real (Roepstorff and Bubandt 2003).

Prior expectations, however, appear to be *more* important than ‘genuine’ observation in influencing people’s reports of environmental change. Compare Figure 13 and Figure 14: the effect of age (the ‘pure’ effect of environmental observation per se) appears real, but is certainly weaker, and less robust, than the effect of scientific awareness. This suggests that observation per se is actually less powerful than reception, *even in influencing reports of environmental change*. In a country where, so far, impacts attributable to climate change have been only moderate, not yet powerfully undermining local livelihoods, observation may not be enough by itself to foster concerned awareness of the threat. A few other findings support this. Other than age, measures of how much an individual observes the local environment make no difference at all to how much environmental change the individual reports; these variables include the amount affected by the December 2008 flood (as I have written about in detail in Rudiak-Gould [in press]), the number of times per week that the individual fishes or collects food on the reef; the approximate distance of the individual’s house to the shore or to the ocean side; how long the individual has lived in the outer islands versus in Majuro; and how much time in the last 20 years the person has spent in the outer islands versus in Majuro. Given the fairly large sample size of my survey, the absence of correlations indicates these links, if they exist, are quite small.

Thus, compared to reception, observation appears to be a less powerful and primary source of local awareness of climate change, as some researchers have suggested in other field sites (Connell 2003; Huntington et al. 2005: 63; Kim 2010: 104-5; Lazrus 2009: 240; Orlove et al. 2008: 7-8; Swim et al. 2009: 91; Thorpe et al. 2002: 216-7; but see Marx et al. 2007 for a differing perspective). Nonetheless, genuine observation does occur, and observation works in concert with reception to bolster climate change awareness.

The third channel: exegesis

In Chapter 1 I stated that there are two sources of information on climate change: reception and observation. These are indeed the two sources of *principal* information on the threat, which is to say information that could by itself make one aware of climate change, and impress itself upon one without one specifically seeking it. However, in the Marshall Islands there is also a third source of climate change information, a post hoc source that is consulted for guidance once one has already become aware of climate change through reception or observation. This third channel is the Bible. The scriptural interpretations of climate change that I will describe below are not officially encouraged by any church or other group, to my knowledge. No one told me that they espoused a particular Biblical view of climate change because their minister had advocated it. Nor did I ever personally hear a sermon that concerned climate change, despite attending many of them, although reportedly the subject is occasionally mentioned. By all indications, then, Christian interpretations of climate change are improvised individually and circulated informally. The country's largely Protestant heritage makes this possible.

The Bible, being an extremely flexible text, can be made to speak to even global anthropogenic climate change, an entirely unprecedented (Orlove 2005: 590) threat. In particular, there are two books—Genesis and Revelation, at opposite ends of the Bible—which can be quite easily made to speak to climate change. I will take each in turn.

Genesis contains the Flood myth, a story quite obviously applicable to the threat of devastating inundation at the hands of climate change. Some Marshall Islanders liken this flood to the threat of global warming. The comparison is an easy and natural one, given that global warming is often communicated to Marshall Islanders in a way that equates it, purely and simply, to imminent nationwide inundation. (Recall for instance the newspaper article, mentioned earlier in this chapter, titled ‘Low islands will be flooded’ [*‘Ene ko retta renaj ibwiji’*]). Indeed, the Marshallese word for a very high tide, for a flood, and for the Biblical Flood are all the same (*ibwijlelep*), making the comparison apt from a local perspective.

But what can be done with this comparison of the Biblical flood with climate change? The Genesis Flood myth does not end with the banishment of the waters. As the ark settles again on dry land, God establishes a covenant with Noah and all mankind after him: ‘Never again will all life be cut off by the waters of a flood; never again will there be a flood to destroy the earth....I have set my rainbow in the clouds, and it will be the sign of the covenant between me and the earth.’ (Genesis 9:11-13). Some Marshall Islanders cite this passage to cast doubt on the reality of climate change. For instance, a middle-aged man who I knew on Ujae said:

It’s untrue that Ujae will be covered with water....Because in the Bible....it says [God] won’t destroy the world with water, because he already did it at the beginning...He destroyed the world with water, but afterwards he said he won’t do it again...I believe God.

The same invocation of Genesis to disavow climate change has been documented in Kiribati (Teuatabo 2002: 89) and Tuvalu (Farbotko 2005: 282; Kim 2010; Lynas 2004: 117; Mortreux and Barnett 2009; Paton and Fairbairn-Dunlop 2010), low-lying Pacific nations facing the same threat as the Marshall Islands. Rainbows are a particularly evocative sign of God’s protection, being not only beautiful (the folk etymology of the Marshallese word for ‘hello’ and ‘love’, *ipkwe*, is that it comes from *iḷo* [rainbow] and *kwe* [you], and thus means ‘you are a rainbow’) but also visible immediately after a storm, indicating that the inclement weather has abated and the land will not be flooded.

Those who invoke God's promise often add that the next time God destroys the earth, he will do so with fire, not water. This refers to the opposite end of the Bible, Revelation, in which the following passage is found: 'the sun was given power to scorch people with fire. They were seared by the intense heat and they cursed the name of God, who had control over these plagues, but they refused to repent and glorify him.' (Revelation 16: 8-9) If climate change is equated with sea level rise, then this passage indicates that the next destruction of the world will be utterly unlike scientists' descriptions of climate change, so their predictions must be false.

As an alternative or addendum to the idea that God will not flood the earth again, some Marshall Islanders aver that God would not allow global warming (or any other force) to wholly destroy the Marshall Islands because he created the archipelago as the rightful and eternal homeland of the Marshallese. For instance, I talked to a middle-aged man in Majuro while he was fishing off the edge of the ocean side reef at low tide. He lived directly adjacent to the ocean shore and had recently built a seawall to protect his house from the waves. But he said that this wave action had occurred equally in the past, and that the waves would not grow larger or cause any significant damage because Marshall Islanders pray so frequently to God. Thus, the man recognized a problem yet cast doubt on its seriousness through a belief in God's protection. Although he did not mention the passage in Genesis, such ideas are likely involved. Similarly, a well-educated man in Majuro said, when I asked about climate change and God's promise:

I don't think God wants to punish me, or any other people. [So] maybe I should believe He won't flood the earth. I know there is a higher power. I leave my well-being up to him. For instance, in 2001, I was diagnosed with diabetes. But I don't take medicine for it or ever go to the doctor, because I let God take care of me. And I've been fine – six years of having diabetes, and no problems.

It is unsurprising that some locals would find a way to deny the reality of the threat. Although, as I argue in this thesis, the idea of climate change has been largely embraced by Marshall Islanders, the prospect of inundation is nonetheless a horrific thought for locals;

some therefore wish to disavow this eventuality, if not necessarily the notion of climate change as a whole.²⁷ Numerous studies have demonstrated the ability of people to discount the possibility of being harmed, rationalizing this comforting denial through whatever discourses are available, especially if they feel that the threat is outside of their control (Edelstein et al. 1989; Grothmann and Patt 2005: 203; Grothmann and Reusswig 2006: 106; Kroemker and Mosler 2002; Lehman and Taylor 1987). Similar climate change disavowal strategies have been documented in other cultures. Carla Roncoli reports that some farmers in Burkina Faso predicted ample rainfall after a drought on the grounds that God would not test people past their breaking point (Roncoli et al. 2002). More specifically, notions of God's protection against climate change have been reported in low-lying island nations other than the Marshall Islands – indeed, in all other sovereign nations at risk of total uninhabitability due to climate change: Tuvalu (Mortreux and Barnett 2009: 109-10), Kiribati (Teuatabo 2002: 89), and the Maldives (Toomey 2009). U.S. congressman John Shimkus publicly stated in 2009 that global warming was false because of God's promise to Noah that 'As long as the earth endures, seed time and harvest, cold and heat, summer and winter, day and night, will never cease' (Genesis 8:22) (Mail Foreign Service 2010).

There are also, however, rhetorical resources available for challenging the Genesis argument. Locals do so on various grounds. One argument is as follows: God promised that the *world* would never again be flooded; but climate change will flood only the low-lying countries, so this catastrophe is not precluded by the Biblical covenant. For instance, a well-educated man in Majuro said, when the topic of God's promise came up:

What many people don't realize [is], while it's true that most coral atolls will be the most severely affected, it will also affect the United States as well – Florida and California. The

²⁷ The Genesis argument is the most common method of doing so, but others exist as well. A middle-aged woman in Majuro told me 'I don't believe [climate change will destroy the country], because if there is so much sunshine, it will take the water away.' A scientifically educated man speculated that as the temperature of the water increases, the evaporation will increase as well, canceling out sea level rise, or the evaporation will create a mist that cools the earth. A few islanders said that the country would not be destroyed by climate change because the ancestors had cast spells on the islands to protect them from wave damage (see Chapter 4).

weather patterns will change. Plains will no longer be healthy – wheat fields, and the local trees in the Netherlands. Those places will be flooded.

Another well-educated man said:

That's what most people tend to refer to whenever you try to talk about the flooding or the sea level rise. They say 'Oh, God promised not to flood the earth.' But not the Marshall Islands. It's the Marshall Islands, not the earth.

It is usually the well-educated who make this argument, as it requires an appreciation of the global implications of climate change.

Another rebuttal to the Genesis argument is as follows: God's promise was made in the time of Noah; it is part of the Old Testament (*Kallimur eo Mokta* – literally 'the promise before'); Jesus came and changed the covenant to the New Testament (*Kallimur eo Ekāāl* – literally 'the new promise'), which supersedes the old; so the old promise is obsolete. For instance, I observed two men arguing about climate change:

X: According to the news, they say the islands will be flooded. You won't be able to cook your food anymore, because the water will be on the land. The islands will disappear. The water will rise up and up.

Y: I'm a Christian. God promised Noah this wouldn't happen.

X: Yes, God said he wouldn't destroy the earth again with a flood. Yes, this is true. But, that was just in one era. And whose era was that? That was the era of Moses and Adam and those people.

Another argument is thus: God promised that *he* would not flood the earth again²⁸; but the climate change-induced flood is caused by people, not God; so God's promise does not disprove climate change. In 2007 I asked Enja Enos, a prominent minister in Majuro, about religious interpretations of climate change. I told him that some people I had talked to dismissed climate change due to God's promise. Reverend Enos laughed heartily and said:

This is from naïve people...I don't think we have to look at the Bible that way. You see, *man* is the one who is causing this thing. God did not destroy our reef. We are destroying the reef....Like [for instance] making this bridge, the reef has to be dynamited...Things are really changing, and it's not because God said so...These development are destroying things....And even the islands that we used for the [nuclear] testing. So many things men have made to cause the forces of the nature to change...*We* are doing it.

²⁸ This does not follow the Bible to the letter, because in the Genesis passage God promises not only that *he* will not flood the earth, but that a flood will not happen, full stop. We can thus expect some locals to look more closely at the passage and reject the refutation on these grounds, but no one I met did so.

The same argument has been put forth by the Pacific Council of Churches in their Otin'tai Declaration on climate change (Pacific Council of Churches 2004). Such an argument requires a notion of blame; if climate change cannot be attributed to any particular party, or if it is an act of God, then the argument is moot. In Chapter 5 I will examine who Marshall Islanders blame for climate change and why.

Another locally wielded rebuttal of the Genesis argument is the following: it is true that God will not flood the earth again, and that the second time he destroys the earth he will do so with fire, not water; but this confirms climate change rather than disconfirming it, because the fire in question is in fact global warming. For instance, one man I talked to in Majuro said, when the issue of God's promise was broached, 'Well, He was talking about a flood. But He said He would bring brimstone and fire from heaven. So what is this warming of the air?'; he laughed, letting the implication of the last sentence hang. Marshall Islanders may not be the only indigenous people to flirt with this particular Biblical interpretation of climate change: one woman in the Porgera Valley in the Papua New Guinea highlands said that the warming that they had felt in their local area was 'the fire that Jesus was bringing from heaven to destroy the world' (Jacka 2009: 205).

This last interpretation not only refutes the Biblical argument against climate change, but also provides a Biblical argument *for* climate change: namely that the catastrophic environmental change of the sort predicted by scientists is to be believed because it is part of Biblical End Times. In this view, espoused by a significant minority of Marshall Islanders, global warming will be part of Armageddon, and/or present environmental changes are a sign that Armageddon is imminent.²⁹ A 50-year-old female respondent to my survey, when I asked 'Why is the climate changing?', said 'We think it's like the Bible says. Brothers will fight each other. These changes are happening. We're selfish now, like Americans.' Some

²⁹ Some Christians in the West hold the same interpretation of climate change (Hulme 2009: 154-5; also see Jennaway 2008).

locals give extreme predictions of sea level rise—‘50 feet in 50 years’, ‘to the top of the palm trees’—indicating apocalyptic beliefs.

These eschatological interpretations of climate change fit the more general pattern of Marshallese apocalyptic thinking. Speculation about the end of the world does not reach the fever pitch that it does in truly millenarian movements of the sort documented repeatedly in Melanesia (see for instance Stewart and Strathern 1998; Stewart and Strathern 1997; Whitehouse 1995); but speculation circulates and is sometimes given credence. Recall from the previous chapter the fact that End Times speculations are sometimes included in accounts of cultural entropy. Note also that Marshall Islanders who witnessed the Bravo Shot, for which the inhabitants of neighbouring islands had been given no warning, quite understandably wondered if the nuclear blast was the beginning of End Times or World War III, and went to the church to pray. More recently, a Marshallese man wrote a piece for the Marshall Islands Journal informing his fellow citizens that the book *The Bible Code* had predicted that nuclear war will occur during the year 2000 (Heine 2000). Independently of this article, the Marshall Islands was home to a fair amount of Y2K fervour, with some church congregations fearing the end of the world. Another Marshallese commentator wrote a letter to the Marshall Islands Journal, with a nuclear text and perhaps climate change subtext, in which he expressed his belief that global nuclear testing had cracked open the sea floor and altered the spin of the earth, and devastating tidal waves and earthquakes would soon result, destroying all life on earth.

If there are reasons to think that observation is less powerful and primary than reception in fostering climate change awareness in the Marshall Islands, there are also reasons to think that exegesis is less important than both. First of all, religious affiliation and frequency of church attendance did not seem, in either the survey or in interviews, to make a noticeable difference in awareness, belief, observation, or concern. Further research might uncover such links, but they are not immediately noticeable, unlike the aforementioned strong

effect of scientific awareness on reports of environmental change, so the effects are probably not large if they do exist. Perhaps explaining this, no one I talked to told me that they had heard about climate change for the first time in church. Some said that their minister had mentioned the issue, but no one spoke of extended discussions, or of formative influences from their church life, on their attitudes towards climate change; religion is only a tiny part of reception. Second, as I mentioned at the beginning of this section, people's exegesis of the Bible appear to be post hoc – that is, they look to the Bible for clues about climate change's validity *after* they have heard about it from other source, rather than before. It seems extremely unlikely, for instance, that people might begin to worry about global warming merely by reading the passage in Revelation about God scorching the earth with fire, and no one ever told me that their thought process had proceeded in this fashion. Nonetheless, a number of Marshall Islanders invoke (at least as post hoc justifications) the informal Biblical interpretations that I have discussed above.

Becoming aware of climate change

I will now provide a series of portraits of Marshallese awareness of climate change via reception, observation, and exegesis. This is intended to communicate the interacting influences of the three channels, as well as, more generally, to provide an emic perspective, to step back and allow locals to speak about climate change without excessively much interpretation on my part.

The broken blanket

In late July 2009 I visited Mejit Island, a remote Marshallese community on the north-eastern edge of the archipelago, accompanying a group of American climatologists on their expedition to the outer islands to obtain prehistoric rainfall records from sediment found in lakes and swamps. As the team transported its equipment to the island's small lake, through

groves of dry coconut trees and across the island's grass airstrip, I talked to a young Marshallese man who was accompanying us.

'The scientists are learning about the climate [*mejatoto*]', I said. 'What do you think? Has the climate changed since the past, or has it stayed the same?'

'There are large changes', the man replied. 'Some of the coral has died on the reef. The sun is stronger than before. And you see that breadfruit tree there? It has died from the sun. The coconut trees, too, are brown, because there is little rainfall.'

'Why are these changes happening?' I asked.

'*You* know why, don't you?' he answered.

'Well, scientists say that the world is getting warmer. They call it "climate change".'

The man hummed his ascent. 'Yes, I've heard that, on the radio – on the BBC world news. They say there's a 'layer' up high, a blanket [*kooj*]. It's broken now. So the ice at the north pole is melting, making the sea rise.'

'So what will happen?'

'It will cover the islands.'

'And what will Marshallese people do when that happens?'

'Float!' he replied, and laughed heartily.

The conversation revealed that even in this remote community, 220 miles from Majuro, reception was important, thus illustrating the global reach of the climate change discourse (Hulme 2009: 322). This man combined reception and observation, and like many Marshallese used observation to describe the impacts and reception to pinpoint the causes, and a combination of both to infer the future consequences.

Impacts everywhere

In June 2009 I interviewed a well-educated woman, a resident of Majuro, who had attended the WUTMI climate change workshop in April 2009, and had also heard about global warming through her government job. Here observation appears to be primary:

X: There is a concern. My husband [and I], we were going to build our son's house on a piece of land that we acquired from some land owners here, and two years ago the shoreline was *way* down there. Nowadays there is this big tree, it has fallen down. [This is] in Ajeltake.

PRG: When did that start to change?

X: We acquired the land two years ago. In two years, that's really fast....The seasons are changing. The harvests are changing. We used to have *bōb* [pandanus fruit] during December. Now we're having *bōb* season right now [June], which is different from before. So, you know, what is causing all these changes? Is it because the climate is itself changing, it's no longer cool these months, so the breadfruit is adapting to that climate change, it's not bearing fruit where we used to know it's time for breadfruit?

PRG: People used to know when that would happen.

X: Yes, that's something that's very noticeable. We used to know when it's the breadfruit season, when it's the pandanus season. But no longer. Breadfruit season is delayed. Sometimes like where you were in the west [the atolls of Kapin Meto: Ujae, Lae, and Wotho], they hardly have any [breadfruit], because it's so hot the fruit just falls off the trees before they even have a chance to get ripe. And in other places, they almost have them year-round.

PRG: Which is not the normal way.

X: Yeah. Like on Arno [Atoll], when we were there three months ago, in Longar [Island], that part of Arno, we were eating breadfruit. But when we came to Arno [Island], Arno [Atoll], they said 'our breadfruits are still not ripe yet.' So one side is harvesting, the other side isn't. It didn't use to be like that.

Mountainless and luckless

I interviewed an employee of the Marshall Islands Marine Resources Authority (MIMRA) in May 2009. He speaks of observation, specifically the erosion of certain noticeable and/or culturally valuable sites, while his description of the causes is certainly guided by reception:

X: My wife has land in Laura – at the end of the island. We built a shower and little house there, so people could take a shower after they went for a swim. The shower's still okay, but the waves have destroyed so much – they destroyed the little house. It's gone from the erosion.

PRG: Did there use to be erosion in the past?

X: No. It used to be very good. Now it's very bad.

PRG: Why?

X: High tide. Climate change.

PRG: I saw the eroded cemetery in Jenrōk.

X: Yes, it's gone. There used to be many graves there. Then it was severely damaged. The land used to go much further out. That's not the only cemetery that this has happened to. There's one in Uliga. There used to be lots of graves there too. Now it's all gone.

PRG: Why did that happen?

X: The ocean is higher. It wasn't that way before – it was very good.

PRG: Why is climate change happening?

X: The ozone is broken, so it is sunnier now....They emit things into the atmosphere. I don't understand it too well. It's not just America but all countries...damaging the atmosphere [*mejatoto*], making the sun stronger, so the ice is melting. The Marshall Islands will disappear. Lucky for the Federated States of Micronesia that they have big mountains – there are none here in the Marshall Islands.

Human-caused harms

In May 2009 I talked to two women at the Assumption School in Majuro who had attended the WUTMI climate change forum in April; one used to teach Bible studies at the school. Using reception, observation (including an atypical report of *lower* tides), and exegesis, both find they are entirely convinced that climate change is real:

PRG: What did they talk about at the WUTMI forum?

X: They talked about how the climate [*mejatoto*] is changing – how people are causing this....We learned that styrofoam cups are bad. They were brought here from outside the country – they didn't come from here. People discard them and this is bad. So I decided to do my part. I noticed that at the forum, while they were talking about how styrofoam was bad, one of the women was drinking from a styrofoam cup! So I raised my hand and said 'You shouldn't use that' – so they stopped. I was very direct [*kajju*] about it. But there was another woman who kept drinking from a styrofoam cup. [Laughs.] Styrofoam ends up in the ocean and damages coral. In the past there was nothing like styrofoam in the Marshall Islands – it came from *other* countries....There was also a man from the College of the Marshall Islands who told us about how stuff goes up into the sky and heats up the world. So we should really conserve gas and use cars less – really conserve gas. The climate changes, the ice melts, it gets hotter, and low islands are flooded....A big problem right now is that the country is polluted. We need to stop this.

PRG: What will happen in the future?

X: The climate [*mejatoto*] will change, these islands will be covered [*kalibubu*] and then there will be nothing. Illness will come. We have too many things from outsiders – like money. We don't rely on our own things anymore. We depend on outside things. We don't grow our own food anymore....

PRG: Do you see changes from 'climate change' already, now?

X: That is funny, because just yesterday, [Y] and I were sitting just here at Assumption, and looking at the ocean side, and we saw that it was extremely low tide. There was no water at all, just exposed reef. That's not like the tides in the past. In the old days, people would say '*añoneañ, rak*', but not now. They could expect that December and January would be the times of big waves, but not now. This change is due to 'climate change'. You get very low tides.

Y: It used to be that the summer was hot, with hardly any wind, and then in Christmas and January or February, it was called *añoneañ* and we expected storms during this time. But now it has changed. And it's getting really hot now.

X: And you see erosion nowadays too, on the small islands...Pikiriin and Enemanit [islets in Majuro Atoll], and the end of Laura. The end of Laura has disappeared....God gave us these small islands [the Marshall Islands]. They were a gift from God. We had no money but we were blessed with coconuts, breadfruit, and pandanus....In the old days, on Jaluit, when you made food you would bring a serving of it to each house on the island. Now, when I went back there, they don't do it very much – soon it will be gone. It's weakened, because of Western influence. In America, when a child reaches 18 years old, they leave the house. That's not how you do it in the Marshall Islands. My son lives in Missouri, with an American wife. He says that when his children are 18, they will leave. That's how American culture is. You only take care of yourself. When a problem comes, you can only rely on yourself to help you.

PRG: Who is saying that 'climate change' will happen? It's scientists, right?

X: Yes, the clever people [*rimālōlōt*].

PRG: So you trust scientists?

X: Yes. Just a few days ago, on CNN they were saying that there would be famine in the world in the years to come. I mentioned this to another woman, and she got really angry. She

said ‘Don’t listen to what CNN says. God will not destroy the world with all kinds of things.’ [Laughs heartily.] But she was wrong, because it’s *people* who are the ones harming the world.

PRG: I’ve met people who say ‘It won’t happen because God promised he wouldn’t destroy the world again.’

Y: It’s true what God said, but it’s people who are doing it. We’re using our intelligence to destroy the world. We’re the ones not keeping our side of the promise.

X: Yes, that’s true.

Global warming vs. God

I talked to a middle-aged man at low tide on the ocean side of Delap, Majuro, while he was fishing at the *bōran baal*, the outer edge of the reef. Many seawalls along the shore were visible from where we were standing, and I asked him about them. In the resulting conversation he wielded observation, reception, and exegesis in his discussion of climate change:

PRG: Why did people build these seawalls?

X: Because the waves rise up and cause damage. You see that damaged house there? Waves did that.

PRG: Did this happen in the past?

X: No, only now. I left Majuro in 1988 and lived in Oregon for 16 years. When I came back, things had really changed. Now the ocean is high. Each year I see more changes happening.

PRG: Why is it the ocean higher nowadays?

X: Well, according to the clever people [*rimālōtlōt*], the ice in the cold parts of the world, like Alaska, is melting and creating water.

PRG: Do you think that’s true?

X: [Hesitates] A bit, because I see that the tides are higher nowadays. But it’s obvious that God protects us here because there are typhoons that really cause a lot of damage to Guam, but they don’t cause as much damage here in the Marshall Islands

PRG: Do you think the climate [*mejatoto*] has changed since the past, or has it stayed the same?

X: It’s hotter now. There’s less rain. There are many changes. Some corals are dead.

PRG: Have the waves changed, or have they stayed the same?

X: It’s not like before. Now the waves reach to the height of the land.

A theological conundrum

Reception, observation, and exegesis were all wielded in an impromptu debate about the reality of climate change which I witnessed in June 2009 on Ejit Island, a densely populated islet of Majuro Atoll home to several hundred of the displaced people of Bikini Atoll. I had been invited to a funeral, and found that the usual Marshallese pattern of gatherings was observed: one arrived many hours early and spent the vast majority of the

time sitting around, waiting, and quietly chatting. I took the opportunity to spend time with some local men. As we sat on plastic lawn chairs on the gravel spread, they broached the issue of climate change without a word of encouragement on my part.

One member of the conversation circle, an old man, was the first to mention the subject. ‘There’s a problem with saltwater intrusion, all over the Pacific’, he said. ‘It damages taro patches.’

A middle-aged man agreed. ‘Yes. The tide is higher here nowadays’, he said. ‘We get these very high tides most years now. It’s what the scientists are saying. The greenhouse effect. The sun is closer, so it’s hotter on earth, and the ice melts at the North Pole. This makes the ocean higher – and the Marshall Islands are very low.’

But a young man did not agree. He countered ‘But God made a promise to Noah that He wouldn’t flood the earth again. The next time God destroys the earth it will be with disease and all sorts of things instead. It will be with a fire from heaven that He destroys the earth, not a flood.’

The middle-aged man responded ‘But it’s not God that’s doing it.’ He pointed around the circle of men. ‘It’s *us*, us people, who are doing it. God gave us people a choice. We decide what to do. And right now we are making bad choices. People are making enormous landfills. Like in San Francisco and Delap [Marshall Islands], they’re doing this. When they put all this material in the water, there’s less space for the water. So it has to rise. That’s why it’s happening. Everyone in the world is doing this – America and other places too. That’s why the world will be flooded. Also, the sun is getting hotter, and ice is melting – that’s also causing it.’

The young man remained unconvinced. ‘No. God wouldn’t let that happen. If you believe in God, the Marshall Islands will not be damaged.’

The middle-aged man laughed at the younger man's naiveté. 'God gave us intelligence so that we can do something about it', he argued. 'He said "Only if you follow me will you live"'.

The young reiterated his point, and then the old man re-entered the fray, agreeing with the young man: 'Yes, I agree. God wouldn't destroy our country, and make us go to places where we have no money and nothing to live on. The choice he gave us, the one you're talking about, has to do with living forever in heaven. It has nothing to do with a flood.'

The debate remained unresolved, raging on in the good-natured yet vehement way that characterizes Marshallese conversation in all-male groups, until other topics were introduced.

Unaware and unconcerned

I administered my survey in August 2009 to an 83-year-old woman living in Delap, Majuro. She had spent all but the last few years of her life in the outer islands. Although she had completed some high school education, she had never heard of the scientific idea of climate change. She reported no changes at all in the weather, climate, or ocean, and said that things like the Majuro flood in December 2008 and the erosion of the graveyard in Jenrōk were equally common in the past.

When I was conducting fieldwork on Ujae Island in 2007, there were a number of similar individuals who had nothing to say either about local environmental change or about the scientific idea of climate change, even though I knew them well and they were quite happy to speak to me about many other topics, including unpleasant ones. On Ujae, I noticed that a number of coastal trees had fallen since I had last lived on the island in 2004. I asked locals about this, wondering if it would elicit comments on global warming or local environmental change. Many times it did, but many times it did not. Sometimes the individual would imply that nothing was amiss—that only the one tree had fallen, that the tree was simply old, or that it had been knocked down by the wind—and then have nothing

else to say on the matter. A particularly vivid example of this was when I sat with a local schoolteacher on the roots of one of the eroding trees—a large *lukweej* tree, certainly very old, whose roots were half exposed from erosion and which looked ready to fall in a few years—in a spot surrounded by already fallen pandanus trees, and we talked about the shipwrecked fishing boat that had sat on the reef for many years and had recently begun to decay rapidly from wave action. Despite all of these reminders of a possible erosion trend, when I asked the man why the boat was eroding, he simply said ‘I don’t know’, looked slightly uncomfortable for a split second, and then returned to normal, and had nothing else to say on the matter. At the time, and when I wrote about this previously (Rudiak-Gould 2009a), I interpreted his response as the deliberate avoidance of an uncomfortable issue, or even an implicit denial of its reality. While this may be the case, it could instead be that these individuals were simply unaware of climate change by any of the channels discussed above. Naturally, this thesis will focus on the majority of Marshall Islanders who *are* aware of climate change in various ways, but it is important to note that people do not always know about or care about or notice climate change, an important fact sometimes unmentioned in commentary on indigenous attitudes towards global warming (see for example Johnson and Levin 2009: 1601; Nilsson 2008; Parker et al. 2006).

Visions of destruction

I spoke several times in 2009 with a late middle-aged woman from Rongelap who lived in Majuro. In her statements below, she relies on both reception and exegesis. In addition, she uses her own idiosyncratic source of information—supernatural premonitions—to assess climate change:

X: ‘Climate change’. ‘Global warming’. Warming. I had a vision yesterday, in my mind, when they were talking about climate change at the conference. This is the fourth time I’ve had this vision. It is a vision of global warming. I’ve had other visions too. I saw the Kwajalein strike of 1982 in my mind before it happened. And the evacuation [of the Rongelapese] to Mejjatto – I had a vision of that before it happened. Now I see global warming in my head. The vision is like this: there’s an island, and the ocean is eroding it more and more. The island is getting smaller and smaller. There’s a tree on the island. It’s

dead with no leaves – dead from the hot sun, and from the warm wind. Then the wind comes, and the tree is tilting over and almost falling. The wind is global warming – global warming is like a strong wind. The ‘climate change’ will erode the islands, and the ‘global warming’ will kill the plants with warm winds. It’s not a cool wind like the kind we have these days. We’ll be dead before climate change happens. *You* will live to the damages, but we’ll be dead....

PRG: What was the first time you saw this vision of climate change?

X: In 2002. The first vision was of an island with many trees, and the sea starting to erode the land. Then I had the vision of the tree and the wind, the one I just described to you....They say it’s time for the world to end, in the Bible....In the time of Noah, the waves rose above the mountains. God said ‘I will not destroy the world again with a flood. I will destroy the world with brimstone and fire from heaven.’ Brimstone is like the warming [from climate change]. People have damaged the world, but God loves us still.

PRG: When will the world end?

X: I don’t know. But it looks like my vision of climate change is part of it. There will be famine. *You* will see it, but I’ll be dead by then.

PRG: So you think climate change is part of the end of the world?

X: Yes, I think so. I’m not like those who didn’t believe Noah.

...

PRG: Do you believe what scientists say about climate change?

X: Yes, I must trust them. They didn’t use to see changes, but now scientists do. The scientists see the changes. But, scientists shouldn’t do things like fix or transplant people’s hearts and eyes – that’s *God’s* work!

PRG: Do you believe in climate change because you trust scientists?

X: No, I believe because I trust the Bible and God.

The threatened church

I interviewed a middle-aged woman living in Majuro who was involved in education and with WUTMI. Wielding both observation and reception, she finds that she is not entirely convinced that climate change will be as devastating as predicted. In particular, her observation of erosion near a church reaches ambiguous conclusions:

X: You see signs of [climate change]. [But] in terms of sea level rising and covering all these islands, I don’t know. I believe that it will happen in the future. But I don’t know....Some people believe that it won’t happen....

[On] this one island where I grew up [Imrooj Island in Jaluit Atoll], we have a church. Last time I went there, the shoreline came all the way close to the church, to about maybe 15 feet from the church. Whereas when I was growing up, it was *way* out there. But now they’re saying that the shoreline is growing again, coming back....What does this tell us in terms of climate change and erosion?...What does it mean? And of course you want to believe that maybe it’s not happening. And then you see that kind of sign and you [think] ‘oh, what does it mean?’ ...I’m sure there is some scientific explanation. But I’m not a scientist so I don’t know why that happens. But I like to think that it’s not happening. But of course I read all of these other reports and explanations, so I know that it’s also happening. So I guess you can never be 100% sure, which is why you still need to prepare for it....[T]his thing on Imrooj was really fascinating for me because I lived there till I was about 12 years old. So my formative years were there. My father was a minister in that church, and we lived in that place. And so when I was in 8th grade we moved back here. And I went to Rita[, Majuro Atoll] and then went on to high school....After I came back from college, and I was working with the Ministry of Education, I went back there [to Imrooj], and I was like ‘What happened? Did they move the church to the shoreline?’ And they said ‘no’ – the shoreline came to the church! [Laughs]

Really, I was saddened by that. Because I was thinking eventually it's going to come all the way and the church is not going to be there. Then, you know, this thing happened and I'm like '...I need to see for myself, number one I need to do that'...[T]hese people were like 'Oh! You wouldn't believe it but the shoreline is being built up again and it's extended out there and the threat to the church is not there anymore'.

...

PRG: When I ask people about the [December 2008] flood, some people say 'It was worse than the ones we had before, so it must be climate change.' But other people say 'Oh, it's just *ialap* [spring tide]. It's that time of year. It has happened before, and other ones in the past were worse.'

X: Yeah, yeah. You see different responses. Sometimes I wonder if we were not exposed to the global discussions about climate change, would we have...Because certainly we're influenced by that. We read all these things and then you see a little thing and you say 'Oh! It might be [climate change]'. So I don't know, to tell you the truth, I don't know, but I like to think that the scientists know what they're talking about...But you know there was another island that belonged to my family on the southern part of Jaluit. It's called Piñlap....It's a pretty big island. And lush, lots of food, different kinds of things grow really well. But on the western side of the island, there's a lot of erosion. Erosion has really taken its toll. There were graves on that part. They're all falling to the ocean side....Their families belonged to my families a long time ago....So I'm like 'Wow. This is really...this whole thing on climate change might be really...' And I'd like to see – will that continue to happen? Or whether at a future date something's going to change, the current will change and bring back the sand to that side of the island....So there is this side of me that wants to believe that climate change is not going to happen, because of course I want to know that when I die that the Marshall Islands will still be there [Laughs heartily.] That's what I'd like to die knowing – that they're safe and they'll be there, but who knows. So there is that side of you that wants to believe that this climate change is just something that's temporary.

Only anecdotal evidence

In July 2009 I interviewed a fairly young man who had been extensively educated abroad. He certainly believed wholeheartedly in climate change, having written a letter a few years previous to then-president Kessai Note advocating a more proactive stance on the issue. He was also deeply convinced that the country was deteriorating more generally, as he had argued in socioeconomic reports commissioned by the Asian Development Bank and delivered to the government. Nonetheless, he expressed scepticism about whether local environmental change was truly occurring, and about whether purported changes could be attributed to global warming:

In Tuvalu and the Solomon Islands, there have been very dramatic impacts of climate change, so it grabbed their attention. But not here in the Marshall Islands. We have some small anecdotal stuff, like ooh, Mile 17 [a well-known beach] has been eroded, but not enough for people to care. And here in Majuro, it's hard to tell between what's been caused by dredging versus what's been caused by natural processes. And within the category of natural-caused effects, is it climate change, or some natural cyclical thing? I haven't made up my mind about it. Like the big erosion at Laura beach – is that caused by dredging, or a seawall, or climate change, or a cyclical process? And erosion on the outer islands, is it climate change or not?

We need long-term data to know, but we only have anecdotal evidence. Ailuk [Atoll] people say there's lots of erosion there. They had to get grant assistance to do a revetment there, because the erosion was affecting the runway. But I would be cautious to say it's because of climate change.

For this man, reception was clearly primary and conclusive, and observation secondary and inconclusive: quite explicitly, he had heard of climate change first, come to accept its reality based on the science, and only then looked for signs of it in the local environment.

The trillion-dollar problem

I interviewed an elderly woman in Majuro in June 2009. She had attended the WUTMI forum on climate change in April. Here both reception and observation come into play, and observation serves as confirmation of reception:

I live in Laura, and a lot of it has disappeared from the ocean. The pandanus trees are gone. There used to be coconut trees, but they've fallen from erosion. The waves are eroding the whole shoreline....I can confirm it. The wind is strong. Not like in the past. It has started to rain less. They say there's an island on Utrik Atoll where it hasn't rained in two years. They had to bring in a machine to make fresh water. It didn't used to be this way. Now when I go to Laura and look at the water, I can see that the water is rising. It's very clear that the water has risen. Perhaps soon it will reach the level of the road. I see it and I say 'it is very clear'...The islands are thinner now. I don't know what the government is going to do. The RMI has no money. It might take a trillion dollars. Not just in Majuro but in outer islands too there are problems. It's happening very much, from what they call *oktak in mejatoto* ('climate change')....On Utrik Atoll, I've heard that there are few breadfruit now. There used to be lots. And all the coconut trees have died. We see what the scientists are saying. Now in Laura, there are wells that used to have lots of water. It would never run out. But now it does. And I think this is part of climate change too....Sometimes coconut trees and banana trees are damaged by the wind, even though there's no typhoon. Sometimes the sound of the wind is really loud. Sometimes after just four hours of wind, a tree falls down. And I think that's probably also part of climate change because it comes from the *mejatoto* [atmosphere, climate].

The hyperconvert

Many times during my fieldwork in 2009 I talked to a 65-year-old Majuro resident, well educated and involved at a high level in the government for many decades. In June 2009 he told me:

Just yesterday, NOAA [The US National Oceanic and Atmospheric Administration] gave a warning – they said not to expect any rain till July in the North Pacific. But today [June 21st], it's really rainy! So even *they* don't know what's going to happen – that's how screwed up the seasons are now.

...

See that island there? [Points to a small island.] Those trees there have been eaten away and are falling down....It's June now, and it's dry. In my 65 years in the Marshall Islands, I've

never seen a dry summer. And I've seen an island *disappear* in Majuro lagoon. It's the one just south of Kalalin. That island is gone like you dropped an A-bomb on it. Water now comes to where my mother used to grow flowers. On the small islands of Majuro, you'll see what I consider to be an extraordinary algal bloom – there's tons of seaweed growing. These blooms used to just come and go in a matter of days to weeks, but now they stay for 12 to 18 months. It's *spooky*. [He shows me the seaweed growing in the very shallow water in the lagoon next to his house]. It's not too strange if it's here in D-U-D, because we know how environmentally damaged this area is. But if it's out on the small islands of Majuro, which should be more pristine, that is scary....Mile 17 has lost all of its beach sand. Tides are higher now. Fish species are changing too. Now we have saltwater catfish. We've never seen them before. They have no name in Marshallese. And more *whales* are being seen, off the ocean side – and one time recently a whale even came into the lagoon. And there are new bird species, because of climate change. Everything is changing. This is supposed to be the rainy season right now, but it's dry!...Jacques Cousteau gave a warning about all of this at the 1991 Rio meeting. What he said then is happening now, exactly as he predicted. At the time, he was looked on as a naysayer, someone who was exaggerating. But he was right.

Such a man could be called a 'hyperconvert' to the notion of climate change. He is so confident that climate change is real that even an example of scientific prediction gone awry is taken as yet more confirmation that the world has changed beyond recognition and that climate change is therefore real. Strongly convinced by reception, his observation becomes equally confident, to such an extent that he sees signs of climate change in nearly everything. Such observations then strengthen his confidence in the scientific theory, which in turn encourages him to see more signs of it, and so forth, so that reception and observation work in a virtuous cycle and the man is ever more convinced of both.

Conclusion

This chapter has described the sources of information about climate change that are available to Marshall Islanders, the corresponding variety of ways in which locals become aware of the threat of climate change, and the way that these sources of information interact and become intertwined. In the next chapter I will analyze how this unified body of knowledge, gleaned from three sources, is morally and ideologically interpreted.

Chapter 4: Climate change as cultural entropy

In this chapter I will examine the way in which Marshall Islanders have come to frame climate change as an instance of cultural entropy. Demonstrating such a framing would be trivial if Marshall Islanders explicitly pointed to the conceptual connection between the two discourses, but they only very rarely do so. I recorded just one instance of such an overt statement. The following comes from an interview, in a combination of Marshallese and English, with a well-educated woman associated with WUTMI:

PRG: Why is climate change happening?

X: Because of all this man-made stuff, like [motor]boats and high buildings...*I think the climate change is like the custom change.* It's the same thing. Because of all these new things.

PRG: Who is making it happen?

X: Us people. Including Marshall Islanders. Because we follow American culture [*mantin palle*]. We make big buildings....Before we used to rely on local things. And it was good. But now it is not.

Here she explicitly links climate change with entropy, using the English phrase 'custom change' as her gloss for what I have been calling 'entropy' ('I think the climate change is like the custom change. It's the same thing.'). Furthermore, she makes the reasons for the analogy clear: both discourses posit decline ('it was good. But now it is not.')

caused by Marshall Islanders ('Us people. Including Marshall Islanders') abandoning their culture ('local things') in favour of American culture ('we follow *mantin palle* [American culture]') and relying on foreign goods ('[motor]boats and high buildings', 'all these new things').

But this explicit remark is a rare instance. Usually, the framing of climate change as cultural entropy is only implicit. This is not surprising. While Marshall Islanders are self-conscious about their 'tradition', they are not self-conscious about traditionalism; there is a metaculture, but no meta-metaculture. They have a word for their tradition, but no word for their traditionalism and its accompanying narrative of entropy; they have not substantivized traditionalism. Thus, we would not expect them to say, in so many words, 'Climate change is just like cultural entropy', or 'We think about climate change in terms of traditionalism'.

Rather, the framing is implicit, and must be inferred from the assumptions inherent in the way Marshall Islanders talk and reason about climate change. Given this, it is tempting to claim that we know Marshall Islanders frame climate change as cultural entropy because they blame themselves for climate change, just as they blame themselves for cultural entropy (see next chapter). This, however, would be circular reasoning: it would be the argument that Marshall Islanders blame themselves for climate change because they frame it as cultural entropy, and we know that they frame climate change as cultural entropy because they blame themselves for climate change.

Instead, I will present evidence, largely independent of blame narratives, strongly suggesting that Marshall Islanders frame climate change as cultural entropy. This evidence will come from five case studies of Marshallese attitudes towards climate change. In addition to providing evidence of the traditionalist, entropic framing of climate change, the cases also have ethnographic value in themselves, broadening and enriching this thesis's portrait of Marshallese reactions to various aspects of climate change. Thereafter, I will argue that this conflation of climate change and cultural entropy can explain why most Marshall Islanders profess belief in the scientific notion of climate change, as well as fairly high levels of concern. I will then explore these findings in light of Mary Douglas's group-grid theory and her more general theory of cultural cognition.

Entropy and the mistranslation of 'climate change'

I begin this section by describing an event with no seeming relation to climate change or its perceptions. On July 22, 2009, a total solar eclipse was visible from several inhabited atolls in the Marshall Islands. Astronomers' prediction of the eclipse had been announced well beforehand on the radio and in the Marshall Islands Journal; nearly everyone had heard about it. The event was called, simply, 'the darkness' (*marok eo*): locals were told that for

several minutes in the afternoon, the sun would be blocked and the world would turn dark like night.

I was on Leb Island, within the path of totality, when the eclipse occurred. I waited for the arrival of the eclipse on the leeward shore, the centre of village life on this island. Four local men waited with me. They were highly curious about the event and asked me many questions about what would happen; they assumed that I, being a *ripālle*, would know. I demonstrated, with my hands, the position of the moon between the sun and the earth, blocking the sun's light. I told them that as a result the world would slowly become dark and there would then be a few minutes of dusk, after which the light would return. While they appeared to trust my knowledge of the subject, the explanation only partially satisfied them, and their questions continued.

As the light began to grow crepuscular and the sun turned black, the men expressed amazement. They had never witnessed a total solar eclipse before, nor had anyone else on the island. Some locals had gone to church; the church bell had been rung to announce the eclipse. Other people had stayed indoors, frightened by the strangeness of the event, and prayed to God. (Some locals had also been alarmed by an unannounced lunar eclipse several years before.) Some saw the event as a possible sign of coming End Times. A young man told me 'In the Bible it says that when the last day comes, God will perform miracles [*men in kabbwilōñlōñ*]. Well, this darkness was a miracle.' So were End Times coming, I asked? 'No one can know', he replied. 'Only God knows.' But that did not prevent him from speculating.

Within the path of totality—Leb and Kili Islands; Jaluit, Namorik, Ujae, Lae, and Eniwetok Atolls; and most of Ailinglaplap and Namu Atolls—the event was widely cited as evidence for scientists' ability to predict the future. Outside of the path of totality, however, reactions were more mixed. The eclipse was only partial: the sun looked as it always does and the world turned only slightly darker. The radio and newspaper had failed to clearly inform people that the path of totality would pass through only some of the atolls, and that

islands outside of this path would experience only modest darkening. Also, many people had thought that the scientists had predicted truly *night*-like darkness, and that this darkness would last until the next morning. On Arno Island, Arno Atoll (Elise Berman, personal communication), a number of families had stayed in their homes during the eclipse: they ordered the children indoors, closed the doors and windows, and announced that the day's work was over, that night was coming, and it was time to sleep. Thus, when the darkening turned out to be trifling and short-lived, some took this as a disconfirmation of the scientific prophecy. Some other people outside of the path of totality, such as people I talked to on Mejit Island, were nonetheless impressed by the event.

Life quickly returned to normal afterwards, but the eclipse had nonetheless left an impression on many communities. Indeed, in a development I did not foresee, the eclipse had altered people's attitudes towards the threat of climate change. It was not simply that the event had reconfigured, along the lines of the path of totality, people's trust of the scientific powers of prediction, and therefore their trust of scientists' predictions of climate change. It was also that the event itself had been considered linked to climate change. After the eclipse, when I asked people on Leb Island, Mejit Island, and Majuro if the climate (*mejatoto*) had changed or stayed the same since the past, many answered 'It has changed – the sun went dark.' The eclipse was thus being cited as evidence for, and indeed an example of, climate change. More generally, the event was viewed as indicative of both climate change and cultural entropy; here the 'two' phenomena were seen as not just metaphorically equivalent, but indeed literally synonymous. To understand how this came to be, I now examine the translation of 'climate change' into the Marshallese language.

The Marshallese language being the society's vernacular, the dissemination of the scientific idea of climate change depends on its translation from English to Marshallese. Several translations of climate change have been attempted in the Marshall Islands. One common method of translating climate change is simply to import the English phrases

‘climate change’, ‘global warming’, and ‘greenhouse effect’ into the Marshallese language as borrowed phrases, essentially becoming loanwords. Many locals are familiar with these terms, especially ‘climate change’, and they are used fairly often, even by individuals speaking in Marshallese who have little knowledge of English. Even more commonly, English ‘climate change’ is translated as Marshallese *oktak in mejatoto*. When I asked survey respondents who had heard of the English phrase ‘climate change’ to define it, of the 75 who gave an answer to the question, the majority (76%) answered ‘*oktak in mejatoto*’ or a close variant thereof. Thus, the Marshallese translation of English ‘climate change’ that has stuck is *oktak in mejatoto*, and even when locals use the English phrase ‘climate change’ what they have in mind is the Marshallese phrase *oktak in mejatoto*. It is therefore this translation on which I will focus.³⁰

The first two words are unproblematic. *Oktak* means ‘change’ (noun), ‘difference’, or ‘different’ and is used in essentially the same way as the corresponding English words. *In* means ‘of’, the construction ‘[Noun1] in [Noun2]’ being equivalent to the English compound noun ‘[Noun2] [Noun1]’. The translation here is thus straightforward and presents no difficulties.

The third word, *mejatoto*, which is intended to stand for English ‘climate’, is far more problematic. No two words in Marshallese neatly correspond to ‘weather’ and ‘climate’ in English. To begin with, Marshallese offers no way to distinguish, with a single word, between ‘meteorological conditions in the short term’ (‘weather’) and ‘average meteorological conditions in the long term’ (‘climate’). But this issue of time scale is not the translational difficulty that concerns us most; the one that concerns us most is whether one

³⁰ Occasionally the phrase is instead *jānij in mejatoto* (‘change of the *mejatoto*’), *ukoktak in mejatoto* (‘continuous change of the *mejatoto*’), or *oktak ko ilo mejatoto* (‘changes in the *mejatoto*’). But these are insignificant differences: they differ only in the word for ‘change’ and in the exact construction of the phrase; meanwhile, *mejatoto* is the same in each case, and that is what matters, as I will discuss.

Another method of importing the concept is to translate ‘global warming’ rather than climate change. It is rendered simply as *okmāānān* (‘warming’) or *okmāānān ilo laḷ in* (‘warming in the world’), and these phrases are sometimes used to refer to climate change in general. However, this translation is much less common than *oktak in mejatoto*.

can, in Marshallese, find a word which refers *only* to what we call meteorological conditions (regardless of whether they are in the short term or the long term) and not to anything else. This is, in fact, impossible in Marshallese. Two words are close candidates. One is *lañ*: it can mean ‘weather’, but also ‘sky’ and ‘heaven’ (Abo et al. 1976: 175). The other word is *mejatoto*, which can mean ‘weather’ or ‘climate’, but also ‘air’, ‘atmosphere’, and ‘[outer] space’ (Ibid.: 202). Thus, no Marshallese word refers only to what English speakers would consider meteorological conditions: each word has other referents as well. *Mejatoto*, as I said, is defined by the Marshallese-English dictionary (Abo et al. 1976) as ‘climate’, ‘atmosphere’, ‘air’, and ‘space’ – so it extends beyond what English speakers mean by ‘climate.’ However, the meaning is broader even than the dictionary indicates. Indeed, as I will show, *mejatoto* can encompass nearly anything.

Firstly, *mejatoto* can refer to ‘environmental’ or ‘physical’ phenomena far beyond what we would call ‘climate.’ To provide a rather modest example: on Mejit Island, an informant considered the dwindling of mud at the bottom of a pond—a process that English speakers would not consider part of the climate per se—to constitute a change in the *mejatoto*. Even time itself can count as part of the *mejatoto*. As I stated previously, many Marshall Islanders claim that the passing of time has accelerated since the past. Locals frequently cite this as a change in the *mejatoto*, and the fact that time is accelerating is yet more corroboration of scientists’ prediction of *oktak in mejatoto*. Disease, too, is often cited as a change in the *mejatoto*.

Mejatoto can also encompass what we would consider purely ‘sociocultural’, rather than ‘environmental’ or ‘physical’, phenomena. When I asked if the *mejatoto* had changed since the past, or stayed the same, a number of interviewees cited purely ‘social’ phenomena, specifically instances of cultural entropy:

Yes. People are not like they were in the past. The culture has changed.

Yes. People are lazy now.

Yes. The *mejatoto* is bad now – people don't cooperate within their families like they used to.

Yes. People are very different now. Life has changed. They don't take care of each other like they used to. In the past, people would make thatched houses together – all of the people on this island, from one to end to the other, would help each other together to do it.

Thus, the meaning of *mejatoto* is quite broad. Certainly the canonical meaning of *mejatoto* is something like what English speakers would call 'climate': temperature, precipitation, and wind are the most common referents. But, as I have shown, the term encompasses far more. *Mejatoto* is not so much 'climate' as 'environment' in the widest possible sense, or 'cosmos': the whole scheme of things, including both what we would call nature and what we would call culture. It is therefore akin to the Inuit word *sila*, which English speakers clumsily render as 'air', 'weather', or 'climate', but whose true meaning is closer to English 'cosmos' (Leduc 2007).

Thus there is a lexical gap, or 'lacuna', in the Marshallese language where English has the word 'climate.' What can a translator do when he or she encounters a lacuna? Recalling the principles of translation theory outlined in Chapter 1, there are two basic possibilities. The translator can use a 'foreignizing' translation. In the Marshall Islands, we saw this in the case of borrowing the English phrase 'climate change' without attempting to find an equivalent in Marshallese; but since Marshall Islanders evidently have the Marshallese phrase *oktak in mejatoto* in mind when they hear and say 'climate change'—since they assume that the foreign word 'climate' must mean *mejatoto*, due to the superficial resemblance between the two—the problem remains unsolved. The other option for the translator is to perform a 'domesticating' translation in which the mismatch is simply ignored, and the closest lexical equivalent is used, discrepancies be damned. In the Marshall Islands, we see this with the translation *mejatoto*, giving rise to *oktak in mejatoto* as the standard translation of 'climate change.' Thus, translators of 'climate change' in the Marshall Islands sacrificed a great deal of fidelity for the sake of transparency. The result is a phrase that feels perfectly familiar, untechnical, and comprehensible to locals, but is severely unfaithful to climate science. *Oktak in mejatoto* is thus what translators sometimes call a *belle infidèle*: an unfaithful beauty.

This incommensurability is also unsurprising because there is a deeper *conceptual*, not merely linguistic, discrepancy at work. The conceptual conflation of ‘nature’ and ‘culture’ inherent in the word *mejatoto* is not a lexical fluke or accident. It is deeply set in Marshallese thinking, as in many of the nature-culture conflating societies mentioned in Chapter 1. Interviewees sometimes responded to my questions about environmental issues (or, rather, what Westerners would intuitively classify as such) with statements about sociocultural issues (as Westerners intuitively classify them). The categories ‘environmental’ and ‘sociocultural’ were, to a large extent, my own and not my informants’: for them, the ‘two’ topics were one. For instance, interviewing an elderly man on Jaluit Atoll in August 2009 in the Marshallese language, I repeatedly broached what I considered ‘environmental’ matters, yet he answered with what I considered ‘sociocultural’ statements:

PRG: Has the climate [*mejatoto*] changed since the past, or has it stayed the same?

X: It has changed. These days belong to Americans. Everything is different....People nowadays don’t know the ancient way and the ancient language. They don’t know Marshallese tradition. Marshallese tradition is on the brink of disappearing because of money. Money damages tradition. We don’t feed people. We follow the American way now....We eat lots of [imported] rice now, and less Marshallese food. People don’t know how to eat coconut seedlings or breadfruit. They only want to eat rice...There’s no Marshallese food on this island now.

PRG: Has the ocean changed since the past, or has it stayed the same?

X: It has changed. And why is that? Because people seek money, so they hunt lots of clams, so there are fewer of them nowadays. Nowadays you use motorboats instead of canoes, and the price of gas is high. If you don’t have a canoe, you suffer because you have to pay a lot for gas....

PRG: Has the weather [*lañ*] changed since the past, or stayed the same?

X: The *mejatoto* is different from the past. They used to perform *katu* [traditional weather forecasting]. If they said next month it will rain, they were right – it would rain. Now they don’t know how. Only a few know, but they don’t teach any children....No one is interested in learning traditional weather forecasting. They only want to learn American-style navigation.

Later in the interview I discovered that the man did indeed have opinions on what Westerners would call ‘environmental’ change and was fully aware of the scientific concept of global warming. Thus his ‘sociocultural’ answers to my ‘environmental’ questions did not stem from a lack of interest in ‘environmental’ issues, but rather from a conceptual blending between the ‘two’ domains.

Indeed, ‘nature’ cannot be linguistically distinguished from ‘culture’ in the Marshall Islands. *Manit*, as we have seen, is roughly equivalent to English ‘culture’ (or ‘tradition’, ‘manner’, ‘way’), but there is no term translatable as ‘nature.’³¹ *Peḷaak* and *meḷan* may refer to the environment, but in the sense of surroundings, not in any broader or more abstract conceptual sense of nature. One’s *peḷaak* or *meḷan* refers as easily to ‘social’ surroundings as to ‘natural’ surroundings. For instance, *ipeḷaakin*—roughly, ‘in the *peḷaak* of’—simply means ‘around.’

Given the above comments, it is unsurprising that I received answers, such as the following, to my question of whether the *mejatoto* had changed or stayed the same since the past:

Yes. The darkness [solar eclipse] happened. And it’s hotter. The sea comes closer to the land. Coconut trees have fallen down from this. Also, it’s much faster these days. Daytime comes quickly nowadays.

Time is really fast now. You chat and, before you realize it, it’s already midnight. It’s faster than before. Maybe it’s part of ‘climate change.’...These days you work only for money. People rely less on Marshallese food now....I think that’s why there are plenty of typhoons, earthquakes, and illnesses [in the world] – because of climate change.

Similarly, when I asked a man in Majuro if he believed what scientists said about ‘climate change’ (using the English phrase), he replied: ‘I think it may be true. Because I see that the *mejatoto* is not very good nowadays. Life is harder. Goods are expensive. The sun is stronger....And there are improper relations between kin.’ I then asked him why the *mejatoto* was changing, and he answered ‘Maybe because life is harder nowadays and things of that sort.’

Thus a whole slew of perturbations—cosmic, meteorological, geological, oceanic, temporal, moral, cultural, economic—varying from the cost of living to violation of kinship taboos, counted as signs of *oktak in mejatoto*. In this way it is absurdly easy for Marshall

³¹ The quite exhaustive Marshallese-English Dictionary (Abo et al. 1976) lists no such a word, nor have I encountered one in 19 months spent in the country. A few well-educated locals sporadically use the English term ‘mother nature’, and very occasionally the term is imported into Marshallese as *jinen peḷaak*, ‘the mother of the surroundings’, but few people are familiar with this phrase and it is only rarely used.

Islanders to believe in climate change. If almost any change can count as an alteration in the *mejatoto*, and if the Marshallese discourse of change is vigorous to the point of obsession, then embracing the notion of *oktak in mejatoto* hardly requires a leap of faith: indeed, the universe positively teems with confirmation. The realm of what I have called ‘observation’ becomes incredibly wide, encompassing not just the ‘environmental’ changes described in Chapter 3, but also the ‘cultural’ changes described in Chapter 2. For the same reason that it becomes easy to believe in climate change, it becomes easy to link it to, indeed conflate it with, cultural entropy.

To express this in terms of Sperber’s aforementioned epidemiology of representations (2006 [1985]), scientists have a ‘mental representation’ of climate change as an alteration of temperature, precipitation, storm activity, seasonality, and the like. This mental representation cannot be directly communicated to publics such as Marshall Islanders, but must be conveyed via a medium: a ‘public representation’, namely the phrase ‘climate change’ and later *oktak in mejatoto*. This phrase is then reconstructed by the target audience into a ‘mental representation’ that may be radically different from the scientists’ mental representation. In the process of reconstruction, gaps are filled by prior assumptions: in this case, Marshall Islanders’ conflation of nature and culture and their conviction in a declining universe.

It should be noted that this ‘mis’translation was not a deliberate strategy: I spoke to many Marshallese climate change activists, and most of the individuals responsible for the educational activities, and none of them described to me a conscious deliberation over the proper translation of ‘climate change’ into Marshallese or the repercussions thereof. Thus, the rendering of climate change as *oktak in mejatoto* is what we could call a ‘fortuitous mistranslation’: an accidental misrendering of a concept that ends up easing rather than impeding its importation into another culture.

I now present more evidence that climate change and cultural entropy are conflated, an effect of both the high salience of cultural entropy and the mistranslation of climate change that I have discussed.

People blame climatic changes on cultural decline. Here are some answers to the survey question ‘Why is the climate [*mejatoto*] changing?’, which I asked to those respondents who had reported local meteorological (not just ‘cultural’) change from the past:

Because tradition has lessened.

Because we don’t cherish [*kōjparok*] our tradition.

Because people’s lives are different, so the climate [*mejatoto*] is different.

Because life is harder these days. Fathers and sons hate each other.

Because life and culture in this country have changed, because of the things that come from foreign countries. We watch movies and copy the violence we see on them.

Because these days are different from the past.

Maybe because life is harder these days, and things like that.

From what I hear, it’s because life has become harder.

Other answers to this question—indeed, very many of them—blame local climatic changes on the same items and entities that cultural entropy is blamed on: technology, development, population growth, and the like:

There are more chemicals now. Technology.

Because there are lots of goods [*mweiuk*] nowadays.

My opinion is that it’s because of heavy equipment. We used to have one road leveller. Now we have many pavers. And there are more big ships now.

It’s because of life changes. Population growth causes problems in the environment. Cars contribute to pollution. There is more waste.

Some islands are different now because construction has damaged them. And there are no trees now in Majuro.

Development here changes the climate.

Because of all those things that they do over there – technology.

Because there are more engines, vehicles, and so forth.

There are lots of houses now, so there are no trees.

We don't depend any more on what we should depend on. And many Marshall Islanders have left the country.

It's from the chemical emissions. These things come from the Majuro power plant. Nowadays Marshall Islanders only rarely use [traditional] earth ovens [*um*].

Because there are more people than before.

Similarly, some answers to the survey question 'What is "climate change"?' (using the English term for climate change, thus querying people's notions of the scientific concept) reveal a conceptual conflation of environmental entropy and social entropy. 'Climate change' was defined as:

Changes in the climate (*mejatoto*). All things that happen in a country.

Changes in the climate, life, and all sorts of things.

Changes in the climate and changes in people's lives.

Change of life, change of climate.

Changes in the world.

Overall weather. Everything changing from the original way that they've always been.

As all of the sets of answers above reveal, climate change comes to be seen as a cause, an effect, and an example of cultural entropy.

Emic conceptual linkages between climate change and cultural entropy are also obvious in the ease and fluidity with which interviewees segue between the 'two' discourses. Recall the interview titled 'Human-caused harms' in Chapter 3: the first woman moves easily between discussion of climate change and discussion of cultural entropy. Another example comes from a 55-year-old female survey respondent from Rairok, Majuro Atoll. When I asked if the country had changed since the past, her answer skirted the line between global warming and traditional decline:

It has changed....Marshallese tradition is gone. The *mejatoto* is different. People hate each other more than before. There are more houses. People don't look after each other like they used to. The *mejatoto* has changed. The goodness of these islands has disappeared.

A female government employee in Majuro who had attended the WUTMI climate change forum in April began with a litany of purely 'environmental' observations:

X: We can see climate change with our own eyes. It's hotter – you go outside and it's hot. The soil is dry and salty from ocean water. Trees and plants are dying from the salt. Wells are running dry. This is all because of 'climate change'. This is in the outer islands...In Majuro, there are problems with water supply. There's not enough water....Families see that their water catchments are empty....Plants are dying in Majuro because of the sunny weather.
PRG: What about in the past?

X: It used to rain at least once a week. The plants grew well. Nowadays it's really hot.

Then she segued seamlessly into a discussion of 'sociocultural' changes, then back into 'environmental' changes, and back once again, until the distinction between the two had disappeared:

X: One reason for the changes is that families don't have enough money. There are more people in each family. People live by money (*mour kōn mani*). In a family there are only two people working, but many in the family. So there's not enough money. People get ill from not having enough water and food. Also, the islands are getting smaller – you see them getting smaller and smaller....It started around 1985. When I came here from the outer islands, I saw the end of Laura and it was very long. Now it's not. I met a pastor from Mejit [Island] who says that coconuts and breadfruit there on Mejit used to be this big [gestures very large] but are now this big [gestures much smaller]. And the water catchments there are running empty. The breadfruit trees have no fruit. We're sure that this is because of 'climate change'. The soil is bad too, from 'climate change'.

PRG: Why is 'climate change' happening?

X: Well, I believe in what the Bible says. There will be a time of big wars, sickness, the rich getting richer and poor getting poorer. People will go hungry. I read this in the Bible. So maybe it is the time for this. So we're scared but we know we cannot do anything about it.

PRG: So you're talking about End Times?

X: It's coming closer. When we observe people nowadays, we see that they hate each other. That's not like before. We used to love each other, go together with each other.

PRG: Why has this change happened?

X: There's not enough food and not enough money to provide, and not enough space for everyone to live. And there's inflation, also, and too many people. The salaries are staying the same, but the prices of everything else are going up....[Eventually] climate change will make people leave the country.

PRG: Will anyone stay in the Marshall Islands despite climate change?

X: Maybe a few. We love our islands. We don't like Chinese! It looks like the Chinese are going to take over the country.

Many of the examples above indicate the ease with which all sorts of ills can be blamed on climate change. Recall from Chapter 2 that one of the many signs of entropy that Marshall Islanders point to is the decline of arrowroot (*makmōk*), a former staple crop now harvested in only small quantities. Locals on many islands claim that it no longer grows in the size and abundance of the past. Some local explanations for this decline, such as the notion that people nowadays are too lazy or addicted to imported food to bother tending the arrowroot plants, follow the usual attributional tendencies of the cultural entropy narrative. But many locals on various islands also give a special explanation for the plant's decline: the

effect of lingering radiation from nuclear testing. As in other societies with histories of atomic pollution (Broad and Orlove 2007: 289), many woes are blamed on radiation in this country; these woes include, for instance, discoloured breadfruit, diabetes, short lifespans, hermaphroditic pigs, and (sometimes) the December 2008 flood. Though certainly far less salient than the abandonment of tradition, radiation functions in the same manner as a catch-all explanation for disturbing events. Now climate change is beginning to supplant radiation in this role: climate change is the new radiation. During my fieldwork in 2007, radiation was a very common explanation for the decline of arrowroot. By 2009, some locals had started to blame climate change. For instance, a well-educated middle-aged man involved in education in Majuro told me that he had observed coral bleaching and erosion on Jaluit Atoll; the latter was so pronounced, he told me with a laugh, that at one particular house the water at high tide came close enough to the house to go fishing from indoors. When I asked him why this was occurring, he said:

X: It could be sea level rise. The North and South Pole – a photo shows how it’s getting hotter. There’s sea level rise and ‘global warming’ there. In the past, it wasn’t so hot here in the Marshall Islands. Now it’s hotter. It used to be just *warm*. There used to be no droughts. There used to be arrowroot, but now it’s gone.

PRG: Why is arrowroot gone?

X: I think maybe because it can’t survive above a certain temperature. The sun heats up the dirt. Even at night, the soil is still hot. Look at those coconut trees right there. You see, the fronds aren’t pure green – they are yellowish and brownish. The coconuts there are small.

PRG: Because of the sun?

X: Yes.

The fact that both radiation and climate change are tempting explanatory accounts for the decline of arrowroot is unsurprising when we consider the similarities between the two phenomena. Both are complex, invisible, and inscrutable, poorly understood even by foreign experts, with the potential to influence a wide range of objects and conditions. (Even confining oneself to ‘environmental’ harms, the range of potential attribution is quite broad: recall the ‘hyperconvert’ from Chapter 3 who found it possible to blame climate change for an extremely wide variety of physical perturbations that he had observed.) Radiation and climate change belong to a wider range of phenomena that invite such ‘promiscuous

attribution': for instance the El Niño weather pattern, which late-1990s Californians blamed for all manner of perturbations (Sturken 2001: 186-7), or mining operations on particular Pacific Islands (Connell 2003: 98). Now a new candidate for promiscuous attribution has appeared on the ideational scene: climate change – and its enlistment as a blanket explanatory strategy appears to be occurring not only in the Marshall Islands, but also in Greenland (Nuttall 2009: 293) and Tuvalu (Connell 2003: 98).

In their theory of risk society, Beck (1992) and Giddens (1999) write about the emergence of a new world system in which nature as a separate concept and physical force has been lost. As shown by the Marshallese case, as well as countless other cases mentioned in Chapter 1, such a society is nothing new; even some Westerners believe human morality is registered in the 'natural' environment (Endfield and Nash 2002; see also Roepstorff 2003). Beck and Giddens are thus mistaken to suppose that 'post-nature' societies are unique to modernity; nonetheless, they are insightful in their analysis of the characteristics of such societies. If nothing is 'natural', if human influence has extended everywhere, then any harm may be anthropogenic and blameworthy. Moreover, if the harm's causation is (as in the case of climate change) invisible and mysterious, then it may be in operation anywhere; to not be able to *see* the causation anywhere is to be able to *perceive* it everywhere. Natural and human disasters become one, and the cosmos is rife with evidence of human folly. In the Marshall Islands, the endpoint is not merely that climate change is *like* cultural entropy, but that climate change *is* cultural entropy.

Entropy and the erosion of a graveyard

This case study concerns the local interpretation of the erosion of an ancient cemetery on Piñlap Island, Jaluit Atoll. This is by no means the only cemetery now succumbing to erosion; as I stated in Chapter 3, various accounts of eroding cemeteries on several islands were told to me. The erosion of the Piñlap cemetery, however, is of particular relevance to

climate change attitudes: as I will explore, local lore accords the graveyard a special connection to sea level rise and thus its erosion is particularly resonant vis-à-vis conceptions of global warming.

The Piñlap graveyard is called the Bōn, a word that has no meaning in Marshallese other than its reference to this burial site; other cemeteries are called *wūliej*. It is considered the resting place of the ancestors of a particular *jowi* (clan) called the Ripako—literally Shark People—who are said to hail from Piñlap. Jaluit Atoll people consider this clan to be extinct, although some individuals, not true members of the clan but descended from them, are sometimes considered Ripako in a loose sense and may carry faint traces of their former qualities. The Ripako are known first and foremost for their erstwhile ability to magically control the weather. Ripako clanspeople could summon or banish storms, typhoons, wind, and waves. These powers included the ability to stop sea level rise: if waves were threatening to rise to the level of the island, the Shark People could calm them.

It is important to note in this connection that the fear of inundation in this low-lying archipelago did not begin in the era of global climate change. Recall the storms, mentioned in Chapter 2, that could flood or obliterate entire islands. Having always been vulnerable to the sea, Marshall Islanders developed supernatural safeguards against flooding centuries before global warming-induced sea level rise and the scientific prediction of nationwide inundation. Adelbert von Chamisso learned of such magical protections during his stay in the islands in 1817:

A well-known danger threatens all low islands from the sea, and religious belief often holds this rod above the people. But conjuring helps against this...Kadu [an islander] saw the sea rise to the feet of the coconut trees, but it was abjured in time and returned to its borders. He named two men and a woman for us who understand this conjuring. [1986 [1821]: 278]

A century later, Erdland (1914: 320-1) described an elaborate magical formula for protecting islands from storm surges. Today, a few Marshall Islanders perform spells called *jabwi* (cognate with *tapu* [taboo] in Polynesian languages [Bender et al. 2003]) to protect the shoreline from flooding and erosion – one magically treats a bottle and then buries it in the

ground at the place one wishes to protect. It is said ‘*Jabwi* so that waves don’t come’ (‘*Jabwi bwe en jab itok ño’*). Some houses and a pandanus grove in Majuro are said to be protected in this way, and to have been unaffected by the December 2008 flood as a result. A few people believe that protective magic of this sort is the reason why the Marshall Islands still exists; if not for those powers, the islands would have been destroyed by the sea many centuries ago.

The Ripako thus had no monopoly on ocean magic, but their power over the weather and the sea is considered to have been particularly prodigious. Various stories of Ripako powers are told today. One man told me of his aunt—not truly a Ripako but related to them and possessed of some of their power—and her heroism during the famously destructive 1958 typhoon on Jaluit:

She went to the ocean side where the big waves were, trying to stop the waves from coming in. I don’t know whether it was coincidence or just luck, but that particular spot where she went, the waves did not [enter], so that place was saved...Everyone went to that particular place with her, and were saved.

But the best known tale of the Shark People’s powers occurred in the more distant past. It is said that a few centuries ago, an American or European sailing ship arrived on the uninhabited ocean side of Piñlap Island. The visitors dropped anchor and came ashore. There they found a boy fishing by himself. They kidnapped him, returned to their ship, and set sail in haste. Their choice of captive, however, was unwise, because the boy was the son of the Ripako chief. When the chief noticed the boy’s absence several hours later, he was furious. The ship was now only a speck on the western horizon, but the chief was undeterred. He summoned a storm by blowing on a magical conch shell; a wind came from the west, powerful enough to snap coconut trees, and blew the ship back to Piñlap, wrecking it on the reef. All aboard were killed except the boy, who was reunited with his father. The ship’s anchor is still visible on Piñlap’s ocean side along with chains and iron bars.

Everyone who tells the story claims that it is literally true. A few of the tellers say that the storm may have been a result of good luck rather than magical power, but no one disputes the veracity of the events themselves. This is in contrast to most Marshallese legends

(*bwebwenato* or *inoñ*), which are sometimes said to be ‘just stories’ (*bwebwenato bajjek*).

Marshallese legends usually take place in a distant, immemorial past, while the story of the kidnapers occurs in historical time. In addition, there is physical evidence of the shipwreck on Piñlap, and some informants can even trace their relation to the characters in the story.

Thus, the tale of the shipwrecked kidnapers is told not just for entertainment but as proof of the Ripako’s former powers.

In addition to their mastery of the weather, the Shark People had a special relationship with their animal namesake. It is likely that the shark was a sort of totem for the clan, as many clans had such totemic association (Erdland 1914: 116-7, 343-5), now largely forgotten even for extant clans. Some say that it was forbidden (*mō*) for Shark People to eat sharks, because to do so would be ‘like eating their own flesh and blood’ (Petrosian-Husa 2004: 47), leading to a reduction in magical power. Some say that the shark was like a god to the Shark People, and that the clan is descended from a shark ancestor. It is often said that Shark People did not fear sharks, that they could go as far as to feed one of the hungry predators out of their hands without being bitten.

The list of the Shark People’s impressive qualities continues. Ripako clansmen of the past, and their relatives today, are said to be physically imposing, strong, and tall; in former times they may have been giants (just as the ancestors in general, not just the Shark People, are often said to have been very tall.) Rekadu, the kidnapped boy in the story, is said to have grown into a strong and muscular man possessed of prodigious magical skills. Juda, his sister’s grandson (and the late grandfather of several of my informants) is described as physically impressive as well: tall, big-boned, heavy-set, with hands ‘the size of catcher’s mitts’, a master of Kōtaan Emṃaan Jibbukwi (‘between one hundred men’ – a kind of Marshallese martial arts), able to single-handedly best a team of men in feats of strength, or sail alone on a canoe without food or water. The Shark People are thus considered an example par excellence of the physical and supernatural vitality of the Marshallese ancestors.

The magical power of the Shark People is invested in the Bōn, where the Ripako ancestors are buried. A few words about graveyards as sites of cultural value in the Marshall Islands. As I stated before, in pre-Christian times Marshallese buried only chiefs on land, while dead commoners were sent out to sea. Nowadays Marshall Islanders bury their dead in the Christian fashion, in gravesites around the house or in separate cemeteries. While it is not uncommon to see children nonchalantly sitting on these newer gravestones, ancient cemeteries cannot be so casually treated; they are possessed of powerful taboos. Marshallese say ‘Your head is your graveyard’. As in many Pacific societies (Beaglehole 1941: 43; Craighill Handy 1941: 131; Firth 1963 [1936]: 15; Levy 1975: 449; Silverman 1971: 80, 235), the head is considered the highest and therefore the most sacred part of the body. Marshall Islanders say that one should not touch another person’s head, because it is precious (*aorōk*), and that one should not walk at night on the side of the house where people’s heads are lain down to sleep. Just as a graveyard is forbidden, so too is one’s head. Thus, the statement that one’s head is one’s graveyard points to both the sacredness of the head and to the sacredness of graveyards.

Sacred graveyards are said to be *mō* (forbidden, taboo) or *mōnmōn* (possessed of spiritual power; haunted; cognate with ‘mana’ in Polynesian languages [Bender et al. 2003]). These sites should not be visited casually: only relatives of the deceased should visit, or strangers must be escorted by such a relative. In addition, one should not shout or play there. Dire consequences will result from breaking these prohibitions – one will sicken and die, or a terrible storm will be created. Some locals dismiss these taboos as old superstitions, or say that they were once in force but have now weakened. But many fervently believe in the taboos surrounding graveyards: a man from Ujae Atoll warned me not to visit the graveyard of his relatives on Ebeju Island, saying that a man who had broken this rule had a terrible vision of angry spirits cutting his body into pieces and putting them into a food basket.

The Bōn fits these general remarks about graveyards; predictable taboos are associated with the site. Most people say that one must be escorted to the graveyard by someone related to the Ripako clan, and that one should not make excessive noise while visiting. Breaking these rules will result in a powerful storm that prevents one from leaving the island. Other informants say that these magical sanctions are no longer in force because of a loss of power (about which I will say more later).

The Bōn is both the source and an indicator of the Shark People's power. In some versions of the kidnapping legend, the infuriated Ripako clansman performs the storm-summoning magic at the Bōn. One man said that the graves were placed close to the shoreline because the Ripako power would help to stop typhoons that could damage the island. Many informants claim that the graves are exceptionally long, 8 to 11 feet, and a favoured explanation is the huge size of the Ripako and the Marshallese ancestors in general. An archaeological survey (Deunert et al. 1999) does not confirm that the graves are unusually large, but the more important point is that people believe they are, and the impressive size is yet another indicator of the Shark People's erstwhile power.

In August 2009 I visited the Bōn. Relatives of the now-extinct Shark People had given me permission to visit, to take photographs and notes, and to write about the site in my thesis. On Piñlap, I was escorted by a relative of the clan and a man who was spending the summer on the island to harvest copra. Erosion was dramatically evident on the island's northern lagoon shoreline, where the Bōn was located. Numerous coconut trees had fallen into the water; some still had green fronds, indicating that the tree had only recently fallen. The erosion of the Bōn, too, was plainly visible. The graveyard directly abutted the shoreline; indeed, it was difficult to determine where the Bōn ended and the shore began, as the beach was actively invading the graveyard, reclaiming it piece by piece. (See photographs below in Figure 15 to Figure 19.)



Figure 15. Piñlap Island, Jaluit Atoll



Figure 16. An area of coastal erosion near the Bōn, Piñlap Island



Figure 17. A coconut tree fallen from erosion, near the Bön, Piñlap Island



Figure 18. The beach invading the Bön, Piñlap Island



Figure 19. Gravesites at the Bōn, with visible erosion, Piñlap Island

My guides told me that the land used to extend to a rocky outcrop in the lagoon, ten feet from the current shoreline. They were unable to say exactly when the erosion of the Bōn had begun, but were certain that it had started only a few years or decades in the past. Most other informants reported the same, although a minority said that erosion had occurred previously as well. Various artefacts had appeared from the Bōn as it eroded, among them a conch horn said to have been blown by the Ripako chief to summon waves to bring back his kidnapped son, and human bones, said to be very large. When I asked my guides what would become of the Bōn in the future, one answered:

It will be gone, all of it. There is no power left in the Bōn. In the past, you wouldn't be able to do what we are doing now, standing here. Before, one should not come here or make noise here. It would cause a storm. But now you can, because the power is gone. Look at these graves. They are very long – eight or nine feet. That is how tall people were in the past. Now they are short, and weak.

My guides proceeded to take me to the ocean-side beach where the legend of the kidnapped child takes place. A huge iron anchor, ten feet long, lay exposed and rusted on the shallow reef – another indicator of the Shark People's former might.

To understand local interpretations of this erosion, I must first discuss the more general decline of the Ripako clan. Like so many things in the Marshall Islands, this clan and their powers are said to be disappearing or already gone. People point to many symptoms and signs of this decay. The clan's home island of Piñlap has been all but abandoned; it was once home to perhaps 100 people, but now on this sizeable piece of land there is only a single house compound inhabited intermittently for harvesting copra. Part of a more general decline in magical efficacy, the Bōn is losing its power and its taboo status; many say that the old supernatural sanctions against improperly visitation are no longer in force, because the powers of the clan, or the spirits of their ancestors, have vanished. One informant told me that the young people have become more assertive than their elders: when there was discussion, a few years previous, of how to save the Bōn from erosion, the young people were in charge, suggesting modern means of protection such as seawalls but never Ripako magic. Clans in general have declined greatly in importance, and some Marshall Islanders say that losing knowledge of one's clan will make one lose knowledge of Marshallese custom in general (Situation Analysis 1996: 7), and even to forget the most fundamental part of Marshallese custom, which is to take care of one another (*lale doon*).

Another reason for the decline of the Shark People was because they failed to pass on their knowledge and powers. My informant Alden Jacklick completed a genealogy based on the memory of elders on Jaluit Atoll, and he and Holden Milne demonstrated to me how the extinction had taken place. To understand this extinction, recall from Chapter 2 that in Marshallese society one is strongly of one's mother but only weakly of one's father; one inherits with ease from the former, with difficulty from the latter. As in land tenure, so in clan membership and magical power: one is partially of one's father's clan but only truly of one's mother's clan; a clan's essence can pass through a woman without weakening, but it passes through a man only in diluted form. The Shark People of Jaluit Atoll therefore died out in the following fashion. The last real Ripako clansman on Jaluit Atoll was a man named Lobokto,

born perhaps in the 18th century. He married Lijade, from the Rimae clan, meaning that their children would be truly of the Rimae clan, not the Ripako clan. Lijade and Lobokto had three sons but only one daughter, named Benam. (Some tellers of the kidnapping story say that the stolen boy was Rekadu, one of Lijade and Lobokto's sons, and the boy's magical rescuer was his father Lobokto.) The four children did not possess full Ripako powers because it was their father, not their mother, who was a Ripako; nonetheless, they did retain some of the power. The one daughter, Benam, was the best candidate to pass on these remaining Ripako powers, since she was female. She had two sons and two daughters, who, like her, had partial Ripako powers. These two daughters would have passed on the remaining Ripako powers intact, but one of those daughters, Neito, failed to produce any children, and the other daughter, Arenbok, had only one child, a daughter named Maññe. Maññe was the last one with the Ripako powers. But she had no children, so the powers vanished with her death.

The Ripako essence had been thinned each time it passed through the bottleneck of a male ancestor—in the words of one informant, 'like Kool-Aid that you keep adding water to'—until it disappeared altogether. Insufficiently zealous in producing heirs, the Ripako had allowed their powers to be lost. As one man said, 'Now the Ripako clan is no more. It is no more. It's over. It's used up. It's gone.' ('Kiiō emaat Ripako. Emaat. Ejemlōk. Emaat. Ejako.')

³² The other lines of descent in the genealogy lead to several of my informants, such as Alden Jacklick, Hilda Heine, and Carl Heine, who consider themselves related to the Shark People but would never claim to have retained any of the ancestral powers.

Thus the clansmen are extinct, their vitality dissipated, their island untended and all but deserted, while the graves of their ancestors, and the place of their magical power, are

³² Carucci reports that the Ripako of Eniwetok Atoll are also considered very nearly extinct (1997b: 57). On a nationwide scale, however, the clan is still extant. Alden Jacklick's genealogy shows that one particular line of the Ripako clan failed to produce heirs, but not that the entire Ripako clan has disappeared. Two women from Arno Atoll told me that they were true Ripako clanspeople, and that the clan was alive and well on their atoll; this Arno Atoll sect of the Ripako clan in fact claim that the Shark People originated in Arno, not in Jaluit (Petrosian-Husa 2004). Relatives of the Jaluit Atoll Shark People, however, are unaware or only dimly aware of the existence of this other sect. For them, the clan is extinct, and it is this story on which I focus.

eaten away by the same rising waters which they once were able to stop. The demise of the Shark People is, for Jaluit people, part and parcel with the demise of *manit* in general. The fate of the Bōn and the Shark People is a particularly distressing example, because the Ripako represent former Marshallese vitality in all of its glory: they commanded both the fiercest predator and the most powerful force of nature. Such weather-mastery must have been awe-inspiring in pre-colonial Marshallese society, when inter-atoll journeys were fraught with danger, when floods and extreme weather posed existential threats, and indeed when the ability to merely *forecast* the weather, let alone control it, was an enormously prestigious skill, jealously guarded by those who possessed it (see Erdland 1914: 69-92; Kramer and Nevermann 1938: 217-32). For locals, to lose the Ripako and their mastery of the most fearsome threats in the Marshallese world is perhaps to lose ancestral vitality altogether.

With this backdrop in mind, locals provide four different sorts of answers to the question of why the Bōn is eroding. 1) The erosion has been caused by local development projects: on Jabwor (Jaluit Atoll's most developed and densely populated community), lagoon dredging and the construction of a new dock; and on another islet, the artificial closing of a channel linking a pond to the sea. These projects seemed to trigger erosion: not only Piñlap, but many islands in Jaluit Atoll are said to be eroding. 2) The erosion is due to the loss of Ripako power. As the Shark People's power over the ocean wanes, their graveyard is eaten by the sea, and as the graveyard is eaten, the Shark People's power over the ocean diminishes: so the erosion of the Bōn is both a cause and an effect of diminished vitality, creating a vicious cycle of decline.³³ 3) The erosion has been caused by the violation of ancient standards of behaviour. Ripako women from Arno Atoll who I met theorized that the Bōn was eroding because Shark People from that island were breaking the traditional taboo against eating sharks. 4) The erosion is due to sea level rise from global warming.

³³ One participant in the Marshall Islands High School survey, in response to the question 'Can Marshallese people solve [climate change]? Why or why not?', wrote 'No – because of loss of Marshallese black magic skills.'

This case study corroborates the well rehearsed bromide that global climate change endangers cultural heritage (Cassar and Pender 2005; Crate 2008; Green 2009; Mitchell 2008); referring to cultural heritage sites in general, one Marshall Islander told me ‘Each time one is destroyed, we become less Marshallese.’ But there is another link between climate change and cultural heritage that this case study demonstrates: the *concepts* of the two are connected in local minds. It is not difficult to see the intimate associations between the cultural entropy narrative and discussions of the Bōn’s erosion. Both posit a former, better time when ancestral resources were secure, and explain presently experienced harms as a result of the regrettable, largely self-inflicted loss of these resources. Both tie cause and consequence tightly together in a positive feedback loop. For instance, reliance on money weakens people’s allegiance to *manit* and their weak allegiance to *manit* inspires them to rely on money; in the same way, loss of Ripako powers exacerbates the erosion of the Bōn, which in turn exacerbates the loss of Ripako powers.

Moreover, entropy is implied in each of the four aforementioned explanations of the Bōn’s erosion; conceptual similarity underlies their superficial diversity. 1) Dredging and construction are considered prime exemplars of the destructive use of outside things, the adoption of American culture against Marshallese culture. 2) The loss of Ripako powers is spoken of as a kind of cultural entropy: good ancestral things have been lost due to people’s failure to safeguard them for subsequent generations. 3) The violation of ancient standards of behaviour is, quite obviously, at the heart of the cultural entropy discourse. 4) Global warming is also, as I argue throughout this chapter, a discourse of cultural entropy. Ultimately, then, all four explanations for the erosion of the Bōn can be understood as laments about cultural entropy.

The traditionalist, entropic framing of the Bōn’s erosion is also evident in the easy segues that informants were able to make between the two discourses, such as in this conversation I had with an old man from Jaluit Atoll:

PRG: I heard that the Bōn is being eroded. Is that true?

X: Yes. Everything is changing.

PRG: Why is the Bōn eroding?

X: Because of a lack of knowledge from our ancestors. People now are really influenced by Western styles. They don't care about the old styles. They like things like bikinis. After World War II, Marshallese techniques disappeared. 1950s, 1960s – gone. Now they say 'walk' instead of *etetal*.

The framing of the Bōn's erosion as an instance of cultural entropy may also explain why Marshall Islanders tend to be more concerned about graveyard erosion than flooding. Most Majuro residents considered the December 2008 flood to be no different from previous floods, and therefore not indicative of a disturbing trend; exposure to the flood did nothing to boost concern about climate change or sea level rise (see Rudiak-Gould [in press] for details of this case study). In contrast, the erosion of the Jenrōk graveyard in Majuro and the Bōn on Piñlap are usually considered unprecedented, and the latter in particular is quite distressing to those who are familiar with it. Elsewhere (Rudiak-Gould in press) I have proposed one explanation for this divergent view: danger from the sea is expected and naturalized during the *añōneañ* season, when the 2008 flood occurred. But there is another, more interesting explanation which flows from the themes of this section. Water damage to homes does not lend itself easily to allegory: it is a practical matter with little emotional or ideological colouring. The destruction of graveyards, however, is a perfect metaphor for the ancestors under attack, the past swept away: the cultural entropy discourse in general.³⁴ For this reason people are predisposed to consider it unnatural, unprecedented, and deeply regrettable.

Entropy and resettlement discourses

Marshall Islanders are quite familiar with the possibility of wholesale exodus as a response to climate change. Outsiders have more than once advised the Marshallese to make a plan for future resettlement, or indeed to begin the process of relocation immediately. In one particularly memorable incident in June 2009, a Tongan man from the Pacific Council of

³⁴ For this insight I am indebted to Gordon Ingram.

Churches told an audience of Marshallese youth from across the country that inundation was nigh and evacuation inevitable, and they ought to begin planning immediately; I will describe this event in detail in the next section. At the Pacific Climate Change Roundtable meeting in Majuro in October 2009, Professor Patrick Nunn from the University of the South Pacific in Fiji advocated evacuation on the grounds that it is simply necessary, a suggestion reported to the people through the newspaper: ‘By 2100, I don’t see how many islands will be habitable....There are no real options in Tuvalu, the Marshall Islands and other atolls other than to move people. Anyone looking objectively at this region has to see the need for relocation.’ (Journal 2009d) In 2002, an American who had worked on Namorik Atoll in the 1960s as a Peace Corps volunteer posted a message on the Marshallese online forum Yokwe.net in which he urged the Marshallese government to buy a 40,000 acre plot on the Big Island of Hawaii as a future homeland.

Despite these exhortations, no such environmental exodus is underway. Although, as I stated in Chapter 2, some 15,000 Marshall Islanders have moved to the United States, these migrants are in no sense climate change refugees. I never met anyone in the course of interviews and participant-observation who claimed to be leaving the country due in part or in whole to climate change impacts or fears – with only one exception.³⁵ Evidently, then, locals are migrating for the same mundane economic and educational reasons as Pacific Islanders in general; the same is reportedly true in Tuvalu (Mortreux and Barnett 2009; Paton and Fairbairn-Dunlop 2010), a country which has become synonymous in the international media with climate change vulnerability and which is often erroneously reported to be in the process of evacuation or already deserted (see for instance Gore 2006).

³⁵ A government worker who spoke on condition of anonymity, he said that he was entirely sure that in 50 years the country would be 50 feet underwater. When I said that I hoped that Marshall Islanders might find a way to stay in the country, he said ‘Don’t hope. You can’t deny God’s word. It’s in the Bible.’ ‘You mean the Flood?’ I asked. ‘Yes’, he replied. He told me that he would leave the country as soon as he received his government pension.

Nor has such an evacuation been planned for, either formally or informally, at the individual, household, community, or government level. This lack of planning is not accidental, but deliberate. Most Marshall Islanders reject nationwide resettlement as a 'solution' to climate change, and refuse to resign themselves to it. When I asked survey respondents 'What should people do about climate change?' (with 80 people responding and 82 individual suggestions made between those 80 people), only 2 suggestions involved relocation or planning for relocation. Compare this to 8 suggestions for adaptation; 26 suggestions for local or global mitigation; and 17 suggestions for continued study and discussion of the problem. In the survey given to students at Marshall Islands High School, in response to the question 'Should Marshallese people do anything about climate change? If so, what?', with 52 respondents, 73% said that Marshall Islanders should do something, but only a single individual (2%) said that the response should be to relocate. To the question 'Do you intend to do anything about climate change? If so, what?', with 49 individuals responding, 61% stated that Marshall Islanders should do something, but again only one individual (2%) advocated fleeing the country. Such responses do not reflect ignorance of the severity of climate change, since climate change is often spoken of as a dramatic rise in sea level, leading to the inundation of the entire archipelago.

At the WUTMI climate change forum in April 2009, the women expressed their disapproval of the idea of climate change evacuation. The agreed-upon statement was as follows:

Even though Climate Change may be out of our control the women feel relocation to a second home is not an option at this time. Instead they urge the government to bolster education system to help prepare and build resiliency (*joorkatkat*) among people and communities in the RMI so our nation and people can sustain themselves including being knowledgeable about necessary Climate Change adaptation practices.

During the forum they pointed to the fact that such a relocation would spell the demise of *manit*, and that in a foreign country they would be treated as second-class citizens.

The Marshallese government, too, has shied away from planning for climate change relocation. The governments of every other atoll country have at least considered contingency plans or explored the option of buying land overseas (Keane 2009; Russell 2009; Schmidle 2009; Toomey 2009). But the Marshallese government has not. A submission of the Marshall Islands government to the UN Human Rights Commission stated ‘the reclassification of Marshallese as a displaced nation, or...“climate refugees”, is not only undesirable, but also unacceptable as an affront to self-determination and national dignity.’ When I asked then-president Kessai Note in 2007 whether Marshall Islanders should start planning now for evacuation, he said ‘Maybe not in our generation’, and advocated climate change mitigation instead. A foreign consultant presented several government employees with a thought experiment in which sea level rise had accelerated drastically and inundation appeared nigh; even in this hypothetical eleventh-hour scenario, the officials considered the reduction of greenhouse gases to be more important than planning for resettlement (Peter Rodgers, personal communication). The government’s 2006 Climate Change Strategic Plan (Strategic Plan 2006), issued by the Office of Environmental Planning and Policy Coordination, contains not a word about evacuating, planning for evacuation, or procuring a post-evacuation homeland. I interviewed the official in charge of this report and its associated office, Yumi Crisostomo, Director of the government’s Office of Environmental Planning and Policy Coordination, in both 2007 and 2009. In 2009 I asked her opinion of the Maldives president’s plan to purchase land abroad, and she replied that the situation in that country was different because, unlike the Marshall Islands, it did not have unlimited migration rights to another country. I then asked if this was why the Marshallese government had made no plan for climate change evacuation. She rejected this suggestion emphatically:

No, no. The main reason is that these islands are given by God. Land and people are tied together. You can go live on another land, but your heritage is in your land. It’s like the Kurds – they live in Iraq but it’s not really their land. That’s the kind of situation we want to prevent from happening to Marshallese people. We need to build resilience in order to stay in the country. We have a right. Every Marshallese person has heritage land. Everyone here can count back generations to this land. Most people in the world don’t have that, but we do.

In 2007, Crisostomo had made similar comments during our interview:

YC: We want to live in our lands for a long time. This is for the sovereignty of the nation.

PRG: Would it be good to make a plan for possible migration, even so?

YC: The reason for promoting resilience is to *prevent* that from happening. Some people say 'Migration will have to happen eventually', but I say 'Well, take you for example, you're going to die eventually, right? But that doesn't mean you're not going to do anything now.' ...We have different views on migration from Kiribati. This is our land....There are things you can do within this country. For instance, you can use customary practices to help conserve land and resources.

A few well-educated Marshall Islanders lamented, on purely pragmatic grounds, that the citizenry and the government had no Plan B for resettlement:

We don't know how many years from now when the country will be submerged. Will it be five, or ten, or what?...It's scary...to think this place will go down underwater....But if it's true, then we should know how much time we have, and what preparation we need.

Do we have any choice if the sea would be really rising? Where can we plant our trees, if the ground is really salty? What if there is a typhoon, are we safe to be on these islands? Especially talking about sea level rise, we will just eat fish every day, if no plants are growing....To go to another land is...not a comfortable idea. But the question is, are we realistic, if the sea level rise comes and covers our island with sea water, and our plants are dying, corals are hot, the corals will die because of the climate change. Fish will disappear too....That's why...the government needs to have a plan. We need to give the people options...so they can make a wise decision.

The usual position, however, is that wholesale exodus is such an unthinkable horrible eventuality that the country must not resign itself to it, at least not yet.

This sentiment was clear in many interviews that I conducted. When I asked what would happen if the country were to be washed off the map by sea level rise, the interviewee often simply said 'We will die.' Others said they would never depart, and left the resultant death to the imagination. These 'go down with the ship' statements may or may not have been meant literally but at the very least expressed the unthinkable of wholly abandoning the country:

We would die. Because everything would die. There would be no land, so all the plants and animals would die. There would be coconut trees, no pandanus trees, no breadfruit trees. Nothing would survive.

We would die. There is only one place for Marshall Islanders. There is no other place.

We will die. We will drown.

We'll just stay and wait and watch. I'm not planning for climate change. I say 'I will stay. Where would I go?' I say 'I'll just stay'. But I'm afraid. All the times I hear about it on the news, I'm scared.

I hope it doesn't happen in my lifetime. Because I don't want to go anywhere. I want to stay right here. That's what I hope for. I know it may be inevitable. But I'm just wishing it's not in my lifetime. Because if someone tells me 'go somewhere', where?...[W]here would I go and be free? And have my own land, my own house?...I think I am one of those who is in denial...When people ask me 'If it's tomorrow, everyone needs to evacuate from this island, come next month', what would I say? 'I'll stay!' [Laughs.] I'll just stay and see what happens...

I know there is going to be a time when this island will be underwater....[F]or me that's really hard, because I feel so bound to this place. I love it and I consider it my own....[I]f this happens in my lifetime, I'd rather die with this island than go elsewhere...because I feel this place is part of me and I'm part of it. It's sad for me to imagine that, but it's going to happen: in the present situation there's not much we can do. Imagine if your country was going to disappear under water....[T]here are even some Marshallese who would prefer to go to the United States. Not everyone's the same....But for me, this is the place, where I'm going to die. My grandma, my great grandma, they are all buried here, so I'll be buried here too. I can't imagine living in another country for long. [UNFPA 2009: 22]

Another interviewee explained the sentiment in the following way. In the old days of open-ocean sailing, a sailor would weather a squall by partially submerging his canoe, so that the winds would not snap the mast. When the storm passed, he would bring the canoe out of the water, bail it out, and sail to shore. That, he said, was the attitude of Marshall Islanders, and their response to sea level rise would be analogous.³⁶

The most extreme 'go down with the ship' statement that I heard was from a government worker who declined to be identified. He stated that the Marshallese response to climate change should be a sort of auto-genocide, a cultural suicide for a futureless nation. At one point he expressed it to me as follows:

If the IPCC scientists are correct, then we'll either have to build up our islands or stop reproducing, because we don't want there to be future generations with no homes. People talk about the option of migration sometimes, but I don't like it. I'm glad that I'll be dead by then. I see people who migrate these days, and they don't do well. Children growing up in an environment like that won't grow up to be normal people....I don't want my grandchildren to go live on a reservation...[T]here would be no more Marshallese people, because there won't be any more Marshall Islands. Well, that or, if it's possible to develop gills! [Laughs]

This last flippant remark—that the other option would be to grow gills—points to another indication of people's reluctance to evacuate, namely the jokey manner in which they often discuss it. As in many or perhaps all cultures, Marshallese humour disguises and

³⁶ Many Tuvaluans, too, say they would prefer to go down with the ship (Kim 2010: 71; Mortreux and Barnett 2009: 110).

dampens emotional distress: people joke about what pains them most. I have seen Marshall Islanders joke about such heavy topics as Hell and being devoured by sharks, and the experience of nuclear testing is sometimes described in what are, for an outsider, shockingly flippant terms. A man from Ujae Atoll was in stitches as he related how the people of Rongelap Atoll had irradiated themselves: they had been warned not to eat local food but just could not resist the temptation when they saw all those tasty-looking crabs and coconuts. A woman from Rongelap laughed hysterically as she explained that the 1954 H-bomb detonation (the Bravo Shot) had happened on her birthday, so it was like a birthday cake from America. A man from Likiep Atoll related his childhood memories of the Bravo Shot, producing peals of laughter in everyone listening: when the deafening sound of the atomic blast reached the island, he was sitting in the outhouse, and he ran outside in fear – ‘They say that people on Likiep were exposed. Well, I was doubly exposed!’

This sort of dark comedy is, in the words of one researcher and long-time resident of Micronesia, a ‘playful, satiric humor with a distinctive Pacific stamp that could be drawn upon even in the darkest of days.’ (Hezel 2009a: 14) It often comes out in discussions of climate change—but not at just any time, for instance when talking about whether climate change is real or who is to blame for it, but quite specifically when imagining the very worst that climate change could bring, namely the total destruction of the Marshall Islands and the death or displacement of the Marshallese people. This frequently brings on not just nervous tittering but indeed hearty laughter. Sometimes the humour comes out as a facetious way of describing this eventuality: ‘We’ll float!’, ‘Ujae won’t be very good for living, but it will be great for spearfishing!’ Sometimes it comes out as a knowingly ludicrous suggestion for solving the problem: ‘We’ll swim!’, ‘We’ll just climb up the breadfruit trees!’, ‘We’ll live in water catchments!’, ‘A ship will bring a mountain from America!’, ‘Why don’t you Americans give us the Rocky Mountains to live on?’, ‘We can go live in California – Obama will give us half the state to live in!’, ‘Has anybody claimed Antarctica?’ Sometimes there is

no witticism at all, but simply laughter while describing the horrific prospect in plain terms; the following statements were all said with hearty laughter: ‘The islands will be gone’, ‘It will be a barren island with no people’, ‘Marshall Islanders will be extinct. There will be no Marshall Islands and no Marshall Islanders.’ Indeed, locals go out of their way to joke about it. Witness all of the gallows humour in this a conversation I observed between three men in Majuro:

- A: If climate change is happening, they have to do something about it.
B: We cannot do anything except pray to God.
C: We’ll die for it. [Everyone laughs loudly.]
A: If it happens, Christian believers will say ‘Everything is in God’s hands!’ [Everyone laughs hysterically.] ‘Just wait and see!’
C: Another thing that climate change is causing is more typhoons and hurricanes in the big countries. So where would we go? If we go the high countries, we would die there too! [Laughs]
C: I heard a joke. It goes ‘When the country sinks, will the last person to leave the Marshall Islands turn off the light?’ [Everyone laughs heartily.]
B: People have to stop smoking – it’s part of the greenhouse effect! [Everyone laughs]

Here is a discussion on the website Yokwe.net in late 2008:

- A: The best thing they can do is encourage everyone in the US to vote for the Democratic candidate for President....Other than that, donate life-preservers. Our kids and grandkids will need them.
B: I will say that the capital building will make a great dive site.
A: The US Embassy will also make for good diving....
B: ...The best we can do is build canoes, save our One Pass [frequent flyer] miles and remember what street our cousins live on in Springdale[, Arkansas].

Given the use of flippancy to express emotional distress, this climate change comedy reveals just how serious the topic is to people. Wholesale abandonment of the islands is, for Marshall Islanders, a deeply disturbing prospect, an ‘existential tragedy’ (Mortreux and Barnett 2009: 110). The literature on forced migration is replete with such sentiments. Although there are relatively positive stories in the best of circumstances and with the most enlightened of policies (Knudsen 1977; Larson 1977; Tonkinson 1977; Van Hear 1998: 180-2), resettlement programs are notoriously fraught (Campbell et al. 2005; Lieber 1977: 379; Oliver-Smith 2009: 126; Silverman 1971). Resettled communities face poorer health due to stress (Lee 1990; Moore and Smith 1995: 115), experience intense nostalgia for their old homes (Eisenbruch 1990; Lee 1990; Neumann 1997), are often forced into dependency

(Harrell-Bond 1999), and are faced with the agonizing decision between assimilation—the destruction of their past and abandonment of their origins—and the preservation of their identity—the choice to live as strangers in a strange land (Mortland 1994). ‘A lifetime’s effort may be lost, a way of life destroyed’ (Van Hear 1998: 152). As a result, there are countless examples of community resistance to government-sponsored migration programs even with apparently benevolent intentions, and to nearby in-country sites; people refuse outright to move, or move temporarily and then return (Dove 2007; Patt and Schröter 2007). Marshallese statements about climate change relocation accord well with this gloomy literature.

There *is* local confidence that some foreign country would accept Marshallese exiles, should the worst occur; no Marshall Islander ever told me that she expected the international community to simply let the population drown. Perhaps surprisingly given the close relationship between the Marshall Islands and the United States, most locals do not consider it a given that America would be the saviour. Some do assume this, saying that America is the country that takes care of (*lale*) the Marshall Islands, that the Marshall Islands is still *iunwin pein* (‘under the hand of’ – controlled and protected by) America. But many, when asked where locals would flee if the islands sank, give wider answers: ‘America, or Australia, or Japan, or places like that’; ‘Whoever is willing to take us’; ‘Somewhere high, with mountains.’ In these discussions the Marshall Islands are spoken of as low (*ettā*) and large foreign countries as high (*utiej*). People talk of going to ‘the high countries’ (*lal ko reutiej*), ‘where it is high’ (*ijo eutiej ie*), or ‘where there are mountains’ (*ijo ewōr toļ ie*).

But the confidence that a safe haven exists does not entail sanguinity about moving there. The abandonment of the country, it is often said, would kill *mantin majel*. ‘If they flee to America, they won’t know their own custom. They’ll follow what Americans do. They’ll wear shorts instead of trousers.’ ‘It would be like the Bible story of the Israelites in Egypt, not being able to follow their culture.’ ‘I think that would be the end. That will be the end of

the culture and the end of the Marshall Islands.’ ‘Our lives would be history, we would be studied in history.’ ‘It will be very hard, because you’re living by another culture. There may come a time when these islands are submerged and sink, and so will the custom and the culture.’ At the WUTMI climate change forum in April 2009, it was flatly declared by two speakers—Moriana Phillip from the EPA, and Yumi Crisostomo—that the disappearance of the country would doom the culture. I asked a senior government official about the possibility of moving to Indonesia, a country which had recently announced that it would consider renting uninhabited islands to climate change exiles (ABC 2009); the official replied ‘Relocation is *not* a solution. It would be like genocide. There would be no more Marshallese people – no language, no culture. That is *not* a solution.’

Some locals give somewhat more optimistic statements, saying that people would keep Marshallese culture in their ‘throats’ (the seat of emotion in Marshallese idioms, equivalent to the heart in Western usage) (‘Kōjparok mantin mājel ilo buroier’), acting like Americans but still retaining a Marshallese identity. Similarly, a man cited the proverb ‘The parrotfish does not forget its home’ (‘Ekmouj ejab meļokļok kōlñe eo an’) referring to the fact that this fish always returns to the same reef-hole (*kōlñe*), and metaphorically to the fact that people remember their origins. Others said that if the evacuees lived together in the foreign country, they could perhaps keep a semblance of *mantin mājel*. But no one was truly sanguine about the prospect of resettlement; even those who expressed guarded optimism about the preservation of Marshallese culture nonetheless regarded the exodus as a tragedy of the highest order.

It should also be noted that locals do not always think that current Marshallese immigrants to America have abandoned their culture. Although many speak of Marshallese transplants living by money, adopting American culture, the women wearing shorts, drinking, and flirting—all of the familiar laments about cultural entropy—not all do. Some say that Marshall Islanders retain their culture abroad, still giving tribute to their chiefs when they

visit, still gathering for Keemems, and still *lale doon* (taking care of each other). But these same optimists often say that if the islands disappeared, if the link to the homeland were severed, *mantin majeļ* could not survive (see Campbell et al. 2005: 26). As one man said:

Let's say there's no country to write back to, to communicate with people in your home country – you've lost all of that...[N]ow Marshallese people go to Arkansas and they still can pick up a telephone and talk in Marshallese to a relative here, or send a mail....Without that, it'd be easy to lose the culture altogether....We're basically going to be saying, we've lost our language, we've lost our identity, we've lost our country.

Thus, locals tend to be profoundly worried about the fate of tradition, should inundation and relocation occur. Evacuation is often spoken of as dealing the death blow to the already ill patient that is *manit*. Laments about the cultural ravages of evacuation often prompt parallel laments about pre-existing cultural decline. The man who said that evacuation would spell 'the end of the culture and the end of the Marshall Islands' then added that 'the culture is already fading away'. Similarly, a woman told me that climate change exodus would sever people's tie to their heritage land because this tie was already fraying.

In the local view, relocation would strengthen the forces of cultural decline, the already powerful temptations of foreign culture. Indeed resettlement is seen to strike at all of *manit*'s key attributes. The most fundamental loss would be land. The Marshall Islands is not merely a replaceable living space, but considered the natural seat of a particular way of life that could exist nowhere else. Recall that locals say that the Marshall Islands is God-given, that they have always inhabited it, that it is their only and eternal homeland, and that it is unique and irreplaceable. As such its abandonment and destruction would exact cultural and sentimental, not merely economic, costs (Adger et al. 2010; Campbell et al. 2005: 43; Swim et al. 2009: 77). (Recall the Bōn: it has no economic value yet its erosion nonetheless distresses locals.) It has been observed that refugees always bring with them a physical piece of their abandoned homeland (Parkin 1999); objects act as anchors for identity, their materiality making them durable in a world of fluctuation and uncertainty. If Marshall Islanders were forced to leave their country, they could take with them artefacts and

handicrafts, but they could not carry the most important piece of material culture of all, the islands, or the most important human artefact, the landscape.

The value of the country is not only that it has been given to Marshall Islanders but also that it has been given *only* to Marshall Islanders. This is crucial because Marshallese believe strongly in the power of cultural imitation. Recall from Chapter 2 that people say children are abandoning Marshallese custom simply because they are now surrounded by Americans, Chinese, and other foreigners and therefore adopt their ways. A Majuro man said, when I asked him if Marshallese evacuees could retain their culture:

Look at the way those kids grow up in Arkansas....My sister was in the military with her husband once, back 19 or 20 years ago, and when they came back, they had three kids [with them]. [All] of them [the children] went back to America...[because] none of them could speak the Marshallese language. They cannot relate to anything Marshallese....One of them grew up in Japan. He's basically Japanese. So it depends on where you grew up, and the influence. We tend to be influenced by the society and the surroundings.

When I interviewed then-president Kessai Note in 2007, he responded to the same question as follows:

It will be very difficult, because you would be living with another culture and so forth, with people from many countries, not just US. There are Orientals, African-Americans, from South America, all over Europe, all over Asia, many cultures. There may come a time when the Marshall Islands is submerged and sinks, and so will the custom or the culture. Going to another community or another place, we have to be adaptable and so forth, meaning you're compromising, so you still will survive in the new environment and new culture. I hope that doesn't happen. Sadly that may be the scenario in the future.

Marshall Islanders, then, believe in their own adaptability—they will assimilate into whatever society they find themselves in—but this is not a happy belief, because it is seen to doom Marshallese culture, especially in the case of evacuation.

Moreover, as I discussed in Chapter 2, land is the basis of life—factually for those Marshall Islanders who still rely partially on home-grown produce, and symbolically for all Marshall Islanders. Land allows subsistence, one of the emphasized and substantivized elements of tradition. To lose the land to inundation or evacuation would therefore be to trade easy abundance for *mour kōn mani*: 'living by money', the cash economy, or what we could call modernity. As one man said, imagining environmental exodus:

We won't retain our original identity, where our lives are dependent on what we caught today – I go out and I fish, I make an effort and I bring back enough. Now, I [would] go to *work*....I believe that living in the islands is a lot better off than packing up and taking your whole family with you to the unknown.

An even more poignant account of subsistence lost comes from a government minister imagining life after resettlement:

We've never been exposed to dry land where there's no water around, so we don't have any skills to make a living off of the land. We can't kill snakes. We're afraid of snakes. We've never seen a snake. And there's no fish. I'm sure that when you try to kill the birds, you get citations from the people in the government, EPA or whatever, because you're not supposed to kill the birds. There's so many restrictions what you can and cannot do. When you think about it, you are almost really better just getting yourself drowned....[Y]ou really have to re-educate people and strip them of their cultural identity...your ability to fish and your ability to hunt birds...You're almost like an alien on a different planet, because all of a sudden, you're placed in the middle of the desert. It might be better to wait for the waves to wash over you....I'm sure some people in the Marshall Islands would prefer that...If you go to the outer islands, people always hunt turtles. That's part of our culture. If you do that in Hawaii, you'll be put in jail.

Evacuation would kill land and therefore subsistence; and it would not stop there, because in the local conception subsistence and conviviality are interdependent. When I asked then-President Kessai Note in 2007 whether climate change refugees could retain Marshallese culture, he said 'If you are in America, and you live by money [*mour kōn mani*]...it will be hard to support your sister, your father, your siblings, when your house is about to be disconnected from the electricity.' A man in Majuro, imagining the same exodus scenario, similarly said 'They will live by money, every man for himself (*kwe wōt kwe*), and not take care of each other.' Subsistence lost is conviviality lost.

Land and subsistence are also the foundation of Marshallese hierarchy, as discussed in Chapter 2. If the islands were abandoned to the sea, what of the traditional power structure? It could hardly survive, in the local view. To lose the land would be to lose the *reason* that low people respect high people and the *means* by which high people support low people. A government official pointed to this when he envisioned an inundated future: 'The value would be gone because of the intrusion of saltwater...Why would I respect my traditional leaders? The land value's not there.' Marshall Islanders tend not to trust themselves to carry on respecting chiefs merely out of traditionalist fervour: they need the enforcement of chiefly

land ownership in order to remain loyal. This is part of Marshall Islanders' belief in the allure of foreign ways – the perhaps paradoxical position that traditional Marshallese life is all-fulfilling and yet that people nonetheless are easily tempted away from it.

Therefore, in the local conception, *climate change is a modernity-making device*. If nationwide evacuation were to occur, the refugees might find themselves far from poor: considering the media attention that low-lying island countries are now receiving, there might be a true deluge of international charity were they to actually be destroyed. The refugees would therefore not lack for money, but they would lack for their land; it would be the ultimate land-for-money swap, not a fair trade (McIntosh et al. 2000: 4), and exactly the thing that Marshall Islanders have been steadfastly avoiding, despite temptations, during nearly 200 years of Western influence, as I discussed in Chapter 2. Thus, in the usual Marshallese view, the evacuation of the country would be the ultimate replacement of land by money. The Marshallese would become a nation of Bikinians, on a reservation like Kili; unable to provide for themselves, living by cash instead of subsistence, and therefore modernity instead of tradition. It would be all too familiar for the country's nuclear-affected communities: land lost, the people were compensated in *money*, in the form of charity and reparations. Thus the nuclear-affected communities had in effect been forced to sell their islands, which almost no Marshall Islander has ever done willingly. A Bikinian elder famously said 'We've learned to dry our tears of sorrow with dollar bills. But money never takes the place of Bikini.' His deeper message is this: 'We've learned to dry our tears of sorrow with modernity. But modernity never takes the place of tradition.' Were the country to be abandoned to climate change, all Marshall Islanders might say 'We've learned to dry our tears of sorrow with dollar bills. But money never takes the place of the Marshall Islands.' The central point is this: Marshall Islanders' unwillingness to resign themselves to climate change evacuation is the same as their unwillingness to sell their land; it is no coincidence that Marshall Islanders are among the Pacific Islanders most hostile to both.

One might argue that despite the intimate emic connections between land and culture, Marshall Islanders are showing, through their behaviour, that in fact they are perfectly willing to abandon their heritage land – and thus tradition in general. They are happy to migrate, in droves, from the outer islands to the urban centres, and even to the United States, thus more or less voluntarily adopting a market lifestyle. There is truth to this: Marshall Islanders *have* compromised on their attachment to land, in myriad ways. Even those who remain on rural islands choose to rely more heavily on imported food than on local produce, as I discovered on Ujae (Rudiak-Gould 2009a: 35-7). But Marshall Islanders have never made the ultimate sacrifice. They do not *all* move to the urban centres or to the United States; and even when an islet has been depopulated, the names and owners of all of its land tracts are remembered – and they will never be sold. Thus, Marshall Islanders venture all the way to the point of no return, but they do not cross it. That bright line—expropriation or destruction—is the point at which it would never be possible, even in one’s imagination, to return to *mantin maje!* What appears to be a small step—selling off a land tract that is already uninhabited and providing for no one—is in fact a giant leap. When Marshall Islanders leave their heritage land, they are giving up tradition, but not the idea that one day, perhaps, they can return to it. They can enjoy what the Western world has to offer, also content in the knowledge that the most fundamental (sacred because irreversible) edict of traditionalism has been followed; the safety cord has not been cut. Their land and reefs are still there, and they can be reinhabited; the good life can be regained. To lose that land entirely would be to surrender forever the hope of returning to a state of grace. It would be like a Christian realizing that, exiled from the garden, he is also barred from heaven; he can never return to God. As one government worker said, imagining climatic exodus, ‘We [would] be a different kind of refugees, running from climate change. Other refugees, they have a place to go back to. But if you run away from the rising sea, you can’t go back.’

In the previous two paragraphs I have verged on personal speculation, extrapolating from informants' statements. Nonetheless, Marshallese views on relocation are fervent, and quite united. Equally clearly, those views are everywhere caught up in the discourse of cultural entropy. Worries about the post-relocation demise of Marshallese tradition reveal the same concerns and are expressed in the same terms as the entropy narrative. In both, land, chiefly authority, subsistence, and conviviality are under threat by the replacement of the native with the foreign. The unwillingness, thus far, to relocate or even to tentatively plan a possible relocation is also intelligible in light of entropy beliefs: what the narrative repudiates is those who give up on tradition, who surrender to entropy; relocation is seen as such an action, indeed the ultimate such action. Wholesale abandonment of the country would be the definitive gesture of rejecting *manit* and thus cannot be ideologically tolerated. Even if some Marshall Islanders consider relocation a necessity, such a view must not be loudly stated, because resignation to relocation is tantamount to a surrender to entropy.

Entropy and awareness raising

This section will describe several climate change educational sessions, arguing that local reactions to these sessions, as well as in many cases the rhetoric of the sessions themselves, reveal the conceptual associations between climate change and cultural entropy.

On June 19, 2009, several hundred Marshallese youth were filling the pews of the Uliga Protestant Church in Majuro. This was not an ordinary church service: the youth had arrived from every corner of greater Marshalldom—each inhabited outer atoll, both urban centres, and immigrant communities in Guam, Hawaii, California, Oregon, Arizona, and Oklahoma—to participate in the two-week Youth for Christ National Youth Convention, with the theme 'The Wind of Change'. Since June 14 they had been gathering each day at the church to take part in various events, including lectures on youth issues. This day's lecture was delivered through an interpreter by a Tongan man named Makoni Pulu who worked for

the Pacific Council of Churches in Fiji. This was a rare opportunity to speak directly to a wide swathe of the nation's youth, and Pulu attempted to make the most of it.

He spoke first about the general cultural challenges of the modern day. 'The wind of change has come', he declared, and named urbanization, youth suicide, Chinese immigration, and Western influence as manifestations and causes of this shift. But he had not yet broached the truly volatile issue. That issue was climate change. He had described the threat in his lecture the previous day, and now he offered three possible responses. The first was constructing seawalls. The second was planting trees along the shoreline. But he then added 'These are *not* long-term solutions.' The third response was relocation.

He began a slide show. 'One of the biggest problems is denial', he said. 'People don't want to move. People refuse to publicly consider the issue of resettlement.' He showed a photograph of coastal erosion in Funafuti, Tuvalu, saying that it would be uninhabitable in 20 years and that it was only denial that allowed people to continue building settlements in such places. 'The whole world is experiencing climate change', he said, and presented images of a flooded New Orleans, thus linking Hurricane Katrina with global warming. He cited the lack of preparation for this disaster as another example of denial. 'China is experiencing climate change, too', he said, pointing to photos of floods. 'Every area is flooding.' The continued habitation of low-lying Shanghai was yet another example of denial, according to him, as was the very existence of Nadi, Fiji. 'Climate change affects agriculture, food, everything. But people don't want to move', he said. 'The issue here is denial of the scientific evidence.' He showed photographs of water lapping up on Fijian villages, of that country's 2007 floods, of king tides washing over islands in Kiribati, and, closer to home, of sandy beaches disappearing in Majuro. 'There are places in the Pacific where people *need* to relocate', he emphasized. 'Kiribati, Tuvalu, Tokelau, and of course the Marshall Islands.'

Then he looked steadily at his audience, the youth of the nation, and said provocatively ‘*Are you ready to move?*’ The question hung heavily in the air for a moment. He continued ‘Or relocate if this climate change comes?’

Marshall Islanders are experts at projecting superficial composure in trying situations, but this was perhaps too much. The attendees were visibly uncomfortable, fidgeting and nervously shifting in their seats. Pulu softened his tone. ‘Maybe I should change the question. Are you willing to move if this comes up?’

A member of the audience asked ‘Move where?’

‘We’ll talk about that next’, Pulu replied.

The hardline approach returned. ‘People are told to move, but they don’t move – that’s *denial*.’ He offered advice for ‘coming to terms’ with resettlement, for ‘overcoming denial’: one must show people the erosion and flooding that is already occurring and provide familiar examples of previous resettlements. He challenged the assembled youth: ‘Can you tell your elders at home to move to another country? It’s important to provide information, to give options. You have to tell the story. People have already moved....Do it face to face. Talk to Marshallese people who have already left, for example in Maui, about how their lives are, how resettlement is.’

He then delved into the nitty-gritty of resettlement: destination, timing, legality, costs, and cultural issues. Governments must help, he said, because they have money, and community leaders because they have influence, but in the end it comes down to individuals – everyone must be convinced. ‘In ten to 15 years, Tuvalu will be gone’, he forecast. ‘So it’s not healthy to just keep standing while the islands sink. And New Zealand and Australia – they haven’t exactly given the green light, but they’re given the yellow light to the possibility of people from Kiribati and Tuvalu moving there. Of course, you’d lose all your coconuts, your crabs, your turtles. But those are the problems we’re going to face. Do we have a choice? Can anyone here give me a choice of where to move?’

No one answered.

‘You have told me that you have experienced the sea rising up and moving into our islands. That is real. That is reality.’ He concluded ‘I think there’s only one thing to do about climate change, and that is resettlement. Thank you very much.’

Visibly unsettled, the youth were now faced with the incongruous task of performing the light-hearted songs they had rehearsed during the previous days. But this new spectacle seemed to rescue the attendees from their despondency rather than grating against it. Four groups sang in turn, and the youth eagerly indulged in the clownery that so often accompanies such performances. As a young man conducted his group of singers, he swayed his hips comically, to the amusement of everyone; audience members were craning their necks and moving into the aisles to get a better look. Then a man inserted himself between the singers and their jester-conductor to take a photograph of the latter, and his jocular impudence was rewarded with yet more laughter from the audience. As the song finished the youth cheered and applauded furiously.

The events had concluded for the morning, and the congregation left the church. No one was visibly shaken. Perhaps their spirits had been buoyed by the musical performance, or perhaps they had simply regained their powers of outward equanimity. I conducted a sort of exit poll of people’s reactions to Pulu’s message.

I asked a young man from Ailuk Atoll ‘Is it true that Marshallese people will have to leave the country because of climate change?’

He laughed nervously at my question. ‘Well...maybe some of them’, he said.

‘Or can Marshallese people stay here forever?’

He hesitated and then said ‘Yes, stay here forever.’ He stared away from me, appearing ill at ease with the subject.

I approached a man from Ebeye. ‘What did you think of what that man said about climate change?’ I asked. ‘I don’t believe it’, he answered. ‘They say the water is entering the

land, but it's not true. If we move to those other places with mountains, well, those same mountains make typhoons and hurricanes – whereas here in the Marshall Islands there are very few typhoons and hurricanes. My mother lives in Hawaii, but I'm staying in Ebeye. See how beautiful the Marshall Islands are?' He pointed to the image of an idyllic uninhabited islet on the outside of a water bottle made by Majuro's Pacific Pure Water company. His wife was similarly unconvinced. 'Scientists have seen climate change happening', she said, 'but we don't really know. We'll just keep praying, keep praying. God said that the second time He destroyed the earth, it would be with fire, not a flood. We'll just keep praying.'

A man from Aur Atoll told me with an embarrassed laugh that the lecture was true, then quickly changed the subject; his smile did a poor job of hiding his distress. A man I knew previously from Ujae Atoll tittered anxiously when I broached the issue. 'Will Marshallese people have to leave the country?' I asked. He hesitated and answered 'Maybe. It's a very sad thing.'

As these responses suggest, people had not taken well to Pulu's message. They spoke about it only reluctantly and uncomfortably, or asserted that it was false. It seemed to fan the fires of disbelief, falling prey to the Genesis argument. Behaviour followed suit: no movement towards evacuation resulted from Pulu's speech – not a single individual resettled as a result, to my knowledge. Hoping to plant the seeds of mass exodus, he had succeeded only in ruining the afternoon of a representative cross-section of Marshallese youth.

I propose that this poor reception stems from Pulu's failure to engage properly with the narrative of cultural entropy. The presentation began well enough, as Pulu implied that climate change was part of more general changes occurring in the modern world. Thereafter he faltered. He failed to place blame for climate change on Marshall Islanders' over-reliance on foreign things; blame was not even mentioned. Without providing an ideologically appealing reason to embrace the threat, to turn it into a risk in Mary Douglas's sense, he had done nothing to prevent his audience from succumbing to the optimistic bias, the simple

desire to disbelieve that their country was doomed. Nor had he addressed the Biblical interpretations that would allow such disavowal: the reality of climate change was taken for granted, and scepticism was equated with denial. Worse than failing to engage with traditionalist entropy, he in fact contradicted it. The only proposed response that smacked of returning to customary ways was his suggestion to plant trees along the shoreline, but he dismissed it as only a short-term stopgap measure, implicitly denigrating the power of tradition to solve all problems. Meanwhile, mass migration—the total abandonment of the ancestral, traditional homeland—was not just an untraditional response but an anti-traditional one, a deliberate nationwide surrender to the forces of cultural decline, exactly what the discourse of entropy blames for entropy itself and what it discourages. Those who sought to cling tenaciously to homeland—exactly those who are celebrated by the discourse of cultural entropy—were instead derided as denialists. The cultural ravages of relocation, highly salient to the audience (as I showed in the previous section), were hardly mentioned. Indeed Pulu implicitly derided such worries when he referred to resettlement as a ‘solution’ rather than a lamentable last resort. Thus the audience’s connection to the homeland, the grounds for rejecting relocation discussed in the previous section, were belittled. Climate change concern was framed as anti-traditional when Pulu suggested that the youth be the leaders of the exodus movement, reversing the usual hierarchy; relocation was thus implied to be something that youth support and elders disapprove of, exactly the sort of thing that traditionalism repudiates. Another factor that failed to lend Pulu’s message the traditionalist stamp of approval was that Pulu himself was not Marshallese nor prestigious in the Marshallese community. Although as a Polynesian he was considered a distant cultural cousin, he was nonetheless an outsider, and following his message could be seen as being taken in by the persuasive falsehoods of foreign ways, a mistake which traditionalist entropy claims to be at the root of all suffering.³⁷

³⁷ In another inadvertent slap to local feelings, Pulu adopted a confrontational and blunt tone in a country where

This argument is, admittedly, speculative, but it becomes somewhat less so when we compare this unfavourable reception with the favourable reception of many other climate change educational sessions organized by more rhetorically savvy Marshallese insiders. The Ministry of Education's climate change-themed Education Week in February 2009 was one such event, as it was rife with *manit*-based rhetoric and intimations of entropy.

The first session in Education Week 2009 was the climate change forum for students, which I narrated in the Introduction. While the student presenters did not mention *manit* specifically, they used all of the correct traditionalist presuppositions. Climate change (like cultural entropy) was something that Marshall Islanders themselves had helped to create; climate change (like cultural entropy) was caused by using foreign things—the students mentioned cars, electricity, air conditioning, and televisions—and abandoning native things, like trees and manpower. Climate change (like cultural entropy) could be solved by relying again on native things: large ships could be replaced by *kōrkōr* (canoes), cars by walking, foreign fuel with local energy. Some of the technologies advocated, like solar power, biofuels, wind power, hydroelectricity, and bicycles are not considered traditional per se, but they could be squeezed into the category of *manit* because they rely on local things: sun, coconuts, wind, water, and human power.

The second event in Education Week was a tree-planting activity for students at Marshall Islands High School in Majuro (Steger 2009). Volunteers helped students plant trees along the ocean shore of the school to demonstrate an anti-erosion technique and to increase awareness of the threat of climate change. The assumptions of traditionalist entropy were everywhere observed. Traditional names of the trees—*utilomar*, *wōp*, *nen*, *kieb*, *arṇwe*, and others—were utilized, emphasizing that these were native species with a long history, and their contemporary absence from the Majuro shoreline was a result of the disappearance of local things. The mixed forest that would result was also blessed with a traditional name,

jāñar (referring to the forest itself) and *jelitak* (referring to the protective function of the trees). Whether pre-contact Marshallese deliberately planted such forests to protect the land from erosion is unclear, but it is irrelevant: it was presented as a traditional practice which young people nowadays had forgotten due to entropy. The solution to climate change was thus implied to be within *manit*; blame was not placed on foreign countries for causing climate change but, if anything, on locals for having abandoned ecological practices that once protected their country from oceanic harm.

The third event was a staged debate about climate change migration between Majuro's two tertiary institutions, the College of the Marshall Islands (CMI) and the University of the South Pacific (USP); as young people who might one day take part in this exodus, the issue was close to their hearts. The proposition—'Preparing Marshallese Citizens to Immigrate is the Necessary Response to Climate Change'—was to be supported by CMI and opposed by USP. At least 100 citizens were in attendance. The debate commenced with opening remarks by a young woman from CMI. 'We believe that preparing Marshallese citizens to immigrate is the necessary response to climate change because climate change is inevitable...It is necessary for us, the RMI, to prepare to immigrate as soon as possible....[W]hat will you do if your island is underwater? Not only that but your family, your dog, your cat, your pigs, your chickens. We are living on low-lying atolls and islands, and the islands are vulnerable....[C]limate change is inevitable. Thank you.'

A member of the USP camp offered a confident rebuttal. 'The first speaker from the affirmative side stated that global warming is inevitable, meaning there's no way to avoid that situation. But...it also can be reversed. Since global warming and climate change was created by man, man can also reverse the cycle....As we are Marshallese, we are proud to be here, and we will remain here for the rest of our life.' There were more cheers. The speaker concluded defiantly and assuredly 'We *do not* lack the intelligence for doing something about global warming....We can always reverse the cycle.'

A young man from CMI was the next to speak. ‘You said “inevitable” is quite nonsense. Well, if you say it’s nonsense, why don’t you go back to your house, take a yardstick—if you were here ten years ago and you claim yourself Marshallese, then you should really see the change’, he said emphatically. ‘We’ve got facts. Climate change is really happening. It’s happening all around the world. Do you guys know about Tuvalu? It’s going underwater. And do you know where Tuvalu is? It’s in the Pacific Islands. And I *know* you know where the Pacific Islands are.’ There were some cheers from the audience. ‘It’s too late to reverse it. We may slow it down, [but] I don’t think so....[T]he normal rate of rise of sea level is about 5.6 millimetres a year....It jumped to ten millimetres...In a hundred years, it possibly might jump from eight to ten *feet*. Do you think we can survive that? I don’t think so.’ A single audience member applauded. ‘...It’s also causing floods...big gigantic floods, one whole city being underwater. And not only that, there’s also droughts. Every three to five years we get droughts, and it’s getting worse. If we don’t die by drowning, we die by dehydration. What do you expect to do now?...Flooding will get worse, and this island will be underwater...If we don’t migrate, either we have gills and we can swim underwater or breathe underwater...’ The audience laughed and cheered. ‘We’re not going to survive, that’s a guarantee.’

A young woman from USP countered this. ‘Why migrate when we can do something about it?...In yesterday’s forum about climate change, we heard about what the RMI is doing to avoid this...joining the international and regional bodies, such as the UNFCCC, the United Nations Framework Convention on Climate Change, and its Kyoto Protocol. It has also put in place energy policy and action plans, and it will continue collecting, monitoring, and forecasting weather patterns. It will continue to support the use of renewable energy, such as solar energy. The key word in the forum was ‘Pacific adaptation’, or Marshall Islands adaptation – *never* migration.’ Some onlookers applauded. ‘It was agreed that migration is not a response to climate change. This is because we believe that...if we were to migrate, we

would lose our land, our culture, our identity’—there was some clapping from the spectators—‘our tradition, and especially our language. We would be aliens and treated like Indians.’ Some loud cheers were heard. ‘Secondly, if we were to migrate, we would be considered second-class citizens. Do we want that for our people?’ Amidst more cheers, the young woman added, earnestly, ‘In our own country we are first-class citizens!’ Spectators gave her yet more encouragement, and a man said ‘*Eeañ, eeañ*’ (Yes, yes). ‘...We might as well continue to live on the islands and use our health service facilities, our local medicines. Here in the Marshall Islands local medicine is free...It’s all around....And you can just say *kom̄mooltata* [thank you] and present a token of appreciation and not pay thousands of dollars. Thirdly, we should play a part to slow down and stop global warming, all together. We should cut down on electricity consumption by turning off air conditioners and enjoy our fresh air. We should build up seawalls to protect the land. We should not drive around unnecessarily.’ At this point her voice had begun to waver and she appeared tearful. ‘We should plant more trees! And we should create awareness of climate change!’

A young man from CMI was next to speak. ‘Do you have full trust in the Marshallese people? When they emigrate, they could still survive. Your culture still stands no matter what.’ This earned a few loud cheers and claps. ‘Do you trust the Marshallese people, even if they go to other countries, they could still survive because they have rich culture and abilities? Do you trust that?’

The young woman from USP managed to twist this combative question to her side’s favour: ‘We trust Marshallese people....by working together, we can pull ourselves from this disaster.’ Another young man then offered USP’s closing remarks. ‘Either we must reduce the emissions of greenhouse gases, or we must adapt to climate change....Emigrating is not the solution. Running from the problem is not the answer to it...It is also a matter of faith – faith in science, faith in people to meet the challenge, and faith that the human ingenuity and adaptability can cope with this challenge. People either choose and act for a sustainable

future, or they contribute to a growing environmental disaster. Climate change is serious and urgent...but you can make a difference.’

The first CMI student to speak gave his side’s closing remarks. ‘We still believe that emigration is the necessary response to climate change....If you don’t live, then you can’t keep your culture. If you’re going to die, where is that culture going to go to?’

In the end it was the anti-relocation side that was declared the winner. The debate’s four judges felt that both sides had argued well, so they asked one of the judges, a young climate change consultant named Mark Stege, to break the tie. As he told me later, given the strong performance of both sides, he had to decide according to the prevailing sentiment among Marshall Islanders on this issue. That prevailing sentiment was, as I discussed in the previous section, against the idea of relocation.

More relevant to the current discussion, however, is how the issue was argued in the debate. While the two sides advocated opposite responses to climate change, both framed the issue in essentially identical terms which owed much to the narrative of traditionalist entropy. Neither side of the debate implied that tradition was irrelevant to the issue of relocation, or that relocation’s affront to tradition should be simply accepted. Rather, they both presented themselves as being the voice of reason in the defence of threatened *manit* – the pro-migration side by saying that tradition could not survive if the people drowned and the anti-migration side by saying that they were protecting Marshallese culture from a culturally devastating move. The value of Marshallese tradition was constantly affirmed: the pro-relocation side argued that the richness of Marshallese tradition would allow it to survive abroad, and stated patriotically that they trusted Marshall Islanders to maintain their culture despite environmental exodus; meanwhile, the anti-migration side argued that the richness of Marshallese tradition, its reliance on good native things (‘our local medicines’) and a convivial, unmoneyed lifestyle (‘local medicine is free...It’s all around....And you can just say *kom̄mooltata* [thank you] and present a token of appreciation and not pay thousands of

dollars.’) were the reason it should never be surrendered to evacuation. Never were foreign countries blamed: when it was asserted that climate change could be stopped, it was always actions by Marshallese citizens or by the government that were cited, and mitigation was equated, as usual, with weaning the nation off of foreign artefacts (‘We should cut down on electricity consumption by turning off air conditioners and enjoy our fresh air....We should not drive around unnecessarily.’). The two sides differed only in their level of optimism about *manit*’s fortitude, not in their moral attitude towards *manit* itself; this mirrors the entropy discourse more widely, in which some are more optimistic than others in their assessments of how much Marshall Islanders can, or will, stem the tide of entropy.

Education Week’s final event was an Energy Fair with slogan ‘Conserve Energy Now!’ Students were given pamphlets in Marshallese listing ways to reduce energy consumption. While curtailing climate change was not the only reason given for such measures, the inclusion of the Energy Fair in the climate change-themed Education Week implied that local energy conservation was a method of combating climate change – another instance in which climate change was implied to be caused by an addiction to foreign things.

Moreover, Education Week as a whole was blessed with a traditional name: ‘*Dienbwijrok*’, a rare Marshallese word meaning the ‘final meal together before an impending disaster’ (Abo et al. 1976: 55). (The full name of the theme was ‘Dienbwijrok: Jeļā bwe jen pojak’ [‘Dienbwijrok: Know so that we can prepare’]). Thus the organizers followed the Marshallese penchant, described in Chapter 2, of adopting slogans in *kajin etto*, the old Marshallese language, in order to lend an air of traditionalism to the initiative – a sentiment which the entire week upheld.

Similar use of entropic framing can be seen in WUTMI climate change workshops, unsurprising considering this organization’s self-presentation as culturally conservative even as it advocates change (as I discussed in Chapter 3). The WUTMI climate change forum in April 2009, attended by about 70 women, began with a presentation by Yumi Crisostomo.

She stated that climate change posed a severe threat because Marshall Islanders live so close to the ocean: *mantin etto* (the old way), she said, was to *mour jān lojet* (live from the sea). She summarized the climate change impacts expected in the next 50 or 100 years: a temperature rise of four degrees Fahrenheit, coral bleaching, increased droughts and extreme weather, and several feet of sea level rise. As a result, she said, *manit ko ad*, our customs, could disappear. If there is no Marshall Islands, she asked, where will we take our culture? While other low-lying island nations, she said, were searching for land abroad to resettle, the Marshallese government considers such a response unacceptable. Industrialized nations were largely responsible for the problem, she stated, and should therefore provide funding for adaptation, just as they paid compensation for nuclear harms. Crisostomo summarized the Marshallese government's plans to prepare for and combat climate change, including energy policies, environmental monitoring, conservation activities, and campaigns abroad. She also suggested measures that ordinary Marshall Islanders could adopt, such as conserving energy and water, planting trees, avoiding the use of styrofoam, and turning off air conditioners.

Moriana Phillip, from the EPA, was next to speak. She said that women were especially vulnerable to climate change and its impacts on water resources, due to customary roles in which they use water for cooking, cleaning, washing children, and otherwise taking care of the family. Climate change, she said, could destroy the land of *jibbwid im jimmaad* (literally 'other grandmothers and grandfathers', figuratively 'our ancestors') and doom *mantin majel*. As just one example of this, particular plants that grow near the shoreline, necessary for traditional medicine given to postpartum women, could be wiped out by coastal erosion. While Kiribati and Tuvalu had expressed a willingness to abandon their islands and move to Australia or New Zealand in 50 years, Marshall Islanders reject this idea, she said. Individual actions that could combat climate change and reduce its impacts included recycling water containers, building seawalls, conserving energy, safeguarding marine resources, and working with industrialized nations to reduce greenhouse gas emissions.

Terry Keju, the EPA's Deputy General Manager, pointed to coral bleaching and sea level rise as major impacts of climate change, and stated that these impacts would in turn weaken traditions of land- and sea-based subsistence. 'Our knowledge revolves around our lands, our environment', he said. 'Our culture will be greatly impacted. We can't just take our traditional and cultural knowledge and start practicing it in places like Arkansas.'

At one point during the proceedings, an attendee (the woman whose statements I presented in the previous chapter in the section 'Human-caused harms') raised her hand and commented, much to the amusement of the audience, that the presenters were themselves, at that very moment, using styrofoam cups. Rather than retorting that their contribution to climate change was negligible, the presenters reacted with embarrassment, and one of them tried to quietly slip his styrofoam cup out of sight.

Thus traditionalist entropy was invoked. Climate change was presented as another on an already long list of threats to *manit*. The abandonment of the archipelago was spoken of as an unacceptable resignation to entropy. Although Yumi Crisostomo placed primary responsibility on foreign countries, following the government's usual blame strategy, there were also many nods to self-blame, such as the suggestion that climate could be combated by abandoning certain foreign things (styrofoam, air conditioners) and using more local things (like native trees).

The WUTMI climate change forum in July 2009 employed similar rhetoric. Marie Maddison introduced the topic of the conference: 'What can we do about climate change [*oktak in mejatoto*], changes in weather [*oktak in lañ*], and preserving our surroundings [*kōjparok peḷaak ko peḷaakid*]?' Angeline Heine, the National Energy Planner at the Ministry of Resources and Development, explained the difference between renewable and non-renewable energy, saying that the Marshall Islands uses large amounts of non-renewable energy imported from *laḷ ko rōḷḷap*, 'the big countries', the industrial nations. Michael Honeth, a non-Marshallese working for the EPA, speaking through a translator, stated that the

climate change one sees today comes from human activities. Climate change impacts, he said, are also exacerbated by local actions such as dredging, pollution of the reef, deforestation, and overfishing. Marshall Islanders, too, added greenhouse gases to the atmosphere. (The translator added: ‘Our lives and our tradition will be damaged.’) Although there was not much that such a small country could do, Marshall Islanders could work with other countries, conserve their own resources, curtail destructive development practices, limit dredging, and encourage each other not to throw garbage on the reef; but such actions, he added, could be difficult because Marshall Islanders, like people everywhere, were tempted by modern conveniences such as cars and air conditioning, forgetting about the future harms that these things would cause.

I then presented in Marshallese, explicitly suggesting a traditionalist interpretation of climate change. Acutely aware of the fact that I was not Marshallese, and wary of the potential anti-traditional air that this fact could lend to my speech, I presented my comments not as personal opinions but as the collected, synthesized consensus of the many Marshall Islanders I had spoken to about climate change; the fact that WUTMI had invited me to speak and that I was speaking in Marshallese also helped minimize such ideological pitfalls.

Marshall Islanders had told me, I said, that the loss of the islands would spell the demise of the culture, that monetary compensation for this loss would tragically reminiscent of the country’s nuclear past, and that it was therefore imperative to prevent such a dreadful eventuality. Changing the country’s energy base represented only a tiny action in global terms, but it could nonetheless be symbolic of commitment and concern vis-à-vis climate change. Marshall Islanders, I argued, had dealt with sea level rise in the past, through their use of Ripako magic. If supernatural incantations were the old method of combating sea level rise, a newer but still ‘traditional’ method could be to adopt renewable energy and plant trees on the shoreline. Technologies like solar power, I said, while not part of the old ways, were still ‘traditional’ in that they relied on local resources—*ejjeļok wōñāān*, they are free of

charge, like all things in *mantin majel*—and they have zero carbon emissions. In this way, renewable energy was consonant with *manit*, and by helping to stop climate change it could also help save that same *manit*.

Daisy Alik-Momotaro concluded the forum by reiterating that it is ‘we’ human beings who are the cause of climatic damages; the Bible, she said, states that we ought to be good stewards of the earth.

In a climate change-themed radio broadcast organized by WUTMI later in the same month, I gave a shortened version of the same speech. A WUTMI-affiliated woman added some words, including the following: ‘It is us people [*kōj make armej*] who are doing it, ruining [*kōkurre*] the world. God gave us intelligence [*kōlmān!ōkjen*] so that we won’t do things like driving cars so much, using air conditioning and styrofoam cups, because they ruin the environment. We must save our small islands.’ Again climate change was blamed on the Marshallese over-reliance on foreign things.

The WUTMI Executive Board meeting in August 2009 was similar. This conference unfolded over the course of six days, and included many presentations on issues other than climate change; I will focus here on the parts of the conference most directly relevant to climate change. The patriotic, traditionalist air commenced during the opening ceremony. Important traditional leaders, including Lerooj Neimat Reimers and Irooj!ap!ap Mike Kabua, were in attendance, sanctioning the event with chiefly authority. The national anthem was sung:

I love the islands where I was born	<i>Ij iōkwe !ōk aelōñ ko ijo iaar !otak ie</i>
The surroundings, the paths, the	<i>Me!an ko ie, im ia! ko ie, im iaieo ko</i>
gatherings	<i>ie</i>
I will never leave because it is my	<i>Ijāmin ilōk jān e bwe ijo jikū e!ool</i>
true home	
And my inheritance forever	<i>Im aō !āmoran indeeo</i>
It is best that I die there	<i>E!man!ōk ñe inaaj mej ie</i>

Mona Levy-Strauss offered some opening remarks, weaving together climate change with other entropic worries:

Things are not good for us Marshallese these days. There is more disease – diabetes and cancer – and we don't teach our children *manit*. There is climate change now in our surroundings, and increased warming in the world. It is not far away now! WUTMI is doing its part about climate change by hosting meetings. Our islands are low, and damages can come quickly to us from sea level rise. We Marshallese women need to come together and help each other.

Another speaker in the opening ceremony, the Honorable Matthew, stated:

We must remain Marshall Islanders. Even if we go to America or Japan for school, when we come back we must still be Marshallese. We need to hold on to our *manit*, because it's a heritage from our ancestors, and a gift from God...*Manit* is important. We learn it from our mothers. But soon we'll be learning it from *foreigners* in schools! Marshallese life is a good life – respect is paramount.

A group of women performed a climate change-themed song composed by one of them, the Rongelapese woman whose statements I presented in the previous chapter in the section 'Visions of destruction'. The song began with the proverb 'Limaro pikpikūr kōlo eo'; this could be loosely translated as 'Women, shake the spirit' and refers to the role of Marshallese women in lending morale and invigorating men and communities in their endeavours:

Women, shake the spirit
 Women, mothers of these islands:
 don't hesitate to contribute; don't
 neglect your duties to this world
 Wake up, woman, from your sleep,
 for there is no time left to dally
 Women, this is our time
 ...
 When 'climate change' and 'global
 warming' take effect
 We will see changes in the world
 The ocean and lagoon waters will
 heat up, and the food of the reef may
 disappear
 If the warming is large
 The wells will run dry
 The plants of these islands will fade
 like the heat of the day fades in the
 evening
 We must find a way for the future of
 these islands, because now we are in
 trouble and difficulty

Limaro pikpikūr kōlo eo
Limaro, jinen aelōñ kein: kwōjab
itwelōk ijo ikijjiem; jab jijet kōn ijo
koṇaam ṇan laḷ in am
Ruj tok, le, jān am kiki, bwe emaat
ijen ad aepādpād
Limaroro, ej kab tōre eo tōre ad in
 ...
Ñe enaaj baj jeppet kūtien climate
change global warming
Jenaaj lo oktak ko an laḷ in
Lōjet eo ilik im iar in aelōñ kein
renaaj okmāāññ, im mōñā in ioon
pedped remarōñ jako
Eḷaññe enaaj ḷap okmāāññ
Aebōj laḷ renaaj eḷlaḷlaḷ
Keinikkan ko i aelōñ kein renaaj
aemedḷok
 ...
Jeaikuj in pukōt kilen ilju eo an
aelōñ kein, bwe kiiō jepād ilo abañ
im pen

Several presentations on climate change were conducted on the following day. I presented again in Marshallese, giving a speech similar to the one I had given previously. I encouraged the idea that erstwhile Ripako powers to calm the waves prove that concern about sea level rise and shoreline protection are part of Marshallese tradition. Climate change, I

said, could harm tradition by destroying coral, degrading the land through salinization and drought, and thus making subsistence and its attendant conviviality more difficult. The erosion of the islands could destroy heritage land, undermine respect for chiefs, and destroy ancient graves, all important parts of *mantin etto*, the old way. Methods of tackling climate change included reducing the use of motorboats in favour of canoes and planting trees on the shoreline. Both carried additional benefits to *manit*, because canoes are part of Marshallese heritage and native trees provide Marshallese food and medicine. I also suggested that Marshall Islanders should complain about climate change to large industrial countries. If all these things were done, perhaps *manit* could be saved from the threat of climate change.

Yumi Crisostomo presented again. She explained the causation of climate change: the atmosphere was like a blanket that was smothering the earth. She assured the audience that climate change was definitely true, that 95% of scientists agreed on this. Even if there was no hope, and sea level rise would destroy the Marshall Islands, people needed to prepare so that they could somehow stay in the country. Although the big countries were the true culprits in this tragedy, Marshall Islanders could try to adapt. They could also pray to God. Another EPA employee reiterated Yumi's statement about blame: 'We have not made climate change happen. It is the big countries [*lal ko rōllap*], with their industry, that are doing it'.

Two days later, another presentation touched on climate change. Angeline Heine, in a talk on 'Energy and Gender', emphasized the difference between renewable and non-renewable energy sources. The difference, in her account, was not merely that the former lasts forever while the latter does not, but also that the former comes from resources within the country, while the latter comes from resources outside the country. 'In the Marshall Islands we take a lot of things from outside the country', she said. '90% of our energy comes from oil... "Climate change" means "*oktak in mejatoto*". It comes from using oil. This is making a hole in the atmosphere.' 'Renewable' was thus equated with 'local', itself nearly synonymous with 'traditional', and thus even modern technologies such as solar power could

be seen as authentic to *manit*. Heine provided suggestions for conserving energy. Renewable energy sources like wind, water, ocean, and sunlight are never exhausted (*rejaje maat*), and do not damage (*kòkurre*) the *mejatoto* nor waste (*kòkurre*) money. She passed out pamphlets in Marshallese describing 12 methods of reducing electricity usage.

In many ways by now too obvious to spell out, traditionalist entropy was invoked in this conference. There were, to be sure, a few discordant notes. Yumi Crisostomo from the Office of Environmental Planning and Policy Coordination had assumed traditionalist decline, but put a largely other-blame spin on it, in contrast to WUTMI and most ‘ordinary’ Marshall Islanders; I will have more to say about this differing governmental perspective in the next chapter. In my second presentation, I had also suggested a measure of other-blame, though I advocated local mitigation as well. Still, premises and concerns consonant with traditionalist entropy dominated throughout. There was also, as we have seen, some use of Christian rhetoric, but it was less salient than traditionalist rhetoric, following this country’s usual pattern which I mentioned previously.

All of these WUTMI- and Ministry of Education-organized events were well received. When I talked to audience members during, immediately after, or months after the events, they always described the events in positive terms; they were happy to speak at length about climate change (as was evident in many of the statements in Chapter 3) and almost always professed belief in it. For instance, after the July WUTMI forum, two *lerooj* (female chiefs) expressed their concern about climate change, said they wished to learn more, praised the forum for educating citizens about the threat, and said they would give serious thought to the role traditional leaders ought to play in the country’s response. This reception was utterly unlike people’s reactions to Pulu’s presentation, when attendees seemed uncomfortable with the topic and desirous of denying its severity.

I suggest that this divergent reception stems primarily from WUTMI’s and the Ministry of Education’s framing of climate change in terms of traditionalist entropy, and

Pulu's failure to do so. In the language of certain research in public relations mentioned in Chapter 1 (Werder 2006), WUTMI's and the Ministry of Education's tack is a 'persuasive strategy', presenting the issue in normative terms, while Pulu's was an 'informative strategy': he presented imminent inundation simply as a fact and encouraged evacuation on purely pragmatic, survivalist grounds. As predicted by previous research (Ibid.), the former approach appears to have outperformed the latter. I stated before that WUTMI's efforts have probably been instrumental in raising awareness of climate change since the beginning of 2009. If so, the *manit*-based rhetorical strategy discussed here is almost certainly one of the reasons. The increasingly popular framing of climate change as cultural entropy may also help to explain why Marshall Islanders seemed significantly more at ease with the subject of global warming, more active in responding to it, and less likely to deny its reality in 2009 than in 2007 (see Rudiak-Gould 2009a for a summary of my findings from 2007); by 2009 the society had found a way to make conceptual peace with global warming, and its popularity as a focus of conversation and action have thus increased. The evidence here cannot be said to be highly conclusive or rigorous, as I did not keep an exact tally of climate change attitudes before and after each of the educational sessions, nor would such *post hoc ergo propter hoc* reasoning be conclusive on its own. However, this section does provide circumstantial evidence for the effect of entropic framing, shows the way in which educational speakers have often employed the rhetoric of cultural entropy, and can be considered at the very least illustrative of patterns established more convincingly through this chapter as a whole.

Entropy and Marshallese conservationism

The subsumption of climate change into the discourse of entropy is also demonstrated by Marshallese conservationist discourse more generally. I have space only to say a few words on this issue, as this thesis focuses specifically on climate change rather than

Marshallese responses to other 'environmental' issues. However, this brief discussion provides more evidence that climate change is subsumed into entropy, and also provides a sense of the easy conceptual fit between 'environmentalist' ideology and discourses of traditionalist entropy.

The global environmental movement tends to posit a former pristine state of the world, a time when the natural world was bountiful, benign, and correct, and juxtaposes this vision with present-day degradation and the promise of catastrophic ruin in the future (see Easterbrook 1996; Hulme 2009: 342-8; Norgaard 2002). This decline, it asserts, is the fault of human beings, who through foolishness or greed have embraced technologies whose seductiveness is matched only by their destructiveness. The former goodness cannot be wholly regained, but people can safeguard what is left of it by casting aside destructive artefacts and habits. Environmentalism thus invokes feelings of *loss* of an unspoiled past (Hulme 2009: 342-4), *fear* of a cataclysmic future (Douglas and Wildavsky 1982: 127; Hulme 2009: 345-8), and *guilt* for having caused this degeneration (Swim et al. 2009: 85-6), as well as, potentially, more pleasant emotions associated with staunching the loss, allaying the fear, and atoning for the guilt. Borrowing religious terminology, Mike Hulme calls the environmentalist narrative of loss 'lamenting Eden' and the environmentalist narrative of fear 'presaging Apocalypse' (Hulme 2009: 342-8). Regarding fear and guilt, Mary Douglas and Aaron Wildavsky write that the dominant discourse of sectarian societies, including more radical environmentalist movements, 'expects life in the future to undergo a radical change for the worse. It is not confident that the disaster can be averted. There may be no time left. But it knows how the disaster has been caused: corrupt worldliness.' (1982: 127) They continue: 'in a secular civilization nature plays the role of grand arbiter of human designs more plausibly than God.' (Ibid.)

It is not difficult to see the close conceptual fit between these general characteristics of Western (and now worldwide) environmentalist discourse, and the presuppositions of

Marshallese cultural entropy. Both are, ultimately, about defending what is left of an erstwhile abundance. Usually, the ‘grand arbiter of human designs’ in the Marshall Islands is neither nature (for which they have no category) nor God (recall the greater discursive salience of tradition), but *manit*: it is the omnibenevolent protector and avenger.

The framing of resource decline—what a Westerner might call environmental degradation—as a loss of *manit* is implicit in much discourse on the issue. We see it in an interview with a MIMRA employee charged with the task of helping local Marshallese communities conserve their resources:

Mangrove[s] provid[e] the haven, the fish nursery, for growing out these plants that are able to reduce the erosion. Traditionally, our ancestors understood this – that this system was here for a reason. And they had their systems of management as well. But with growing economic interest and rapidly changed society, a lot of outside influence...[and] more focus on making more money...[people are] chopping down the trees...Traditionally, these weren’t practices – cutting down trees on the shoreline. They were known windbreakers. We have traditional names for them....You would rarely see people chop them down a long time ago, because that’s what they were there for. Our ancestors understand their purposes.

Here resource stewardship is an aspect of traditional culture, and its decline is part of the decline of traditional culture in general.

Accordingly, Marshallese conservationist initiatives are frequently justified on traditionalist grounds. As I mentioned previously, *aelōñ kein* (these islands), a phrase used to refer to the Marshall Islands, has a folk etymology attached to it: *ae* is said to refer to the sea, *lōñ* to the sky, and *kein* to the land; this is used to argue that the careful protection of the islands’ resources is a traditional practice (for instance see Henry 2009). In a poster announcing laws that restrict the harvest of sea turtles, the slogan reads ‘Preserve sea turtles! Preserve tradition!’ (See Figure 20 below.)



Figure 20. Conservationist poster, Majuro

Another example of this sort of rhetoric is what is called the *m̧* system. Reminiscent of various other Pacific societies (Beaglehole 1941: 64; Sahlins 1958: 7), a Marshallese chief may declare particularly resource-rich atolls, islands, and reefs to be *m̧* (taboo, forbidden), belonging to himself alone, with no subordinate tenants, unexploitable except with his express permission (Mason 1987). Such a practice is now enthusiastically cited as evidence that conservationism is traditional.³⁸ Marshallese activists speak of *m̧* areas as ‘traditional conservation sites’, ‘an act of sustainability by our ancestors’, ‘a way to sustain livelihoods on these islands, so you don’t overharvest your resources’. As one well-educated man in Majuro said:

In the past, they had the *m̧* system – the *m̧* of the chief. You needed the chief’s permission to go there. And now people say ‘We need to set aside certain places to conserve natural resources.’ But we Marshallese have already been doing that – it just wasn’t in a textbook yet!

The *m̧* system is a particularly good candidate for traditionalist, entropic framing for other reasons as well. It expresses, as all aspects of *maņin maņej!* should, the power and wisdom of

³⁸ It is not entirely clear whether this was the true, or the only, purpose of the *m̧* system in the past. Expert opinions differ: some claim that the *m̧* system was intended to safeguard resources such as sea turtle and bird nesting grounds (Mason 1987: 13; also see Bridges and McClatchey 2009: 144; Fosberg 1955: 14), while others claim that it was merely an expression of the chief’s power (Milton Zackios, personal communication; Tobin 1952: 11-12). If the latter is correct, then the modern notion of the *m̧* system as a conservationist strategy may attest more to the present-day need to justify initiatives in terms of *maņit* (and the tendency in Marshallese discourse to idealize the past) than it does to an ancient Marshallese ethos of environmental stewardship. We simply do not know, but this is irrelevant to the point I am making in this section.

the chiefly establishment. Moreover it fits entropic assumptions: the practice was once widespread and vigorous, then weakened in the historical era (in this case due to Japanese administrators who declared *mō* reefs to be accessible to everyone [Tobin 1952: 11], and also due to the more general decline of chiefly privileges), and now in need of revival.

Thus, ‘environmental’ stewardship becomes part of *manit*, and ‘environmental’ woes are conceived to stem from, like all other bad things, the abandonment of tradition.

Marshallese environmentalism becomes an anti-modern discourse. In particular, conservationism taps into the Marshallese value of subsistence, the notion that the natural world once provided abundantly, guaranteeing a life of ease and harmony. Continuing with the interview above, I asked ‘Thinking long-term about all these issues, and climate change especially, do you think that Marshallese people will be able to stay in this country in the future, in 50 years, 100 years?’ Suddenly the man grew contemplative, and his speech became quieter; it seemed the subject was now close to his heart. It became clear that, for him, the ultimate purpose of his job was to use traditional wisdom to preserve what he could of a former lifestyle of easy subsistence. He answered:

That’s a good question. That’s one of the reasons that I’m really passionate about what I do. I’m trying to ensure that—and this is more of a personal answer now—trying to ensure that my kids and my future are still able to enjoy what I’m enjoying now. God forbid that we all move to Arkansas. We always joke about that. [Laughs.] That would really be losing who I am, losing my identity, just become an Arkansan. That’s one of the reasons that I’m really trying to work with these communities to help them develop this....[We need] at least to slow down the impact – local solutions not requiring high-tech raising [of] the atoll, but living the way we used to live.

For the same reason, environmentalism lends itself easily to the temporal dimension of the cultural entropy discourse, the binary opposition between then and now (recall Figure 5 in Chapter 2). This is obvious in the cartoon presented below in Figure 21.

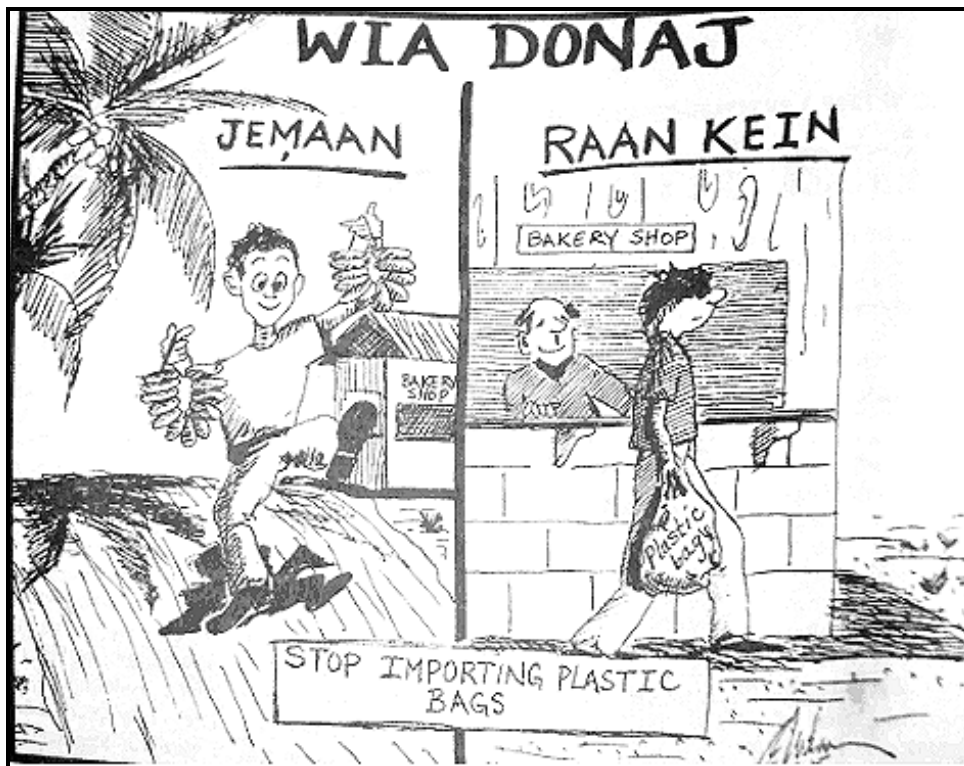


Figure 21. Cartoon in the Marshall Islands Journal, 31 May 2002 p. 10

The top line reads ‘Buying donuts’; on the left is the past (*jemaan*) and on the right the present (*raan kein*). It is tempting to borrow a line from Voltaire, who famously said that if God did not exist, it would be necessary to invent him. In the Marshall Islands, if climate change were not real, people would have had to invent it. The idea that a formerly benign, orderly, and ‘correct’ climate is becoming malignant, chaotic, and ‘wrong’ accords perfectly with the same belief regarding culture. As a result, it is entirely possible (although we can never know for certain) that even if no environmental changes were occurring, and scientists had never brought news of global warming, Marshall Islanders would nonetheless report a worsening climate.

Environmentalism also fits the spatial dimension of the entropy discourse:

‘environmental’ concerns can easily be expressed according to an outer islands-urban centre binary. Students in Majuro wrote pairs of poems that contrasted the pristineness of the outer islands with the uncleanliness of the urban centres (Journal 2008c). All were similar to the following pair, by Hadel Latni:

‘Majuro Lagoon’
There is a lagoon
Contaminated and
polluted
Dirty!
Little fishes groan
and weep
Their gardens vanish.
Majuro!
Come one come all
Let’s clean the lagoon
And save it for all.

‘Happy Life’
My island
One and only
Full of happiness.
Lovely gardens
Sparkling lagoons
No pollution
Very clean
No trash anywhere
Out in my island
Healthy and peaceful!

Environmentalism also accords with the foreign-native and American-Marshallese binaries of the entropy discourse. Objects that harm the environment, including those that cause climate change, are perceived to originate from outside of the country, to be the trappings of *mantin pālle*, the American way, rather than *mantin majel*. For instance, recall the statement of the woman in the ‘Human-caused harms’ section in Chapter 3, speaking about the WUTMI climate change forum in April 2009:

We learned that styrofoam cups are bad. They were brought here from outside the country – they didn’t come from here. People throw them away and it’s bad....it damages the coral. There was nothing like styrofoam before in the Marshall Islands – it came from *other* countries....We have too many things from outsiders – like money. We don’t rely on our own things anymore. We depend on outside things.

This equation of ‘foreign’ with ‘environmentally harmful’ is also obvious in the way in which various ‘environmental’ damage causers are conflated into a single category, and different ‘environmental’ damages are conflated into a single category as well. That is, Marshall Islanders do not tend to conceive of the situation in the manner indicated in Figure 22, but rather in the manner indicated in Figure 23.

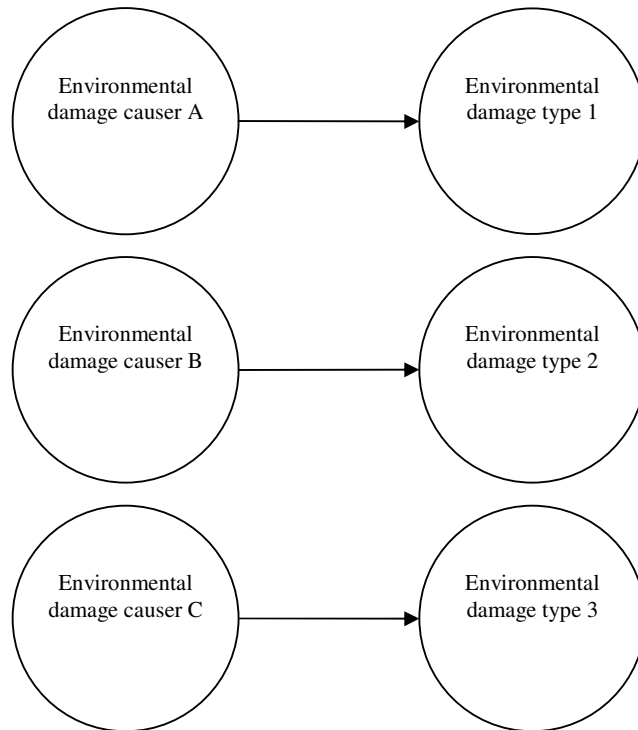


Figure 22. A possible manner of conceiving of environmental damage causation.

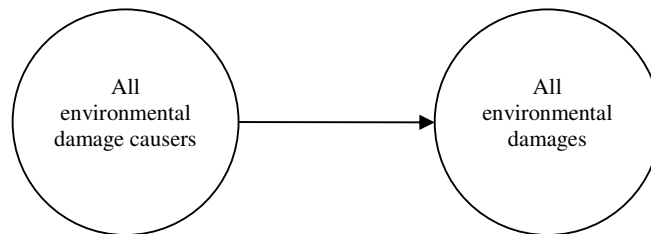


Figure 23. The Marshallese manner of conceiving of environmental damage causation.

Locals are willing to attribute almost any environmental damage to almost any environmental damage causer. In the latter category we find such items as plastic, styrofoam, radiation, chemicals, factories, dredging, landfill, discarded trash, and smoke (emissions); in the former category we find such items as the ozone hole, climate change, sea level rise, coral death, general uncleanliness, and disease. Thus, locals can (and do) blame climate change on discarded trash, coral death on plastic, disease on chemicals, and so forth, without providing or needing any account of the causation (and even the best educated Marshall Islanders often conflate the ozone hole and climate change as being synonymous problems, as do many people in other cultural contexts [BBC World Service Trust 2010; Whitmarsh 2009: 415]).

This makes sense in light of the underlying moral vision, that which actually matters to the people discussing these issues. All environmental damage causers are conceived of as the trappings of modernity, and all environmental damages are conceived of as insults to *mantin majel*. In this way, the conflation is not mere conceptual sloppiness or ignorance. As Sheila Jasanoff and Brian Wynne comment on a similar issue: ‘[A]pparently confused identification of aerosol cans and industrial pollution as causes of climate change...appears not as mere ignorance or misconception but as the extension of a generalized, historically grounded, distrust of industry.’ (1998: 40). Steve Rayner similarly writes:

Applying an anthropological perspective, we can see that, rather than a simple category error, the claim that stratospheric ozone depletion and climate change are the same thing may be a sensible and salient one from a public perspective....[W]e might see the apparent equation of climate change and ozone depletion as an assignment of both phenomena to an unstated category of ‘industrial insults to the atmosphere’. In that sense, two quite different scientific issues are the same thing from a public perspective. The precise scientific etiology of the ozone hole or a global temperature rise is simply not salient to this audience. [2003: 279]

Thus, conservationism lends itself well to all aspects of the binary analysis of entropy in Figure 5. Essentially, then, when Marshall Islanders embrace the discourse of conservationism they are simply adding the following binaries:

Healthy/clean/bountiful environment	:	Unhealthy/polluted/meagre environment
Environmental stewardship	:	Environmental neglect

to their pre-existing binary scheme:

Outer islands	:	Urban centres
Past	:	Present
Marshall Islands	:	America

Thus the adoption of what we could call ‘environmentalism’ does not require Marshall Islanders to grasp any new system of thought, but merely to graft an appendage onto their existing one; confirmation bias is satisfied and the necessary cognitive work is appealingly light.

This is well illustrated by a particular mural painted on a bus stop in Majuro. The image is starkly divided into two sections. On the left is an island with coconut and breadfruit trees and no houses; the ground is green, a fish swims in the sea, and a man in traditional

woven kilt, his long hair tied into a bun as was the style at the time of the first Western contact, fishes aboard a traditional *kōrkōr* canoe. On the right side is an island covered with modern buildings and bereft of trees; the ground is brown, a car drives on the road, and a factory spews smoke into the air and green filth into the ocean; two men in a motorboat are fishing with dynamite. The left side of the image, it seems clear, is the past, the outer islands, tradition, environmental sustainability; the right side is the urban centres, modernity, the present, environmental degradation. It is, expressed in visual art, the binary opposition I have described.

Thus, in accordance with the theories of confirmation bias and cultural cognition, the basics of environmentalism fit prior Marshallese beliefs and thus are adopted. Also in accordance with those theories, certain aspects of ‘environmentalism’ are emically problematic or unintelligible, and so are rejected or remade. For instance, one common tenet of environmentalism, or at least of specific types of environmentalism that bear the label ‘deep ecology’, is the notion that non-human life has inherent value. This notion does not accord with Marshallese views and habits. In a year on the rural island of Ujae, observing many interactions between local people and non-human beings, I detected no notion whatsoever that animals or plants have rights of their own, or that non-human suffering ought to be of concern. Adults do not scold a child for manhandling a kitten, for killing a bird for sport, or for making two birds fight for entertainment. Sea turtles, when caught, are placed on their backs to slowly starve and dehydrate, so that they will be fresh when eaten a few days later. When possible fish are kept alive on the line until eaten. People do sometimes keep pets such as dogs, and they may be given names, but the sentimental attachment is minimal. They are there to defend the house from human or porcine invasion, and that is all; they can be killed and eaten if desired. Cats are essentially wild and are almost never treated as pets. As we know, Marshall Islanders are no strangers to self-criticism, yet there is no discourse of disapproval of these practices; when outsiders are bold enough to lodge a complaint, the

suggestion is met with puzzlement by adults, amusement by children. By all indications, then, Marshall Islanders are not deep ecologists; they believe that resources exist in order to be used by people (Bridges and McClatchey [2009: 144] suggest the same).

Another, perhaps related, aspect of environmentalism is the notion that there exists an ‘environment’, a natural, non-human realm with special characteristics; the very label ‘environmentalism’ presupposes such a worldview. This, too, is emically problematic, for reasons described earlier in this chapter, and so it is expunged from the Marshallese brand of conservationism. Marshallese discourse is thus fertile ground for environmentalism, but of a culturally particular kind.³⁹ When Marshall Islanders advocate resource conservation it is for human purposes—for tradition and in particular traditional subsistence—never for the sake of ‘nature’ itself, for which they have no word. Climate change follows the same pattern, for it contains all of the aforementioned characteristics of ‘environmental’ threats: global warming is a concern not for its defilement of a once-pristine nature, but for its affront to a once-vigorous culture.

Belief, concern, and cultural cognition

As I have argued throughout this chapter, climate change becomes framed in the Marshall Islands as an instance of cultural entropy; this interpretation arises from the ideological salience of the narrative of entropy, as well as other factors: the neat fit between cultural entropy and ‘environmentalism’ more generally, and the mistranslation of ‘climate change’ in such a way that conflation of what we call ‘environmental’ and ‘sociocultural’ changes is intuitive.

³⁹ Whether conservationism suits Marshallese habitual behaviour—something quite distinct from discourse—is another question (Gold 1998). While the *mō* system may attest to conservationist tendencies in ancient Marshallese society, there is also compelling archaeological evidence that prehistoric Marshall Islanders overexploited sea birds, seaturtles, coconut crabs, and giant clams, extirpating them in inhabited areas (Weisler 1999), as humans have done in many other parts of the Pacific (Kirch and Weisler 1994: 295).

In the next chapter I will utilize this finding to explain why certain responses to climate change are favoured. In this section, however, I will utilize it to explain something more primary about Marshallese climate change attitudes, namely *belief* that the threat is real and *concern* about the threat – without which no response of any sort would be pursued.

Both belief and concern are fairly strong in the Marshall Islands. While not all Marshallese accept the idea of climate change—recall some sceptics in the vignettes presented in the previous chapter—disbelievers are in the minority. In the realm of observation, recall that 72% of 146 survey respondents said, when asked, that the *mejatoto* had changed since the past, and 96% of those considered that a problem. In the realm of reception, of the 89 survey respondents who had some familiarity with the scientific concept of climate change, 67% said it was definitely true, 17% said it was probably true, 11% said it may or may not be true, and only 4% said it was false; thus 84% were more or less convinced it was true, while only 4% were convinced it was not.⁴⁰ One could object here that these self-reports are skewed by the acquiescent response bias, and that the context of the survey (in which I asked people directly about their observations of environmental change) reminded people of the evidence of climate change and thus biased their answers towards belief. To reduce these effects, one could rely on the second batch of surveys (see Appendix A), in which I asked about the scientific concept of climate change *before* asking about observations of environmental change, thus reducing the bias, and also rely on more spontaneous professions of belief and disbelief in interviews, where it was less clear that I was interested in climate change and believed it was real. If one does this, taking the 23 survey respondents in the second batch who were familiar with the scientific concept of climate change, together with 61 interview examples, the percentages are still quite high: 58% said that climate change was real, 14% said it was probably real, 18% said it may or may not be real, and 10% said it

⁴⁰ In the survey of students at Marshall Islands High School, 93% of 53 respondents to the question ‘Do you think climate change is real, or not real?’ answered ‘yes’ while only 7% answered ‘no’.

was false. Most convincingly of all, as I stated before, in the Marshall Islands there is no organized or public opposition to climate change: I have never heard anyone argue in public that the notion of climate change is false. Belief, then, predominates over disbelief.

This level of belief can be considered quite high, when one bears a few facts in mind. Climate change's premier impact, nationwide inundation, has not yet occurred, thereby leaving room for doubt. All else being equal, Marshall Islanders would prefer not to believe that their country is doomed, and the Genesis argument provides a convenient justification for such scepticism, should people choose to invoke it; moreover it has been well established that people everywhere are able to deny the reality of threats that they wish not to believe in (Edelstein et al. 1989; Grothmann and Patt 2005: 203; Grothmann and Reusswig 2006: 106; Kroemker and Mosler 2002; Lehman and Taylor 1987); recall from Chapter 1 the 'optimistic bias'. For example, Paton and Fairbairn-Dunlop report that 55% of their Tuvaluan participants denied the reality of climate change or expressed uncertainty based on the idea that God would not flood the earth again (2010: 691).

Concern is also fairly high. Concern in the sense of 'preoccupation' can be fruitfully measured by counting how often people mention a particular threat, compared with other threats, when asked very general questions about what problems exist in their society. My formula for calculating concern is therefore as follows: the sum of the number of mentions by each survey respondent divided by the total number of issues mentioned by that respondent (that is, assuming that each respondent has a 'finite pool of worry' [Slovic et al. 1987: 26; Weber 2006: 114-5] and that therefore a respondent who mentions climate change as one of ten issues is only one tenth as concerned as a respondent who mentions only climate change). For calculating concern I use only the first batch of the survey (with 100 respondents), in which I asked such questions first, *before* asking about the scientific concept of climate change or about the subject's observations of environmental change; thus the subjects were

not primed by a previous mention of climate change. The results of this calculation are presented below in Table 7.

Rank	Issue	Concern measure (rounded)
1.	Economic hardship and basic needs	25
2.	Changing lifestyles and mores	21
3.	Population growth and overcrowding	8
4.	Diabetes and other health problems	7
5.	Changes in the climate, changes in the ocean, ‘climate change’, ‘global warming’	6
6.	Alcoholism and other substance abuse issues	6
7.	Immigration	6
8.	Crime	3
9.	Education	3
10.	Suicide	2
11.	Youth problems in general	2
12.	Teenage pregnancy	1
13.	Out-migration	1

Table 7. Ranked concerns among Marshall Islanders

(Appendix B presents the smaller categories of responses that were combined into these larger categories, and also presents the concern measures for each category, including the smaller categories.)

Climate change thus emerges as the number five concern, edged out by economic, cultural, demographic, and medical worries, but trumping such issues as substance abuse, immigration, suicide, and youth problems. I consider this an impressively high level of concern⁴¹ given the following facts. Recall from Chapter 1 the list of barriers to climate change concern. Recall in particular the notion of the ‘finite pool of worry’: the more threats people have to worry about, the less likely they are to worry about a newly introduced hazard. Now consider the many problems apart from climate change with which Marshall Islanders must preoccupy themselves. Note for instance the list of concerns in Appendix B of this

⁴¹ This is borne out by the survey of students at Marshall Islands High School. In response to the question ‘Do you think climate change is a big problem, or a small problem?’ (with 58 responses) 91% said it was a big problem while only 9% said it was a small problem. In response to the question ‘Is climate change the biggest problem in the Marshall Islands, or is another problem bigger?’ (again with 58 responses) 67% said it was the biggest problem while 33% said others were bigger.

thesis, or the 2006 government-administered study which revealed a host of local problems such as alcohol and drug abuse, crime, unemployment, teenage pregnancy, overpopulation, unreliable electricity, poor transportation, and food shortages (Survey 2006). The list continues. The per capita income is fairly meagre at US\$1370 (Juumemmej 2006: 20), and an estimated 20% of the population lives on less than one dollar per day (Juumemmej 2006: xiv). Forty percent of schoolchildren are estimated to be malnourished (Economic Report 1997: 102). Suicide rates are high and increasing, as in many other Pacific Island nations linked to rapid social change (Booth 1999). There is also considerable domestic violence (Journal 2003b) and other violence (Johnson 2004). On Ujae, where I lived for a year, locals had to cope with low cash incomes (reportedly a mere US\$204 per year [Juumemmej 2006: 20]), periodic food shortages, the possibility of droughts in the dry season, insufficient sailing canoes, the high cost of transportation to Majuro and Ebeye, the infrequency of the supply ship and unreliability of the airplane, and the unavailability of certain medicines, not to mention more pedestrian concerns about wayward children and feuding neighbours. According to a well-researched socioeconomic report, ‘All the major indicators suggest that the quality of life for most Marshallese is worsening’ (Juumemmej 2006: 137) for reasons unrelated to climate change.

Given this, it is striking that climate change is nonetheless people’s number five concern, ahead of such immediate and pressing issues as substance abuse (including alcoholism, a major problem in the Marshall Islands), immigration (including the recent influx of Chinese people which is the source of much resentment and frequent discussion), youth problems, and nuclear testing, which does not even make the top ten (see Appendix B). While Marshall Islanders are not experiencing what has been called ‘eco-anxiety’—obsessive worry, to the point of sleeplessness, about coming environmental disasters (Nobel 2007)—and no one is visibly panicked about climate change, not even when discussing the issue,

concern is nonetheless impressively high. Clearly some ‘social amplification of risk’ (Kasperson et al. 1988, 2005b) has occurred here.

I propose that both belief and concern can be explained by the framing of climate change as cultural entropy. Believing and decrying climate change become like believing and decrying cultural entropy, a mark that one is a good, pro-social member of the Marshallese in-group. As this chapter suggests, and the next chapter explores more fully, in the Marshall Islands the perceived solutions to climate change are not seen as ideologically repulsive, unlike in some American conservative quarters (see Kahan et al. 2007). Much the contrary – they are seen as ideologically attractive. No reason, then, to disbelieve the threat, and every reason to believe it. Climate change belief and concern become easy, in a sense even comforting. As Michael Bravo writes, ‘No narrative is intrinsically powerful’ (2009: 266; see also Jasanoff 2005: 24). The power of the climate change prediction in the Marshall Islands is not inherent in the idea itself, but emerges from the way in which the idea is remade in a Marshallese image and resonates with pre-existing Marshallese concerns. In a related way, as we saw in this chapter’s first case study, the concept of climate change in the Marshall Islands becomes so vague, so all-encompassing, so omnipotent as to be nearly unfalsifiable. Karl Popper would grieve, but climate change activists can rejoice: an unfalsifiable idea is an easily believed idea.

These findings thus accord well with Douglas’s general theory of cultural cognition. It is important to note, however, that they accord only partially with her more specific emphasis on group and grid influences on risk perception. Marshallese society is certainly high-group and high-grid: the traditionalist discourse about rejecting the influence of the out-group is indicative of high-group, and the hierarchical system, with its well-defined social roles, is indicative of high-grid. The Marshall Islands is therefore what Douglas terms a ‘centre’ society, and indeed it appears to follow her description of such societies: ‘Misfortunes come as punishment for misdeeds...dominated by ancestral figures...a complex world, dangerous

for the rebel, good for the conformist' (Douglas 1970: 104-5). At this point, however, problems arise. This is exactly the sort of society that Douglas predicts will be unconcerned by 'environmental' problems (Douglas and Wildavsky 1982), yet Marshall Islanders, as I have shown, give significant thought to such hazards, and indeed it is these very 'centre society' attributes—misfortune as punishment for misdeeds, concern about the ancestors, the perils of nonconformity—that seem to inspire the concern.

There are other ways in which Douglas's group-grid theory seems incompatible with the Marshallese case. Douglas states that high-group, high-grid societies tend to be optimistic, whereas high-group, low-grid societies tend to be pessimistic (Douglas and Wildavsky 1982: 191); but Marshall Islanders' preoccupation with entropy cannot be called optimistic, even if there does exist some hope of partial recovery. Indeed, in this and other regards, Marshallese society, against its high-group, high-grid profile, fits more closely Douglas's description of 'border' societies, which she equates with high-group, *low*-grid: Marshallese society, like 'border' societies, 'expects life in the future to undergo a radical change for the worse. It is not confident that the disaster can be averted. There may be no time left. But it knows how the disaster has been caused: corrupt worldliness.' (Douglas and Wildavsky 1982: 127) Furthermore, as in Douglas's description of a border society, Marshallese society frets about the defection of its members to the larger society (in this case America, or foreign ways more generally), and as such the '[o]bjectives of the organization...will explicitly include regenerating moral fervor....They will be apt to make symbolic statements of their rejection of the larger society and especially its technology.' (Douglas and Wildavsky 1982: 139)

Thus, there is friction between the Marshallese case and Douglas's group-grid theory: Marshallese society is more concerned about 'environmental' issues than Douglas would predict from the society's high-group, high-grid ethos; some aspects of a high-group, high-grid society that Douglas would predict seem to lead *towards* environmental concern in the

Marshall Islands rather than away from it; and Marshallese society has certain ‘sectarian’ attributes that Douglas would not predict for a high-group, high-grid society, although her prediction that these attributes would lead to climate change concern does seem to be borne out by the Marshallese case.

One could explain away these anomalies by positing that in the Marshallese case we are not dealing with an ‘environmental’ issue in any meaningful sense; indeed, the point of this chapter has been to show how this apparently ‘environmental’ issue has come to be seen as a ‘social’ issue by locals. Climate change is a *cultural* risk for Marshall Islanders, a threat to the hierarchy, the collective, the status quo: it threatens to destroy both group and grid. In this sense, it is more like the sorts of threats to hierarchy and stasis that Douglas predicts will be of high concern to centre societies. One could also posit that Marshallese society, while ‘centre’ in its ethos, is also so peripheral in the scheme of world power, as Marshall Islanders themselves know, that it is more like a ‘border’ group on the world stage. But these are only partial, ambiguous, and post hoc reconciliations of group-grid theory with the Marshallese case. As such, I conclude by saying that the Marshallese case fits only uneasily with Douglas’s group-grid theory, even as it fits perfectly with her more general cultural cognition theory – a point to which I will return in the Conclusion.

Chapter 5: Climate change self-blame and the mitigation movement

This chapter takes the final step in the thesis's central argument: having shown that Marshall Islanders frame climate change as cultural entropy, I will now argue that this framing generates self-blame (emerging from 'universal blame') for climate change, in turn creating a general Marshallese preference for local mitigation over foreign protest.

Recall from Chapter 1 that most cultural systems postulate that human beings can directly or indirectly influence the climate. Marshallese culture is no exception in this regard. As shown by the Ripako case study in the previous chapter, locals believe that human magicians can influence the weather, or at least could do so in former times. Furthermore, the idea that human trespasses can be punished with environmental disaster is certainly a longstanding one in this country, judging from Chamisso's ethnographic observation in 1817: 'In the case of transgression the sea would come over the island and all land would disappear. A well-known danger threatens all low islands from the sea, and religious belief often holds this rod above the people.' (Chamisso 1986 [1821]: 278; also see Carucci 1997b: 19) Furthermore, as I will discuss in the next section, locals believe that Americans and scientists possess prodigious powers, which could easily include weather-control.

Thus we would expect Marshall Islanders to find it eminently plausible that human beings are to blame for global warming; and indeed they do, as we will see. The only other emically viable attribution strategy would be to 'blame' God. Interestingly, only a very small minority of locals subscribe to such a view. Although we saw in Chapter 3 the Revelation argument that climate change is part of End Times, this viewpoint is rarely expressed in terms of God 'causing' climate change to occur. Furthermore, almost no one—only a few individuals out of hundreds that I talked to—considered climate change a divine punishment for human sins. In the survey, when I asked 'Why is the *mejatoto* changing?' to the 100 respondents who had reported it was changing, only one individual attributed the change

(tentatively) to God's will. In response to the question 'Who is to blame for "climate change"?' with 77 respondents, only 5% 'blamed' God. As indicated earlier, it is *manit*, not God, which is the usual 'grand arbiter', the entity which, if disobeyed, will cause suffering. We hear echoes of the higher salience (discussed in Chapter 2) of traditionalist over religious discourse.

Blaming climate change on 'nature' is not emically possible in the Marshall Islands, for a few reasons. First of all, as I discussed in the previous chapter, the Marshallese language has no word for 'nature'. Well-educated Marshall Islanders may refer to 'nature' when speaking in English, but only occasionally, and the word has not been loaned into the Marshallese language. Marshallese words similar to English 'environment'—*pe!aak* and *me!an*—simply refer to one's surroundings; Marshall Islanders never cite the *pe!aak* or the *me!an* as the reason or cause of something, so they could not blame climate change on these concepts. They could consider climate change to be natural without having any word for 'nature' or 'natural'—such as in the case of the December 2008 flood, mentioned in Chapter 3 (also see Rudiak-Gould in press)—but they do not. For Marshall Islanders, non-cyclical change cannot be natural. As indicated in Chapter 2, there is a right way for the seasons to be, just as there is a right way for society to be. In the case of the seasons, that 'right way' includes a certain amount of change, but it is cyclical change, itself a form of stasis (Rudiak-Gould in press). Thus Marshall Islanders would not consider long-term changes in the environment to be natural; blame is necessary.

Given the unpopularity of God as a target of 'blame', and the impossibility of 'nature' as such a target, it is human beings who must be at fault; thus the question becomes which human group is accused. Recall from Chapter 1 the two central facts about climate change responsibility that can be emphasized or deemphasized: 1) All people in the world, including poorer people, contribute to the greenhouse gas emissions that cause global warming; 2) Affluent citizens, and industrialized countries, produce the majority of emissions; smaller

countries and poorer people produce far less.⁴² These two facts about global climate change are well known to most Marshall Islanders, as I will show. Following the discussion in Chapter 1, the question thus becomes which of the two facts is emphasized. I will show that in the Marshall Islands it is the first fact that is emphasized, leading to ‘universal blame’ rather than ‘industrial blame’. This universal blame in turn becomes self-blame, in which the culpability of other countries is acknowledged yet lent far less attention and moral salience than Marshall Islanders’ own contribution to climate change.

The emphasis on universal and self-blame

Marshall Islanders heavily favour universal blame for climate change over industrial blame for climate change. One crude method to measure this is to simply ask, point-blank, whose fault (*an wōn bōd*) ‘climate change’ is. When I asked this in the survey, with 77 respondents, only 18% of responses blamed an outside group (‘scientists’, ‘those who went to the moon’, ‘the big countries’), while 52% blamed ‘people’ (*arnej*) in general or ‘us’ (*kōj*), and 3% blamed Marshall Islanders specifically. (5% ‘blamed’ God, 26% said they did not know, and 6% said no one was to blame.) So blame of ‘ourselves’, meaning either all humans or perhaps locals specifically, is easily the most popular blame strategy, while blaming outsiders is a distant second.

Another, probably far superior method is to ask more oblique, free-response questions; this allows the respondent to answer without being self-conscious about the notion of blame, and one can infer blame from the presuppositions in the respondent’s statements. In the survey, when I asked ‘What should people do about climate change?’ only 4 of the 26 suggestions for mitigating climate change were aimed specifically at other, larger countries. Of the remaining 22 suggestions, 17 were general prescriptions for reducing pollution or

⁴² To single out the two most relevant countries, the United States in 2007 contributed almost 20% of all carbon dioxide emissions worldwide, while the Marshall Islands contributed a mere 0.0003% (United Nations 2007).

protecting the environment (not specifying whether it was just Marshall Islanders, or people in general, who should adopt these practices) and 5 seemed to be aimed specifically at Marshall Islanders. Thus, universal blame certainly predominates here as well. In the survey given to students at Marshall Islands High School, in response to the question ‘Should Marshallese people do anything about climate change? If so, what?’, of the 35 respondents who provided suggestions for what to do, none advocated protesting other countries’ carbon emissions or seeking compensation from them, while 18 (51%) advocated environmental stewardship of the kind that could be practiced in all countries including the Marshall Islands: energy management, recycling, reducing emissions, and not burning plastics and garbage. Again, then, the most popular strategy was to blame humans in general (universal blame), or Marshall Islanders specifically, yet certainly not *only* foreign countries (industrial blame).

This universal-blame pattern in the Marshall Islands is also evident in a variety of anecdotes, naturalistic statements, and interview answers. Consider for instance the cartoon in Figure 24.



Figure 24. Cartoon in the Marshall Islands Journal, 15 September 2000, p. 8.

Here we see many human artefacts—missiles, cars, factories, and the like—that Marshall Islanders associate more with large industrial countries than with the Marshall Islands. But, crucially, no attention is placed on this disparity. Instead, the caption reads ‘People [*arnej*] are really burning the world with poison.’ It does not say ‘Americans’ or ‘people in the big countries’ are doing so, but that ‘people’ in general are doing so; this is universal blame.

Along the same lines, the winning entry in a 2009 climate change poem competition sponsored by the government’s Office of Environmental Policy and Planning Coordination declared in the last stanza ‘We are the ones causing climate change’ (Kabua 2010), and the relocation debate narrated in Chapter 4 took universal blame as a given: the CMI debater, arguing that climate change could be mitigated and therefore evacuation avoided, said ‘Instead of using fuel, we can use solar. That’s one way [to fight climate change]. We can stop dumping our garbage into the ocean.’

There are also countless examples of universal blame with special emphasis on local Marshallese culpability – that is, self-blame. In response to a 2004 article about then-President Kessai Note’s protests in international fora about industrial nations’ culpability for climate change, a Marshallese man posted the following on Yokwe.net: ‘We keep hearing the same complaints from our government officials when the[y] speak in forums and assemblies around the world and when they come home what we see them drive are trucks, SUVs, and cars....[A]ll use gas.’ In 2007, a Marshall Islander on Yokwe.net responded to President Note’s protests by saying:

I don't know where the President is getting his facts from. The real threat to our environment is our own activities. Looking around Majuro, the real threat our environment faces everyday come from the locals and businesses themselves. Until our leaders do something about these real threat[s], what they are telling the rest of the world is not real...[T]ell those nations the real story at home and stop making good faces. We are the real problem here.

Also on Yokwe.net in 2008, Marshall Islanders posted responses to an article on the threat of global warming, including this Marshallese immigrant in America:

[W]e have not been keeping our beaches and our land clean and sanitized. We also play a good deal in what is to become the destruction of our beloved islands....One way that our islands could be saved is to stop polluting the sea. [W]hen we leave our trash *ilo lik* [on the ocean beach], it kills the barrier reef that[']s protecting our island. [W]e have to do something about it and fast. We are also responsible for what is to become...the d[e]struction of our beloved islands.

Other commentators agreed:

I also think that the key contributing factor to stab[i]lize the rise in the sea-level is to keep our islands clean, and we need collective efforts on this.

We’re on the verge of destroying our beloved islands.

The same sense of universal blame cum self-blame was obvious in many interviews I conducted. When I asked a Majuro man why the *mejatoto* was changing, he said ‘Because of chemicals. These things that come from power plants.’ He then gestured to the *Majuro* power plant, implicitly blaming Marshall Islanders themselves. Another man in Majuro said that crops had not been growing as well as before because of the heat, and that this was because of cars. ‘Where are these cars?’ I asked, and he named the most developed *Marshallese* communities—Majuro, Ebeye, Jaluit, and Wotje—rather than foreign countries, and then

added 'We used to use lanterns. Now we use generators. This harms our lives.' Even when it is admitted that industrial countries possess far more of these climate change causers, many locals will argue that the only reason that this is the case is because Marshall Islanders are poor; if they were as rich as the citizens of industrial countries, they would pollute equally as much. Again, industrial blame is being rejected in favour of universal blame. Note also the implicit sense of self-blame in the case study of the eroding graveyard in the previous chapter. It is implied that Marshall Islanders themselves are at fault for the loss: they abandoned their heritage land on Piñlap, forgot their clan membership, neglected to listen to their elders, failed to produce heirs for the Ripako lineage, and in all of these ways were remiss in their obligation to safeguard good ancestral things for the next generation.

Rien Morris, the Senator of Jaluit Atoll, answered without hesitation when I asked him who is responsible for climate change: 'We are, you and I. Marshallese may not think they are responsible for it, but they are. It's only a little contribution, but we too have air conditioners and cars. All Pacific islands contribute...We are in it together.' To gauge his reaction to a different blame strategy, I then told him that some people argued that *Americans* primarily contribute to climate change. He was unconvinced:

No, *everyone* does. If you go dive here, you will see all the plastics. Marshall Islands is only a little, but, by joining with all the other Pacific Islands, it makes a big contribution. All the batteries and plastic – they all contribute...The pollutions from the Marshall Islands are also a contribution to all these problems which will affect the environment.

Similarly, when I told a man in Majuro that some people said that America was to blame for climate change, he rejected the idea outright and unequivocally: 'No. Everyone is causing it. Marshall Islanders too. Like when we cut down all the trees, it makes carbon dioxide. That's why we need to educate.' At the Assumption School climate change symposium in June 2009, I asked a few attendants if locals should feel angry about climate change. A woman said 'There *is* anger', but then directed that anger at the Marshallese government, not foreign countries: 'For instance, *I* get angry – at the government here for allowing people to keep dredging and things like that.' A volunteer teacher on Ailinglaplap

spoke to his late primary school students about climate change in 2009. Then he brought a burning ember into the classroom and let it fill the classroom with heat and smoke, explaining ‘This is just like climate change. Cars and factories put smoke into the atmosphere and heat up the world.’ He continued ‘And which country has lots of cars and factories? America, right? And people here in the Marshall Islands, they don’t have many cars and factories, do they?’ His avowed aim was to foster anger at the United States and other industrial countries for creating the problem of climate change. But his effort failed: the students simply sat in their seats, unmoved (Daniel Price, personal communication).

The examples are endless: universal blame predominates. In addition, as we have seen, this universal blame contains more than a little self-blame.⁴³ The existence of so many statements (both naturalistic and in the context of interviews) that put special emphasis on *self*-blame leads me to suspect that many of the survey respondents who answered ‘us’ to the question ‘Who is to blame for climate change?’ meant ‘us Marshallese’ more than ‘us humans’.

There are other documented cases of indigenous people blaming themselves for climate change. A large survey conducted across ten countries in Africa found that locals tended to blame themselves for climatic degradation that they were witnessing (BBC World Service Trust 2010), although in this case the participants were largely unaware of the science of global warming. Hitchcock (2009: 258) and Patt and Schröter (2007) found the same in their African subjects, as did Smith (W.D. Smith 2007) among an indigenous group in Mexico. Byg and Salick (2009: 161-5) found that Tibetan villagers in Yunnan province frequently attributed recently observed climatic shifts to their own spiritual failings, although

⁴³ In another apparent example of self-blame, a few Marshall Islanders blame erosion on a lack of Marshallese caretaking of ancestral islands. Elderly men from Rongelap Atoll regard the last few decades’ erosion of their islands to be the result of a lack of human maintenance of the traditional system of land expansion during the nuclear-induced evacuation of the atoll (Bridges and McClatchey 2009: 145). A Bikinian man who I interviewed in 2007 made a similar statement about Bikini Atoll. While this viewpoint does not appear to be particularly popular way of explaining erosion, it fits the usual conceptual framework of such explanations: the damages of climate change result from abandoning traditional practices.

villages with more contact with tourism, business, and government often shifted the accusation to these outsiders.

The possibility of industrial and other-blame

I contend that the predominance of universal cum self-blame in the Marshall Islands stems from the threat's subsumption under the narrative of cultural entropy. This is the most likely explanation based on the conflation of climate change and cultural entropy that I have demonstrated. Alternative hypotheses, however, must also be contemplated; in this section I will consider such explanations and argue in each case that they are inadequate.

Could it be that Marshall Islanders have never considered the option of blaming outsiders, cannot conceive of it, or have no reason to adopt it, and therefore default to self-blame? Certainly not. It is perfectly possible for locals to blame outsiders, and indeed various factors encourage them to do so. To begin with, locals have been exposed to the notion of industrial blame. For instance, when Marshallese government officials campaign against climate change in the international sphere, they adopt industrial blame. Charles Paul, the Charge d' Affaires of the Marshall Islands embassy in the United States, testifying in 2008 before the US House of Representatives Foreign Affairs Subcommittee on Asia, the Pacific, and the Global Environment, stated:

The RMI [Republic of the Marshall Islands] has virtually nil GHG emissions on a global scale; small island developing states such as RMI contribute the least to causing climate change, yet remain the most vulnerable to its impacts....The RMI is concerned about the international responsibilities of all major emitters....[T]he production of each ton of CO₂ is a small assault upon our shores.

In the same way, Yumi Crisostomo, Director of the government's Office of Environmental Planning and Policy Coordination, has stated that 'The root cause of [climate change] is the unstable concentration of GHG emissions by industrialized countries...RMI is not responsible....Climate change is a crime and we will not be silent about it.'⁴⁴ Many Marshall

⁴⁴ This statement is taken from an interview of Crisostomo by the journalist Skye Hohmann.

Islanders are aware of these governmental statements. Indeed, the message has been transmitted directly to people. Recall for instance the WUTMI climate change educational sessions narrated in the previous chapter. While the WUTMI-affiliated organizers of these conferences tend to endorse universal blame, they also invited speakers from the government who more often endorse industrial blame. Attendees were thus exposed to both blame strategies in the space of a single educational session. For instance, at the WUTMI April 2009 forum, Yumi Crisostomo largely emphasized industrial blame, but later an audience member slated the presenters for their own use of styrofoam, thus implying universal blame. Since the Marshallese government also at times advocates a measure of universal blame when they state that Marshall Islanders, too, can reduce their contribution to climate change, sometimes both blame strategies were advocated by the same individual: at the WUTMI climate change forum in July 2009, an EPA official, Michael Honeth (not himself Marshallese, but a representative of the Marshallese government) told the attendees *both* that the Marshall Islands was too small to make any contribution to climate change, either positive or negative (implying industrial blame) *and* that Marshall Islanders ought to reduce their own contribution to climate change and their exacerbation of its local impacts (implying universal blame). Thus, Marshallese adoption of universal blame is not simply due to a lack of familiarity with the possibility of industrial blame. (Recall also the examples in the previous section in which I suggested to an interviewee ‘Some people say that the big countries are primarily responsible for climate change’ and the respondent rejected this out of hand.)

Is the unpopularity of industrial blame instead due to the lack of a convenient, familiar category for ‘America’ or ‘industrial countries’ in the Marshallese language and in Marshallese minds? To blame an entity, one must have a category for it. But Marshall Islanders do have categories that allow for industrial blame. To begin with, they have terms for ‘American’ (*riAmedka* or *ripālle*) and ‘America’ (*Amedka* or *aelōñin pālle*). Moreover

these are very familiar and salient categories, spoken of frequently, laden with associations, and possessed of a long and complex history, as we saw especially in Chapter 2. Thus locals are perfectly capable of blaming Americans for climate change, should they choose to do so. Marshall Islanders also have a category that corresponds roughly to what we might call rich countries, big countries, or industrialized countries. This category is *'la! ko rō!lap'* (literally 'the big countries'), and it is equally familiar. The Marshall Islands are often referred to, in contrast, as small (*'āne jiddik kein ad'*, 'these small islands of ours'). Largeness is here associated with power and wealth, and smallness with powerlessness and poverty, for instance in a presentation at the WUTMI Executive Board Meeting in 2009 in which a presenter referred to 'the small countries [*la! jiddik ko*], those countries that have few resources, unlike countries like America and other big countries [*la! ko rō!lap*]' . Thus Marshall Islanders have the category needed in order to blame larger, richer, more industrialized countries for climate change, should they choose to do so⁴⁵: the lack of an appropriate category does not explain the unpopularity of industrial blame.

Perhaps instead the reason for the unpopularity of industrial blame is that Marshall Islanders do not fully appreciate how small their contribution to climate change is compared to other countries. If one wished to make this argument, one could point to the fact that outer island children often speak of America as a collection of small islands or atolls called California, Oregon, and so forth, that they assume that Americans whom they have met must be acquainted with or related to each other, and in various other ways reveal that they conceive of the United States as existing at a similar scale to the Marshall Islands, rather than tremendously larger. Marshallese adults, while much more aware of America's size, are

⁴⁵ It would not, however, be possible for Marshall Islanders to blame the West specifically, because they have no category for this. The closest equivalent in the Marshallese language is *ripālle*, which can refer to all Caucasians or people of European descent, but whose much more common and precise meaning is 'American'; it does not really mean 'Westerner'. Meanwhile, the term *la! ko rō!lap* refers to any large country, including non-Western ones such as China and Japan. Thus there is no Marshallese term that refers to all of the West and nothing but the West, making it impossible for locals to accuse such an entity. This, however, is a minor point, because they *can* blame Americans or 'the big countries', making industrial blame entirely possible.

nonetheless often astonished to hear that America has 300 million citizens. An anecdote illustrates this:

One Marshall Islands *iroij* [chief], on his first visit to Guam, which measures two hundred and nine square miles and has a population, including American servicemen, of seventy-odd thousand, asked to see the sights. He was taken through Agaña, a modest town with few buildings more than two stories high. He was shown a Strategic Air Command base...He also got to ride in an elevator. After all these experiences, he was moved to exclaim, 'Tell me, is America as big as Guam?' [Kahn 1966: 224]

There is some truth to these assertions, and perhaps an underestimate of foreign countries' size—a worldview in which the Marshall Islanders form perhaps 1% of the world's population rather than the true percentage of 0.001%—may nudge locals away from industrial blame. But surely it can do no more than nudge them, because Marshall Islanders *are* aware—acutely aware—that countries like America, China, and Japan are very large and the Marshall Islands is very small. Furthermore, a number of well-educated interviewees who could recite America's exact population nonetheless chose to adopt universal blame. For instance, a middle-aged man in Majuro acknowledged that the bulk of emissions originated in foreign countries but then said:

Let's picture a blank white sheet of paper. And each country would come with their big brush of paint and paint it, a...black spot on the white paint....The Marshall Islands with its small part as a contributor to...global warming, take this tiny part and put a little dot in that white sheet of paper. That is no longer a clear white sheet! It's tarnished, regardless of how small that thing is. So we do have something to contribute to the whole picture....Even though it's small it's still something....We're also contributing. It is also our problem. And even though we're only contributing a little, we're affecting at least somebody.

Similarly, in an editorial in the Marshall Islands Journal in 2007, the writer acknowledged that 'The Marshall Islands are only a speck of dust in the world compared to the US, Asia, Europe and Africa, where most of the global warming [e]ffects are coming from', but then adopted universal blame nonetheless:

We, on the other hand, are contributing to global warming by cruising around in our cars, throwing garbage all over the place, using tons of tin foil to take out food after kemems [first birthday ceremonies], and using chemicals that also contribute to the effects....Every time you throw something on the ground, drive around and waste gas..., use a whole box of tin foil for one plate, think about where you're going to call home in the next 30 to 50 years. [Bigler 2007]

Thus, ignorance of the Marshall Islands' small size cannot explain the unpopularity of industrial blame.

One could then attempt to argue, more generally, that Marshall Islanders adopt universal blame because they do not understand the physical causation that leads from foreign emissions to local climate change. Such an argument would proceed in the following fashion. Recall from Chapter 3 that only about a third of 146 survey respondents could provide some account of the scientific cause of climate change.⁴⁶ In addition, scholars have observed that, like so many hazards in 'risk society' (Beck 1992), the causation of global warming is highly complex and counterintuitive, originating from countless sources across the globe, occurring over huge time lags, and involving numerous intervening steps that require understanding such disparate and unfamiliar concepts as arctic ice, atmospheric chemistry, reflected sunlight, and so forth (Ungar 2007: 83). (In the words of Kasperson and Kasperson [2005 [1991]: 116-9], climate change is a 'global elusive hazard', since it 'involve[s] a series of complex problems (regional interactions, slow accumulation, lengthy time lags, diffuse effects)' [Ibid.: 210].) Even the third or so of Marshall Islanders who can give some account of this chain of causation often required numerous leading questions in order to trace the causation back to its source – I had a number of conversations that proceeded along the following lines:

PRG: Why is erosion occurring?
X: Because the sea is rising.
PRG: Why is the sea rising?
X: Because the ice is melting at the North Pole.
PRG: Why is the ice melting?
X: Because the world is getting warmer.
PRG: Why is the world getting warmer?
X: Because there is too much sun getting in now.
PRG: Why is too much sun getting in now?
X: Because the blanket up there is torn.⁴⁷

⁴⁶ Moreover, some individuals provide accounts that are wildly incorrect from a scientific standpoint, for instance by saying that the earth is warmer because the sun has moved closer to the earth, or that the 'greenhouse effect' refers to the harmful effect of greenhouses.

⁴⁷ Note that this folk Marshallese theory of the scientific causation of climate change differs from the actual causation. But this is irrelevant for our present purposes: all that matters is whether the individual can trace the

PRG: Why is the blanket torn?
X: Because of the smoke.
PRG: Where does the smoke come from?
X: From cars and factories.

Given all of this, one could argue that the reason that Marshall Islanders do not blame outsiders for climate change is that most of them do not understand how foreign countries could cause these harms, or, even if they do, they find the chain of causation too long, the link between perpetrator and impact too tenuous. One could then cite a number of scholars who have argued that these difficulties of climate change causation, and therefore of climate change ethics, undermine people's capacity to cast blame for the problem (Alicke 2000; Einhorn and Hogarth 1986; Jamieson 2007: 475-6; Sunstein 2006a; Unger 1996: 24-53), or that one of the main drivers of climate change apathy is the complexity and counterintuitiveness of the threat's causation (Bostrom and Lashof 2007: 38-9; Donner 2007; Jasanoff 2010); self-blame, by this argument, is appealing because easier to conceive of.⁴⁸

But such an argument would be erroneous. While an understanding of the exact details of causation may strengthen blame, it is certainly not necessary. In the theory of risk society, Beck (1992) and Giddens (1999, 2002) at times imply that the proliferation of diffuse, invisible, inscrutable risks creates a society in which no one can be blamed for anything (Beck 1992: 32-3; Giddens 1999: 8); but it is also true that the same mysteriousness of causation renders blame *easier* to assign, since the range of possible perpetrators and plausible causal links is greatly expanded, as Beck himself also notes (1992: 27-8).

Moreover, research indicates that when people wish to blame, they will find a way to do so: harm arouses the desire to identify a perpetrator (Alicke 2000: 569; Robbennolt 2000), and

causation of climate change from foreign actions to local impacts, regardless of whether this causation theory is scientifically sound.

⁴⁸ One could also attempt to argue that local causation is more salient than foreign causation because it can be seen firsthand (see BBC World Service Trust 2010); therefore people will adopt self-blame. But I found only a few individuals who had theories of climate change causation in which it is truly caused locally (for instance, the idea that the atmospheric 'blanket' [kəʊʃ] can be ripped in some places more than others – local Marshallese actions damage the part of the atmospheric blanket that lies above the Marshall Islands, therefore causing climate change on themselves specifically). Since such theories are rare in the Marshall Islands, this line of reasoning cannot explain much.

according to the theory of cultural cognition people do not demand to know all of the intervening steps of causation, so long as the identified culprit is ideologically acceptable:

We do not have to wonder how people come to believe in the mysterious connections.... Plausibility depends on enough people wanting to believe in the theory, and this depends on enough people being committed to whatever moral principle it protects....[A] community censors its own...causation theories. Those which no one wants to use can be easily discredited. Those which a large enough category of people find it convenient to use will get acceptability. [Douglas and Wildavsky 1982: 38-9]

This observation is borne out in many studies. Byg and Salick (2009) provide a case study of Tibetans who confidently blame climatic change on humans, despite being hesitant, unsure, and conflicted in their explanations of how exactly this occurs. In particular, when an agent is considered all-powerful, people neither need nor expect to understand how that agent causes what it causes. In the Marshall Islands, such agents include God, radiation, and (to a certain extent) America and scientists. As we saw in the previous chapter, locals confidently blame a variety of phenomena on radiation, despite being unable to provide an explanation for how such effects are produced. Indeed, the very mysteriousness of radiation, rather than making it difficult for people to blame things on it, makes it extremely easy for them to do so: they do not expect to understand how it does what it does, so their certainty in its blameworthiness is not undermined in the slightest by their inability to explain how it creates the effects with which it is credited. So too in the case of climate change, as I discussed in the previous chapter. In summary, while knowledge of climate change causation is indeed hazy in the Marshall Islands, this does not undermine, in the slightest, people's ability to cast blame for it.

Further deflating the theory that there is something special about climate change that inspires self-blame, 'environmental' issues more widely in the Marshall Islands have been approached in the same way. Consider the following sampling of environmentalist initiatives in the Marshall Islands within the previous decade:

- Students at Woja Elementary School (Majuro Atoll) collect litter from their community under the slogan ‘Keep Woja Clean! Keep Woja Beautiful!’
- A Marshall Islands Journal article encourages readers to conserve electricity not only to save money but also to protect the environment (Earnshaw 2008)
- A poster mounted in Majuro by the Marshall Islands Marine Resources Authority (MIMRA) highlights the value of conserving (*kōjparok*) marine resources (*mennin jeramman in lojet*), explains that local overfishing reduces the number and size of fish, and encourages locals to fish more sparingly, use nets less often, and create protected areas and fishing regulations. The poster declares ‘With the right to fish comes a responsibility to conserve for future generations’ (‘Kin maroñ ñan enod in, enaj ad eddo in kejbarok ñan ebeben ko tokelik’)
- A mural in Majuro states ‘Please help us keep Majuro healthy and beautiful’ (‘Jouj in jibañ kim dapij ejmour im aibojoj eo an Majuro’) and asks people to protect their environment by not throwing trash in the ocean.
- A cartoon in the Marshall Islands Journal (27 August 2004, p. 14) states ‘The trash we throw on the ground can’t just walk [away on its own]’ (‘Kobej ko kobejid rejab maron etetal’) and encourages readers to throw trash in bins instead. Another cartoon (24 September 2004, p. 10) states ‘Protect our ocean’ (‘Kōjparok lojet eo ad’); it shows a Marshallese man polluting the sea while saying ‘I don’t care because no one is watching me contaminate the ocean’ (‘Ña ijab kea bwe ejelok ej retook in lale aō kobejbej lojet’).
- The Reimaanlok (‘Looking ahead’) project helps outer island communities to develop conservation plans to preserve their marine resources from local overexploitation (Reimaan National Planning Team 2008).

- A poster produced by the Miec Beach Yacht Club Majuro Reef Protection Mooring Project encourages people to moor rather than anchor their boats because anchors damage coral.
- The traditional owners of Pikiriin Island, Majuro Atoll, have formed an NGO to protect the island's forest and coastline by planting traditional trees and halting locally caused damage to the reef.
- A 2009 publication on 'Education for Sustainable Development' (Heine et al. 2009) emphasizes local community responsibility for combating environmental degradation.

Note that all of these initiatives entail self-blame: the problems are implied to be locally caused. Were Marshall Islanders more predisposed to blame outsiders, they could find 'environmental' issues that fit such a moral vision. For instance, they could focus on the overharvesting of fish by foreign fishing fleets, on the refuse that washes up on Marshallese beaches from overseas, or on the environmental impact of nuclear testing. And occasionally they do take this blame strategy.⁴⁹ But usually they do not. As in so many aspects of Marshallese discourse, the emphasis is on cleaning up one's own act. This strongly indicates that there is something more general in Marshallese culture, not just something idiosyncratic about global climate change, that inspires self-blame.

There are a number of reasons why Marshall Islanders might be tempted to blame America or other large countries (*'lal ko rōllap'*) for climate change. Marshall Islanders regard themselves as far less powerful than these countries, as I stated earlier in this section, making it entirely intuitive for locals to reason that the big countries must be responsible for climate change and the Marshall Islands blameless. In particular, Marshall Islanders find it

⁴⁹ For instance, a cartoon in the Marshall Islands Journal (15 September 2006, p. 10) shows a man on a ship throwing trash into the ocean, with an arrow pointing towards the man saying *'Rilikin'* (foreigner). Yet even here the caption reads 'Cleanliness is our responsibility' (*'Erreo eo ej adwōj eddo'*), and a Marshallese man is shown complaining about how the Marshall Islands EPA is remiss in its duty to stop such crimes. Even here, then, much emphasis is placed on self-blame.

perfectly plausible that Americans could be capable of causing climate change: Americans—and scientists, for the two categories are nearly synonymous for Marshall Islanders—are often credited with extraordinary, nearly unlimited, powers (although there are also negative discourses about scientific expertise and honesty). Scientists are often called ‘smart people’ (*rimālōtlōt*). For instance, when I asked an elderly man in Majuro what people could do about climate change, he said that perhaps *scientists* could fix it. Similarly, a woman in Majuro asked me if scientists might be able to somehow *raise the reef* in order to beat sea level rise. The belief in American might is also indicated by the incredible range of powers that radiation (as a product of atomic bombs built by American scientists) is credited with, and the idea that the December 2008 flood was caused by American military activity. If climate change involves the destruction of entire islands, could Americans cause such a thing? Certainly – they already have, in the era of nuclear testing, and much more quickly and dramatically. A humorous anecdote is told which demonstrates the powers with which locals credit Americans. Some Marshall Islanders were driving a motorboat at top speed, late at night, in the Kwajalein lagoon. A few of the passengers were worried that they might hit a reef or island in the dark. But there was an elder aboard, and he said ‘Don’t worry! I know this atoll in perfect detail.’ Just as he said that, the boat hit a coral reef, flew into the air, and came to rest on dry land. The elder said ‘Damn these Americans – now they’re moving coral heads too!’

Therefore it would not be difficult to blame America for climate change. Indeed, one could identify some deeper motives for doing so: recall for instance the negative discourse about American culture as the degenerate mirror image of Marshallese tradition (Chapter 2). Moreover many Marshall Islanders hold grievances against America regarding nuclear testing. Even the self-blame-prone Marshallese cannot quite manage to blame nuclear testing on themselves, because the harm was so clearly caused by outsiders. Locals sometimes say that Americans are bad for having detonated the bombs, for having lied about their effects,

and—especially this—for having failed to properly support and compensate the victims. Following the usual tendency to blame the in-group, these recriminations are less vociferous than one might expect; even those afflicted with radiation sickness are friendly to individual Americans. Nonetheless, there exists real resentment towards the US government on the part of some nuclearly affected individuals. To give one example out of a number that I collected, a Bikinian man on Ejit told me: ‘The Americans told us Bikinians, “You are like children to us.” But they lied. They didn’t treat us like that – they didn’t take care of us. On Bikini, the coral is gone, and the crabs, the fish, and some entire islands.’ Barker (2004: 99-102), Niedenthal (2001: 16), and Dibblin (1988: 37, 52) provide other examples of Marshallese resentment regarding nuclear testing. Recall too the fact that many ills are blamed on radiation, including the December 2008 flood. There are also positive discourses about Americans—America the chief (Walsh 2003) who provides for and protects the Marshall Islands—and in face-to-face practice Marshall Islanders are almost always extremely gracious to individual Americans; but for the time being the important point is that, should Marshall Islanders wish to blame America for something, they have certain negative discourses about that country on which to draw. It would be entirely possible for Marshall Islanders to point out parallels between climate change and nuclear testing as acts of criminal negligence committed by America upon a blameless Marshall Islands – but few of them do. The question remains as to why.

One could then argue that the reason that Marshall Islanders avoid blaming outsiders for climate change is because they are nonconfrontational by nature: they do not wish to offend anyone, to foment trouble, by casting blame on another group. One could point to the values of kindness (*jouj*) and respect (*kautiej*) so often emphasized in Marshallese discourse as central to *manit*. Western expatriates often subscribe to this view of Marshallese culture (Walsh 2003: 386), as well as some scholars; in an informal piece, the researcher Francis Hezel points to Micronesians’ ‘infinite capacity to shrug off...wrongs’ (Hezel 2009a: 4; also

see Barker 2004: 99; Spoehr 1949b: 90), a habit purportedly stemming from thousands of years of cultural evolution on small, crowded islands where resentments must be buried rather than allowed to erupt into violence. Some Marshallese proverbs encourage such an attitude: ‘Illu, luuj’ (‘He who gets angry loses) and ‘Illu, mōk’ (‘He who gets angry simply tires himself out’).

There may be some truth to these assertions, as on Ujae I observed a pattern of withdrawal or anonymous sabotage as a response to public conflicts (Rudiak-Gould 2009b: 209-11). But the peace-loving, forgiving ethos of Marshallese society should not be overstated. How are we to explain the chronic warfare (Spoehr 1949b: 90) and rampant chiefly assassinations (Kiste 1974: 4) of pre-colonial times? Or, more recently, open and indignant protests regarding the American expropriation of Kwajalein Atoll (Dibblin 1988: 98-100), Compact of Free Association negotiations (Journal 2003c), nuclear testing (Barker 2004: 23-4; Dibblin 1988; Kiste 1974), and access to a dock in Majuro (Journal 2008e) – not to mention open insults and violence directed at Chinese immigrants? Marshall Islanders do not always suppress their anger, nor are they always ‘kind’, so non-confrontationalness can get us only so far in explaining the lack of industrial blame for climate change (see Carucci [1989: 74] for the inadequacy of Marshallese kindness as an explanation for certain attitudes).

The most convincing argument, however, that it is entirely possible and plausible for Marshall Islanders to adopt industrial blame is that some of them do. It is, of course, a fairly small number compared to those who adopt universal blame, which is what I am attempting to explain. But such industrial-blamers do exist as a significant minority, and this proves that Marshall Islanders *can* blame outsiders for climate change. To demonstrate this, and also for the sake of balance, I present a few examples. A middle-aged woman on Ailinglaplap blamed America for climate change, despite my suggestion that some Marshall Islanders disagreed with her:

PRG: Will Marshall Islanders stay in this country in the future?

X: I don't know if they will, because there will be a flood. I heard this on the news. The ocean will rise ten or more feet. The problem comes from America and places like that, not from here. It's because the ice is melting.

PRG: Why is the ice melting?

X: Because the *mejatoto* has been damaged, because of Americans' tools...They make war and ruin the *mejatoto*...

PRG: Why are Marshall Islanders not angry about this, if Americans are causing it?

X: I *am* angry. When the ice melts, where will I go? [Angrily] We have no power.

PRG: What about God's promise not to flood the earth?

X: That's true – it won't flood again like in the time of Noah, because of people's sins. But now the Americans are ruining things. Americans are doing it. They are destroying the good things that God made.

...

PRG: Some Marshall Islanders says that *all* people contribute to the problem, even people in this country. What do you think?

X: No. Marshall Islanders may damage their reefs with plastic imported from America, but they're not causing the sea to rise.

In an even more vociferous statement of industrial blame, a young Marshallese man named James Bing spoke at the Global Humanitarian Forum in 2008. He performed a furious dance and then said, blaming industrialites not just in the abstract but in the flesh: 'This is how angry I am. Rising sea levels have taken our sand, our beaches, our trees, our food and most importantly, our soil. Where is my soil, ladies and gentlemen? What have you done to it? I want my soil back.' For one senior government official, the same man we encountered in Chapter 3 as a 'hyperconvert' who believed that a small islet in Majuro Atoll had disappeared due to climate change, 'an entire island destroyed' had become a cry of protest for both nuclear testing and climate change. Such individuals put climate change into the framework of nuclear testing, as an evil force inflicted by American power and negligence; but these individuals are greatly outnumbered by those who do not.

Thus, all of the necessary ingredients for industrial blame exist: exposure to the idea that climate change should be blamed on foreign countries, a convenient category of foreign countries on which to cast blame, a belief that these foreign countries are more powerful than the Marshall Islands, and a specific foreign country (America) against which some locals harbour grievances. Nonetheless the large majority of Marshall Islanders do not adopt this blame strategy. The question remains as to why.

One could argue that there are certain practical benefits to self-blame as a climate change activist strategy. As I have stated, locals conceive of large foreign countries, in particular America, as much more powerful than themselves, an understandable perception given the archipelago's colonial and nuclear history. Therefore, if locals blame these powerful outsiders for climate change, they will have an overwhelming sense of disempowerment regarding the issue; a tiny country with no political clout could not possibly sway the decisions of the world's mightiest nations. The only thing that locals believe they can control is their own actions; in this way, a sense of empowerment regarding climate change virtually *requires* self-blame. Such a blame strategy confers responsibility upon oneself (Minnegal and Dwyer 2007: 47-8), thus becoming a discourse of empowerment. This self-efficacy is, arguably, highly important for climate change activism. To begin with, it is needed if locals are to do anything about climate change: people will only act to protect themselves from a threat if they believe that the protective measures available are efficacious; if they are not, there is no reason to act. This is the prediction of Protection Motivation Theory (Maddux and Rogers 1983; Rogers 1975), a psychological theory with extensive empirical support (Floyd et al. 2000; Grothmann and Reusswig 2006) and demonstrated relevance to climate change responses (Grothmann and Patt 2005). Empowerment is also, arguably, needed to foster *belief* that the threat is real; Protection Motivation Theory predicts that if one believes that a threat is real but does not believe that there is anything that can be done to prevent or prepare for it, then one will not only fail to act but also cast doubt upon the reality of the threat (Lehman and Taylor 1987; also see Barlett and Stewart 2009: 356-9), justifying this comforting denial through whatever discourses are available (Grothmann and Patt 2005: 203; Grothmann and Reusswig 2006: 106; Kroemker and Mosler 2002; Swim et al. 2009: 126). As two more ethnographically oriented scholars write:

If available knowledge is useless, or even (socially) dangerous, there may be no point in taking on the often considerable costs involved in assimilating it...[People] calculate how much understanding they are willing to own...This often hidden process may then be recorded, misleadingly, as simple ignorance or resistance. [Jasanoff and Wynne 1998: 41]

For those Marshall Islanders who feel that nothing can be done about climate change and who therefore wish to deny the reality of the threat, a convenient justification is at hand: the Genesis argument. Thus, self-blame, by fostering a sense of empowerment, can boost climate change belief as well as action. For this reason universal cum self-blame may be a useful awareness raising strategy.

Such practical benefits might explain why organizations like WUTMI often promote this blame strategy.⁵⁰ But this does not explain why so many locals accept it: they are not forced to blame themselves simply because some activists have encouraged them to do so. Moreover, if locals were adopting self-blame strategically in order to boost their sense of empowerment vis-à-vis climate change, one would expect much higher appraisals of self-efficacy on the issue. When I asked survey respondents ‘Can Marshall Islanders solve “climate change”?’ to those who had heard of it, with 76 responding, only 25% said yes while 58% said no. (17% gave mixed answers.)⁵¹ Along the same lines, a woman on Jabwor, Jaluit, told me about a Canadian photojournalist who had interviewed her for an article on climate change:

She asked me ‘If the country is flooded by climate change, what will Marshallese people do?’ I answered ‘We’ll make a boat just like Noah – we’ll climb aboard, and wait it out.’ Then the journalist said ‘But this time the water won’t go down again.’ So I said ‘Then there is nothing that we Marshallese can do.’

When a journalist asked a man in Majuro how Marshall Islanders would respond to climate change, in particular to the erosion that had already begun, the man replied ‘We’ll do something about that. But whatever it is, it won’t be good enough.’ (Friend 1997)

⁵⁰ When I asked a senior woman at WUTMI why so many Marshall Islanders blamed themselves for climate change, while many outsiders think that Marshall Islanders contribute almost nothing to climate change, she said ‘It’s as simple as this: we think we’re important and they don’t think we’re important. We think we matter and they don’t think we matter.’

⁵¹ In the survey administered to students at Marshall Islands High School, appraisals of climate change empowerment were somewhat higher, but still not as high as we would expect given people’s propensity to self-blame. To the question ‘Can Marshallese people solve the problem? Why or why not?’, out of 52 responses, 46% said yes and 54% said no. (Of the ‘no’ answerers, 3 said Marshall Islanders were not skilled or intelligent enough, 2 said that they were too lazy, 1 said that they lacked the black magic skills of the past, and the rest simply said that Marshall Islanders had no power in the matter.)

Thus, activist expediency is an inadequate explanation for the popularity of self-blame. There is also something of a paradox here to be considered: locals tend to blame themselves for climate change even though they tend not to believe that they can stop it. A majority espouse self-blame, while only a minority espouse the high sense of empowerment that self-blame supposedly entails. We could simply say that, as universal blamers, they criticize their own contribution yet realize that they cannot, by themselves, solve the problem. But the question remains: if their own actions neither make nor break climate change, why not shift blame to the larger culprits? Something quite powerful must be encouraging people to blame themselves.

I argue that this powerful influence is the discourse of self-inflicted entropy. The cultural cognition theory predicts that, when a calamity occurs, ‘someone already unpopular is going to be blamed for it.’ (Douglas 1992: 5) In the Marshall Islands, that ‘someone already unpopular’ is Marshall Islanders themselves; in the discourse of entropy they have the world’s greatest culture, yet they are the world’s worst people for having abandoned it.⁵² Therefore when a new tragedy like climate change enters local consciousness, the easiest ideological move is to blame oneself for it. Indeed, even those informants who could give no account of why climate change is occurring nonetheless were likely to blame the Marshallese nation for having caused it (further indication that it is not people’s understanding of climate change causation, but rather their pre-existing tendency to accuse certain groups rather than others, that explains their blame strategies).

This explanation also resolves the aforementioned paradox of blaming oneself for climate change without believing one has the power to stop climate change. Recall the benefits of ‘persuasive strategies’ of risk communication, which appeal to local ethical

⁵² Another locally unpopular group, of course, is the Chinese, but it has apparently not occurred to Marshall Islanders to blame them for climate change. If the fact is disseminated that China is now the world’s number one carbon polluter, perhaps locals will begin to blame them. Unlike in the case of Americans, there are no positive views of Chinese people to temper the negative ones, no sense of loyalty counterbalancing the sense of resentment. They could therefore be tempting targets of blame, though evidently not nearly as tempting as the in-group.

sensibilities. People are not merely motivated to avoid risk (as the aforementioned Protection Motivation Theory assumes), but to feel and appear righteous according to the standards of their society (Goffman 1959; Leary 1995; Leary and Kowalski 1990). One study, for instance, concludes that the recent turn towards self-protective health behaviours in the West is due to the moralization of health as an ethical obligation, rather than the dissemination of information about risks and prevention (Crawford 1987). This ‘moral motivation’ may trump protection motivation, inspiring people to act even if they believe the action is futile, because the effort itself proves that one is a virtuous individual (Chess and Johnson 2007: 227, 230; Crawford 1987; Hanson 2008; Weinstein 1987: 329). Recall that in Protection Motivation Theory, one will not act if one believes the action is futile. But Protection Motivation Theory applies to *threats*; by putting a moral gloss on climate change it is no longer merely a threat, but also an *opportunity*: a chance to enact and display virtue. As such the efficacy of the actions is rendered irrelevant, the effort becomes an end in itself, and people may act on climate change even if they doubt they can prevent the threat. This is exactly what we see in the Marshall Islands.

I have considered various hypotheses for climate change self-blame in the Marshall Islands—unfamiliarity with other-blame strategies, lack of an emically blameable out-group, misunderstanding of causation, nonconfrontationalness, and activist expediency—and found all of them to be inadequate as explanations. I have also found that the paradoxical coexistence of self-blame, on the one hand, and an only moderate sense of empowerment, on the other, can be explained if we take into account the moral motivation, rather than just the protection motivation, to act. All of these points support the explanation that was, given the argument and data of the previous chapter, most likely a priori. This is the hypothesis that climate change self-blame stems from the framing of the threat as cultural entropy. Climate change becomes a discourse of traditionalist self-criticism. It is this self-censure that truly

animates Marshall Islanders, because they see in it the possibility of defending their most sacred values.

The mitigation movement

This emphasis on self-blame leads straightforwardly to a preference for local mitigation over foreign protest. In my survey, when I asked ‘What should people do about climate change?’ (with 80 people responding and 82 individual suggestions made between those 80 people), the most common suggestion was to mitigate climate change through local or global actions, with 26 suggestions (32%); other suggestions were to continue studying and discussing the problem (17 suggestions, or 21%), to prepare for or adapt to climate change impacts (8 suggestions, or 10%), and to relocate or plan for relocation (only 2 suggestions, or 2%); no one advocated protesting against foreign countries. In the Marshall Islands High School survey, in response to the question ‘Should Marshallese people do anything about climate change? If so, what?’, with 52 respondents, 38 answered that Marshall Islanders should do something, and 35 of those provided suggestions. Of those 35 respondents, 18 (51%) specified mitigation, probably local mitigation although it is unclear (not burning plastics and garbage, solid waste management, recycling, energy management, reduction of carbon dioxide emissions), 7 (20%) specified what could have been intended either as adaptation or local mitigation or both (planting trees and gardens), 6 (17%) specified education and awareness raising, 1 (3%) specified adaptation (building seawalls), 1 (3%) specified praying, 1 (3%) specified relocation, and 1 (3%) suggested building a large Ark-like boat to house the Marshallese nation after inundation; no one suggested protest. In the same survey, in response to the question, ‘Do you intend to do anything about climate change? If so, what?’, with 49 respondents, 30 answered that they intended to do something, and 22 of those specified what they intended to do. Of those 22 stated intentions, 8 (36%) were for mitigation (recycling, not using machines, not burning plastic), 7 (32%) were for educating

oneself or others about the threat, 2 (9%) were for adaptation (building seawalls), 2 were for what could have been intended either as adaptation or as local mitigation or as both (planting trees), 1 (5%) was for relocation, 1 (5%) was for becoming a scientist, and 1 (5%) was for praying; no one said that they planned to protest other countries' contributions to climate change. Thus, in all of the above, mitigation was the most popular suggested response to climate change, while protest was not even mentioned.

When a reporter from the Marshall Islands Journal asked students in Majuro what ought to be done in response to global warming, none mentioned campaigning abroad or complaining to foreign nations. Instead the answers were as follows (Journal 2008d):

What we can do about this is...not burning chemicals, and not helping the tides take the pieces of our small islands. Like taking soil from beaches or dredg[ing] sites so much for building houses.

I think that I can try not to burn trashes or I might say chemical that destroys the layer that protects the Earth from total hotness.

[W]e could help clean up the island.

[W]e the people are the ones causing global warming. If we would really care about it, then we would have at least done something to prevent it from happening.

When students at Marshall Islands High School participated in a climate change essay-writing contest, none of them suggested foreign protest. Instead, they advocated measures like the following: 'In order to prevent these problems we should stop burning things, use air conditioners and vehicles less. We all people of the RMI should take our part' (Journal 2008b).

At the WUTMI climate change forum in April 2009, attendees decided upon six recommendations for responding to the spectre of climate change. None of these recommendations involved protest, but instead local adaptation and the reduction of the Marshall Islands' own contribution to global warming through such measures as recycling, minimizing the use of air conditioners, and encouraging public transportation in the urban centres.

The stated preference is thus, quite unambiguously, for local mitigation over foreign protest. Of course, people's verbally stated preferences and their behaviourally revealed preferences are distinct, and indeed sometimes by opposite (Bloch 2000: 200; Gombrich 1971). We must therefore ask if this stated conviction is borne out by behaviour. It is. In the Marshall Islands there have been no grassroots protests of other countries' contributions to climate change; there has been nothing akin to the indignant public complaints against industrial culpability that have been issued from certain other indigenous quarters (see García-Alix 2008; Jacobs 2005; Lindisfarne 2010). The only exception of which I am aware is James Bing's aforementioned protest at the Global Humanitarian Forum in 2008; this, however, involved only a single individual. There was also a rally in Majuro in October 2009, jointly organized by Youth to Youth in Health (a Majuro-based NGO) and the Ministry of Internal Affairs, against worldwide greenhouse gas emissions, as part of the Global Day of Action on Climate Change; but here it was universal blame, not industrial blame, that was emphasized (Journal 2009c). While the Marshallese government has lodged protests against foreign emissions, these campaigns have not involved non-elite participation.

Instead, grassroots Marshallese society has given birth to a growing mitigation movement. The EPA-sponsored Environment Day in 2007 focused on reducing local carbon emissions by walking to work, turning off lights, and avoiding the use of styrofoam cups and plastic bags (see Journal 2007b).⁵³ The aforementioned 2009 Energy Fair with slogan 'Conserve Energy Now!' advised citizens to reduce their consumption of electricity, and its inclusion in the climate change-themed Education Week implied that such measures should be intended partly to combat global warming. Another Energy Fair in February 2010, this time sponsored by the Marshall Islands Conservation Society (an NGO), the Office of

⁵³ The government (in this case the EPA) sponsored this event, but I include it in this list of grassroots mitigation efforts because it involved a large amount of participation and support by ordinary Marshall Islanders. The same can be said of the other events in this section that were sponsored or co-sponsored by Marshallese government bodies.

Environmental Policy and Planning Coordination, and the Ministry of Resources and Development, educated students about climate change and encouraged Majuro Middle School students to adopt energy conservation and renewable energy for purposes of both energy security and climate change mitigation; other similar workshops are planned for the city of Ebeye as well as the outer islands of Jaluit and Wotje (DeBrum 2010). In March 2010 the College of the Marshall Islands organized a public discussion on climate change in the wake of the COP15 negotiations in Copenhagen. Speakers included representatives from both the grassroots realm (Angeline Heine from WUTMI) and the government (Yumi Crisostomo from the Office of Environmental Policy and Planning Coordination). Heine emphasized that the Republic of the Marshall Islands was among the most intensive users of fossil fuels in the Pacific, and asked the attendees ‘How can we ask the bigger nations for help, when we are [also] a contributor to climate change?’, thus advocating local mitigation (Henry 2010). In 2010 the Kwajalein Atoll local government sought and received a US\$50,000 grant from the Global Environment Facility/New Zealand AID Small Grants Program to boost its use of renewable energy, with the explicit goal of raising awareness of, and fighting, climate change (Journal 2010e); others with ties to Kwajalein Atoll are investigating the possibility of installing Ocean Thermal Energy Conversion, a renewable energy source (Tony DeBrum, personal communication). In May 2010, as part of an event encouraging healthy behaviours and in particular the reinvigoration of pandanus horticulture as a salubrious and customary practice, students and teachers at the Majuro Co-op School recast the growing of pandanus as a climate change mitigation measure: they rode through Majuro with a sign saying ‘Bōb [pandanus] Bandits save Mother Earth from the Global Warming Demons’, pointing to the plant’s ability to turn harmful carbon dioxide into harmless oxygen and to protect the shoreline from climate change-induced erosion (Journal 2010d). In June 2010, nearly 200 Marshallese Boy Scouts spent a weekend on Enemanit Island in Majuro Atoll to learn about energy conservation, with an eye towards both reinvigorating tradition and mitigating climate

change. The boys learned how to make *enrā*, traditional plates woven from coconut fronds, which Marshallese traditionalist discourse praises as emblems of both subsistence and conviviality: recall ‘Enrā bwe jen lale rere’ (‘Food basket so that we take care of each other’) from Chapter 2. The participants advocated the replacement of imported plates with these local crafts on both traditionalist and environmentalist grounds; one group of boys stated ‘if 80 percent of the world population used enra then the world would be free from carbon product[s] contributing to climate change’ (Journal 2010c). In July 2010, the Canadian expatriate Tamara Greenstone organized a camp in Majuro for students to learn about environmentally friendly renewable energy, and a Science Fair in which they presented the results to others. Although the event was organized by a foreigner, it was well received by locals; they considered it both an educational opportunity and an action to preserve the environment and staunch climate change (Heine 2010). In December 2010, mayors from the country’s Ratak chain of atolls requested US\$51 million from the United Nations for outer island solar energy and related climate change education (Journal 2010a).

As suggested by the national government’s co-sponsorship of some of these largely grassroots events, the Marshallese political elite supports the transition to renewable energy; while they often adopt industrial blame in their climate change campaigns, they are also keenly interested in weaning the country off of fossil fuels. Their reasons, however, may be distinct from those of the people. In 2008 the government declared a state of emergency because the global spike in oil prices had made it cripplingly expensive to import oil for Majuro’s power plant. Since then the government has worked industriously to eliminate fossil fuel dependence. Funded by donors, it has sought to introduce more energy-efficient streetlights in the urban centres, use coconut oil as a biofuel, introduce solar power in both rural and urban areas, join international coalitions such as the International Renewable Energy Agency, and reduce the country’s greenhouse gas emissions by 40 percent by 2020. These policies are justified on grounds of both energy security and climate change mitigation

(see for instance Journal 2010b). The mitigation movement that I have described could therefore be interpreted in more cynical terms, as stemming not from genuine sentiments of climate change responsibility, but rather from pragmatic economic concerns which are strategically justified with environmentalist rhetoric. One might also argue that the mitigation movement is not a product of guilty feelings, but rather a calculated attempt to shame larger countries into action and/or to demonstrate the feasibility of carbon neutrality (as in the Maldives president's pledge to make his country carbon-neutral even though he regards other countries as the main causers of climate change [Schmidle 2009]). There may be some truth to these alternate explanations, but only in the governmental arena. In the grassroots realm, on which this thesis focuses, these alternative hypotheses are implausible. There would have to be a vast conspiracy, involving citizens everywhere in the country, to feign climate change concern, universal cum self-blame, and genuine interest in local mitigation – a highly far-fetched proposition. The grassroots movement is genuine, and its foundations are not just pragmatic but also ideological.

This movement is not yet fully grown. It will only be so once Marshall Islanders across the nation are regularly scolding each other in their everyday lives for turning on electric lights, for travelling in motorboats, and the like. Whether it will grow to this point is unclear, but there are reasons to think that it might. Recall the aforementioned incident at the WUTMI climate change forum in April 2009, in which a woman chastised the speakers for hypocritically using styrofoam cups. This hints that the mitigation movement has begun to operate on the micro-scale, with enough moral force to cause embarrassment and perhaps to inspire behavioural change. Moreover, this thesis as a whole has shown that the movement rests on a solid ideological foundation that is likely to persist long into the future. Thus the movement has potential to mushroom into a societal force truly to be reckoned with.

Is this response 'rational'? As I stated in Chapter 1, a society's response to a threat may appear odd and irrational to outsiders; the Marshallese mitigation movement could easily

appear as such to non-Marshallese who subscribe to industrial blame and decry the inequities of climate change. Yet Marshall Islanders' response to climate change is almost certainly rational. Jarvie and Agassi (1967), in an article discussing the rationality or irrationality of magic, distinguish between rationality in the weak sense (goal-oriented action based on beliefs which may themselves be either rational or irrational) and rationality in the strong sense (goal-oriented action based on rational beliefs). The Marshallese mitigation movement is certainly rational in the weak sense, as it responds to climate change in a way that follows the premises of a locally held cosmology, as I have argued. It may be rational in the strong sense as well; while some may wish to withhold the appellation of 'rational' to the cosmology itself (since its loyalty to *manit* is unfalsifiable and therefore in some sense not rational), the belief that framing climate change as cultural entropy will strengthen that cosmology and inspire a traditionalist revival is certainly well-founded. Understood in this light, the Marshallese mitigation movement is reasonable in the deepest sense.

Conclusion

It is instructive to return now to the ethnographic vignette that began this thesis, in light of all that I have argued in the interim. The young Marshallese citizens whose pro-mitigation stance I described were not motivated by a misunderstanding of their country's small contribution to climate change, nor by a masochistic desire for self-flagellation. Rather, they were motivated by an avowed yearning to regain a lost way of life, to reassert tradition. They were, as members of the new generation, reproducing central aspects of a society for whom *manit*, tradition, is a keystone concept, the 'grand arbiter'. Where an outsider might see only needless self-flagellation, the sad spectacle of a victimized society turning blame inward, Marshall Islanders see an opportunity to turn climate change into the final proof of modernity's folly, the ultimate inspiration to return to an older, better way. The side benefits that solar power, canoe use, and the like offered to *manit* were not side benefits at all: they

were the main point, and if anything it was the curtailment of climate change that was the side benefit. Combating climate change became a means to an end; they were *using* climate change and not just trying to *solve* it, as Mike Hulme advocates (2009: 328). As one Marshallese climate change activist told me, referring to the Education Week tree-planting activity, ‘The way I see it, we’re fortifying not our shoreline, but our culture.’

Conclusion

The people of the Marshall Islands have been told their country is doomed, and have seen confirmatory omens in their backyards. This thesis has endeavoured to explain how locals react to this spectre and why. It has shown how the idea of global anthropogenic climate change, originally a foreign scientific notion, has become local, disseminated through Marshallese society and interpreted through Marshallese ideology. Marshall Islanders have, to use Broad and Orlove's (2007) coinage, 'channeled globality', remaking a global discourse in their image, and harnessing it for their own parochial ends. Yet even as the Marshallese vision of climate change is culturally specific, it is nonetheless a recognizable instance of a larger discourse, a variation on a theme; it is not entirely alien or unintelligible. Indeed, Marshallese views of climate change are *part* of the global discourse, and the existence of such local instances in a variety of societies is what makes the discourse global. Thus Marshall Islanders, via climate change, have become 'transnational locals' (Lahsen 2004).

The localization of global warming discourse has occurred according to the theories of cultural cognition and confirmation bias reviewed in Chapter 1. Most aspects of the climate change discourse—in particular its entropic narrative, its anthropocentric blame, and the Western origin of its culpable technologies—are perfectly compatible with prior commitments; those aspects are taken up, adopted, and embraced. One aspect is contrary to prior beliefs—the presupposition that climate change is essentially an 'environmental' issue, primarily impacting 'nature'; this aspect is rejected. Another aspect is *ambiguous* with regards to previous beliefs: climate change offers grounds on which to blame the in-group, as well as grounds on which to blame an out-group. This ambiguous aspect is made to conform to pre-existing convictions by downplaying the ideologically inconvenient proposition and emphasizing the more palatable one. In accordance with the theories of communication and cultural transmission reviewed in Chapter 1, the idea has been transformed in the process of

its transmission; the message has been reconstructed as *traditionalist*, *anthropocentric*, and *local*, framings which the original formulators of global warming science could not possibly have intended, nor anticipated.

Thus, rather than adapting to climate change, Marshall Islanders are adapting climate change to themselves. There are, to be sure, potential drawbacks in the Marshallese appropriation of climate change as cultural entropy. The country may lose its opportunity to lodge a powerful and moving complaint against industrialites' inaction on climate change, and they may needlessly take on guilty feelings for a tragedy they have hardly contributed to. In this thesis I have attempted to set aside the case study's ethical dimensions, but if they must be confronted here, I will say only this: the dangers of the Marshallese strategy are real, but the opportunities are equally so. We should not endorse Marshallese interpretations of climate change on merely relativist grounds, but neither should we too hastily condemn the strategy for its victim-blaming parochialism, for it is that same parochialism which renders the threat locally meaningful and engageable.

We see, then, a sort of climate change 'resilience' other than the physical and social varieties: *ideological* resilience, of an impressively strong kind. Even climate change—a momentous idea if there ever was one, ideally placed, it would seem, to alter people's perceptions of themselves, their nation, and their future (Jasanoff 2010)—has effected little or no change in local ideology. It has only strengthened it. In Al Gore's famous phrase (Gore 2006), climate change is 'an inconvenient truth'; for Marshall Islanders it is a convenient one. While global warming poses a severe threat to Marshall Islanders' homes and livelihoods, it poses no threat to their concepts. It insults their islands, but flatters their categories. It is a physical upset, an ideological windfall.

This case study thus points to a more general conclusion about risk perception, a proposition latent, but never explicit, in Mary Douglas's writings on cultural cognition. People are not risk averse per se. They do not dislike risks. In fact, they like risks, they love

dangers – so long as those risks and dangers flatter their worldview. Why else would most Marshall Islanders choose to believe in—indeed, in some sense to welcome—such a horrific idea, when resources exist to deny it? Confirmation bias has trumped optimistic bias. And why else, moreover, would Marshall Islanders assume responsibility for a colossal crisis, when they have every justification necessary to blame others, to wash their hands of the entire affair? Ideological convenience has trumped practical convenience. Any instance of confirmation bias demonstrates how motivated people are to defend deeply held beliefs, but the sort of confirmation bias at work in the cultural cognition of risk demonstrates the point especially well, because it shows that this motivation may indeed be greater than the motivation to believe that one is invulnerable. At the very least, in a situation where the risk is largely future-oriented, not yet overwhelming, the most significant dangers and opportunities are conceptual rather than physical. A threat may one day cause social upheaval through its physical impacts, but the more immediate danger is that it will cause social upheaval through its conceptual impacts. That, the ideational hazard, is the first danger, perhaps the primary one, that a society must neutralize when it becomes aware of a threat.

When a society has thus managed to ideologically domesticate and ‘houstrain’ the threat, it has entered a paradoxical state vis-à-vis this threat, a paradoxical state which is at the heart of risk perception. Members of the society simultaneously hate and love the threat, and both for the same reason. They hate the threat because it endangers something fragile and dear. They love the threat because it endangers something fragile and dear, and thus societal attention on that threat will uphold the ideological scheme in which that thing is considered fragile and dear. In the Marshall Islands, if climate change is a kind of cultural entropy, then it endangers everything Marshall Islanders value most. Yet by framing it as cultural entropy, belief in that traditionalist discourse is bolstered, and social solidarity is thus strengthened. Climate change makes Marshall Islanders less secure, but the *idea* of climate change makes them more so; just as entropy itself makes Marshallese ‘tradition’ less secure, while the

discourse of entropy makes it more secure by affirming its value and demanding its protection.

Given the ideological benefits that a society may accrue from physical dangers, climate change can be taken as an opportunity rather than a burden. The double meaning of the word ‘face’ in the title of this thesis is deliberate. Low-lying islanders are often presented as passive with regards to climate change, merely *facing* future destruction (Farbotko 2005; for an example see Smallacombe 2008: 73). This thesis has shown how they can also *face* climate change, face up to it, respond to it. This case study thus carries fairly optimistic implications with regards to humankind’s ability to solve, cope with, or harness climate change. Humanity’s sluggish response to climate change may not be an inevitable result of the various liabilities reviewed in Chapter 1, nor is it due simply to inertia or an unwillingness to face danger. It may rather owe to the fact that concern entrepreneurs have not yet discovered ways to make climate change appeal to various ideologically diverse communities. While some may subscribe to worldviews so unambiguously contrary to the notion of climate change that no amount of rhetoric will convince them, there are surely other, as yet unconvinced, groups that could be brought on board, if only the appropriate arguments and imagery were used.

Certain fears about the intractability of climate change are thus partially allayed. Orlove et al. (2008: 14) worry that climate change impacts, being caused primarily by distant agents, will inspire a sense of victimization and therefore disempowered passivity. The Marshallese case suggests that such problems may be overcome by casting the threat in locally resonant terms, the result of which may be the very opposite of victimized apathy. Sheila Jasanoff (2010) similarly worries that climate change as a universal, self-consciously value-free scientific discourse is at odds with the normative, situated interpretations which might inspire real concern. She worries, too, that the challenges that climate change poses to prior human understanding of nature and society create an ‘[intellectual] climate that renders

obsolete important prior categories of...experience' (Ibid.: 233) and 'cuts against the grain of ordinary human experience, the basis for our social arrangements and ethical instincts' (Ibid.: 237) in ways so numerous and deep that they may take centuries to accommodate (Ibid.). These fears are reasonable, but perhaps not as discouraging as they appear. No matter if the scientific idea of climate change is presented in universalistic ways shorn of local meaning; communities may *make* it locally meaningful. Global action on climate change may therefore be easier than we have feared – but not because of a global consensus on the meaning of climate change, but rather a plurality of local imaginations of climate change, each one spurring the same needed responses (mitigation, adaptation) but for differing reasons: a necessary commonality of action without an unnecessary commonality of thought – a humanity, to invert the famous phrase, thinking locally and acting globally.

Sketch of a trajectorial theory of risk perception

The discussion above underscores the fact that Mary Douglas's theory of cultural cognition has been corroborated by this case study, applying easily to a threat—climate change—and a society—the Marshall Islands—for which it was not specifically designed. This is compelling evidence in the theory's favour. At the same time, Douglas's *special* theory of cultural cognition, the group-grid theory, has not fared so well; not only is its fit with the Marshallese data uncomfortable at best (Chapter 4), it has also failed to draw attention to what is, I have argued, the most important prior commitment, namely narratives of moral trajectory.

I thus propose a theory of risk perception that accords with the general cultural cognition theory but draws attention to a societal variable quite different from those of Douglas's group-grid theory. This variable is the society's prevailing narrative of moral trajectory—entropy/regress vs. progress—surely among the most central and consequential beliefs that an individual or society can hold. Such a 'trajectorial theory of risk perception'

aims to unify existing literatures on entropy and other narratives of moral trajectory with literatures on risk perception. These connections have received scant attention in the anthropological literature, with nothing akin to the trajectorial theory of risk perception existing in the anthropology of climate change. While Mary Douglas mentions narratives of moral trajectory, suggesting that ‘centre’ societies are more optimistic, ‘sectarian’ societies more pessimistic, she gives no analytic weight to progressivism-degradationalism in itself. Nor have I found a formulation of the trajectorial theory of risk outside of anthropology, although one may exist in the voluminous outputs of the many social sciences. The closest I have found is an article by the economist Richard Norgaard (2002) in which he suggests that his fellow economists, adherents to an Enlightenment notion of cumulative technological and material progress, belittle environmental concerns because environmentalism posits a degradationalist narrative, a challenge to assumptions of progress. Norgaard’s article, however, does not formulate this theory in detail, name it, or attempt to extend it to other domains.

What would the trajectorial theory of risk perception look like? What would it predict? How might it be tested? I hypothesize that societies with a vigorous discourse of decline will select more risks for concern, because *any* risk confirms its pre-existing belief in a worsening universe; such societies will be especially likely to select *apocalyptic* threats for societal attention, and any risk that posits an idyllic, dangerless former state of the world. Environmentalist threats will thus be highly credible to such societies, for the reasons outlined in the section ‘Entropy and Marshallese environmentalism’ in Chapter 4. Conversely, societies with a vigorous discourse of progress will be biased against believing in *any* risk, especially apocalyptic risks and those that presume a former, better way of things; such societies will select fewer risks for attention and be less credulous towards risk discourses in general. They will, however, be willing to select fairly mild risks for societal attention, those that threaten the steady march of progress but which do not indicate that such

a notion is illusory or ill-fated, and/or those risks that posit sudden, intermittent bursts of danger, rather than a gradual decline in safety. Foreign military threats to the in-group, for instance, will be credible to such societies, since such threats have loomed since time immemorial and will probably continue to do so long into the future; environmentalist threats will be less credible. *Responses* to threats will proceed along concordant lines: pessimistic societies will favour radical responses (the world being in a downward spiral, drastic action is required) and will be more eager to take up threats that seem to require such fundamental reform; meanwhile, optimistic societies will favour shallower responses (the world being upward bound, a radical change of course is unnecessary or dangerous) and will be reluctant to take up threats that seem to require fundamental change. The same predictions could be made on the level of individuals or factions within societies.

I do not intend here to imply a ‘culture and personality’ approach (LeVine 1963) to risk perception. In the trajectorial theory of risk perception, a ‘pessimistic society’ is a society in which a narrative of entropy is dominant, not necessarily one in which individuals have ‘pessimistic personalities’, whatever that might mean. The way in which individuals in the society habitually approach their personal affairs, in an optimistic or pessimistic manner, may be entirely different from the larger, more abstract and collectively held trajectorial worldviews dominant in their society (see Vogeley and Roepstorff 2009). The trajectorial theory of risk perception concerns these larger cosmologies rather than everyday emotional or psychological orientations, and it makes no assumptions about child-rearing as the font of these cultural variables.

Regarding global climate change more specifically, a trajectorial theory of risk perception would predict that pessimistic societies will eagerly embrace climate change, will interpret it in apocalyptic terms, and will advocate sweeping change to tackle it, while optimistic societies will reject the notion of climate change or will neutralize it by portraying it as only moderately dangerous, and any responses suggested will be shallow ones. This

prediction seems to be borne out by left-wing versus right-wing responses to climate change in the West. This apparent corroboration could be more rigorously demonstrated by conducting studies similar in methodology to Kahan et al. (2007), Feygina et al. (2010), and Feinberg and Willer (2011); the trajectorial theory of risk perception would predict that a large part of the variation between individuals in their attitudes to climate change—belief in it, preoccupation with it, assessment of its severity, and the drasticness of proposed responses to it—will be accounted for by the individual’s pre-existing belief in regress or progress. Such variables, my theory predicts, would account for most of the variation previously accounted for by the variables used in Kahan et al. (2007), Feygina et al. (2010), and Feinberg and Willer (2011)—namely ‘just world’ belief, egalitarianism, individualism, and system justification—suggesting that those variables may not be as important, in themselves, as the aforementioned studies concluded. For instance, much of the effect of ‘just world’ ideologies on climate change belief (Feinberg and Willer 2011) might in fact be the effect of progressivist moral trajectory beliefs; the two beliefs are certainly closely related (a world on the mend is presumably a more just one) and so are most likely strongly correlated.

In Pacific societies, the trajectorial theory of risk would predict that societies with a strong narrative of traditionalist entropy would select and interpret risks in the aforementioned manner of pessimistic societies: they will be highly receptive to climate change and other degradationalist risks, and frame them in traditionalist terms. Meanwhile, Pacific societies with a vigorous sense of religious progress or modernist progress (Chapter 2) will reject or downplay such risks. Within single Pacific societies, particularly religious individuals (such as church authorities), particularly modernist individuals (such as government officials), and particularly traditionalist individuals (such as chiefs) will subscribe primarily to the corresponding moral trajectory narrative and will respond to threats appropriately. Thus, the theory predicts that different individuals and factions in a Pacific society will find themselves at odds over climate change for the same reasons they are at odds

over other issues. It might predict, for instance, that the traditionalist chiefly establishment in Fiji will embrace the idea of climate change, while Methodist church authorities, more attached to an anti-traditionalist ideology or a belief in religious progress, will regard climate change with more scepticism.

The influence of *blame* narratives, as an aspect of moral trajectory narratives, could be added to the trajectorial theory of risk perception. In progressivist narratives there is no need for a strong notion of blame: the world is getting better, so no one needs to be accused. In entropy narratives, however, blame figures prominently. Crudely, we could distinguish between in-group-blaming entropy narratives, and out-group-blaming entropy narratives. An extended trajectorial theory of risk would predict that the blame strategies in the narrative of moral trajectory would influence what risks are selected for attention and dictate the moral interpretation of those risks. In-group-blaming pessimistic societies (like the Marshall Islands) will select risks that implicate the in-group, reject risks that do not, and interpret risks that are ambiguous vis-à-vis blame (such as climate change) as being primarily perpetrated by the in-group. Out-group-blaming pessimistic societies will select risks that implicate disliked foreign groups, reject risks that accuse the in-group, and interpret ambiguous risks like climate change to implicate an out-group, in particular one against which the group already harbours grievances. The extended trajectorial theory of risk would also suggest that certain documented cases of climate change self-blame, such as among rural sub-Saharan Africans (BBC World Service Trust 2010) might stem partially or largely from prior attachment to an in-group-blaming entropic narrative.

To begin to cross-culturally test the theory I have outlined here is beyond the scope of this thesis, but I will briefly examine a particular case study that appears to corroborate it. W.D. Smith (2007) provides a portrait of climate change attitudes among Totonac farmers in Mexico. A key informant opined that since the advent of moneyed life and cash-cropping, the social and physical worlds have declined; indeed, for this informant the ‘two’ worlds were

one. A deteriorating, destabilizing climate, which he had himself observed, was part of this more general decline. While fully aware of the superior power and wealth of the neighbouring United States, the Totonac man placed primary responsibility for this decline on local people's desertion of customary faculties of 'presence of mind' and proper human-environment interactions. As a result the informant advocated a 'back to basics' (Ibid.: 222) approach to tackling both climatic changes and other local woes. It appears, then, that this is another case of the subsumption of climate change into a pre-existing discourse of self-inflicted entropy, another example of a society with an in-group-blaming entropic narrative that reacts to climate change in similar ways to the Marshallese. Smith does not theorize this aspect of his case study in depth or propose any sort of trajectorial theory of risk perception, nor does he provide more direct evidence that entropy-belief has precipitated climate-concern, or evidence that conceptual intertwining of the two discourses is performed by more than this one key informant. Nonetheless, his case study appears similar to my own and thus hints that a trajectorial theory of risk perception might have currency and insight even in a radically different cultural context.

The predictions I have outlined above could be tested through a variety of methodologies: the largely ethnographic approach I have adopted in this thesis; survey/self-report measures; experimental manipulation (see for instance Feinberg and Willer 2011); and semantic network analysis, which would determine to what extent discourses of particular risks are mentally associated with discourses of particular moral trajectories – a quantitative and more rigorous version of the qualitative discourse analysis I presented in Chapter 4. Studies could be performed at the level of entire societies; at the level of factions within a society; at the level of individuals; or at a level below even that of the individual, namely the level of the frame-of-mind (an individual may have multiple contradictory attitudes towards a risk if she has multiple contradictory narratives of moral trajectory). Many insights might result from such a research project. Mark Nuttall (2008b: 51) states that the usual indigenous

strategy is to regard climate change as a severe threat perpetrated by foreign groups; he documents an exception in Greenland, where indigenous people often see profoundly positive opportunities in warming trends. I have documented another exception to Nuttall's generalization: an indigenous group that tends to regard climate change as severe, but blames the in-group for it. Testing the trajectorial theory of risk perception in the ways outlined above might reveal that Nuttall's and my 'exceptional' cases are not in fact unusual; they may even be common. If indeed there are many indigenous groups, factions, or individuals who subscribe to narratives of religious or modernist progress, then it may not be unusual, after all, to find indigenous people who doubt the reality of climate change or manage to reframe it as an opportunity; and if there are indeed many indigenous groups who subscribe to in-group-blaming entropic narratives, then self-blame for climate change may be quite common as well. Cross-cultural testing of the trajectorial theory of risk perception could uncover both the existence of these patterns and the reasons for their existence.

In these and other ways, research inspired by the trajectorial theory could enrich our understanding of risk perception, the role of moral trajectory narratives in society, and human responses to the threat of climate change.

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Appendix A: Survey questions

<u>Section 1: General concerns, and observations of environmental change</u>	
<i>Kain rōt problem raan kein ilo majel in?</i>	What kinds of problems are there in the Marshall Islands these days?
<i>Enaaj kain rōt problem ilju im jōklaj ilo majel in?</i>	What kinds of problems will there be in the Marshall Islands in the future?
<i>Rimajel renaaj pād wōt ilo aelōñ kein ilju im jōklaj? Etkē?</i>	Will Marshallese people stay in the Marshall Islands in the future? Why or why not?
<i>Eoktak ke ejab oktak majel in jān jemaan? Oktak rōt? Ej juon problem men in ke ej jab juon problem?</i>	Is the Marshall Islands different from the past or is it the same? [If different], different in what way? Is this a problem or not a problem?
<i>Eoktak ke ejab oktak lañ jān jemaan? Oktak rōt? Ej juon problem men in ke ej jab juon problem?</i>	Is the 'weather' different from the past or is it the same? [If different], different in what way? Is this a problem or not a problem?
<i>Eoktak ke ejab oktak lojet jān jemaan? Oktak rōt? Ej juon problem men in ke ej jab juon problem?</i>	Is the ocean different from the past or is it the same? [If different], different in what way? Is this a problem or not a problem?
<i>Eoktak ke ejab oktak mejatoto jān jemaan? Oktak rōt? Ej juon problem men in ke ej jab juon problem?</i>	Is the 'climate' different from the past or is it the same? [If different], different in what way? Is this a problem or not a problem?
<i>Etkē oktak kein rej waļok?</i>	Why are these changes happening?
<i>Kwaar ke ellolo ibwijleplep eo me eaar waļok December eo loḵ</i>	Did you see the flood that happened last December [2008]?
<i>Ibwijleplep eaar ke kōmḡman jorrāñ ñan ḡweo imōḡ?</i>	Did the flood damage your house?
<i>Eaar ke kōmḡman jorrāñ ñan ḡoko imōñ ro mōttaḡ ak ro nukuuḡ?</i>	Did it damage the houses of your friends or relatives?
<i>Etkē ibwijleplep eñ eaar waļok?</i>	Why did the flood happen?
<i>Kain eñ eaar ke waļok jemaan?</i>	Did that sort of thing happen in the past?
<i>Kwōñañin ke ellolo wūliej eo an Jenrōk me ejorrāñ?</i>	Have you seen the damaged graveyard in Jenrōk?
<i>Etkē wūliej eñ an Jenrōk ejorrāñ?</i>	Why is the Jenrōk graveyard damaged?
<i>Kain en eaar ke waļok jemaan?</i>	Did that sort of thing happen in the past?

<u>Section 2: Awareness and views of the scientific concept of climate change</u>	
<i>Eḡōj ke aḡ roñ kōñ 'climate change'? 'Global warming'? 'Greenhouse effect'?</i>	Have you heard of 'climate change'? 'Global warming'? 'Greenhouse effect'?
<i>Kwaar roñ kōñ men kein ia?</i>	Where did you hear about it?
<i>Eḡōj ke aḡ pād ilo juon kweļok ak workshop kōñ men in? Kweļok ta?</i>	Have you attended a meeting or workshop on it? Which one?

<i>Ta in 'climate change'? Ta meļeļen?</i>	What is 'climate change'? What does it mean?
<i>Kwōj ļōmņak eṃool ke?</i>	In your opinion, is it true?
<i>Etke ej waļok?</i>	Why is it happening?
<i>An wōn bōd 'climate change'?</i>	Whose fault is climate change?
<i>Armej rej aikuj ta kōn problem in?</i>	What should people do about this problem?
<i>Riṃajeļ remaroñ ke kajjimweiki problem in?</i>	Can Marshallese people fix this problem?

<u>Section 3: Personal information</u>	
<i>Ewōr ke aṃ seawall? Wōn eaar kōmņane? Ñāāt? Etke?</i>	Do you have a seawall? Who made it? When? Why?
<i>Jete aṃ iiō?</i>	How old are you?
<i>Ewi joñan aṃ jikuul?</i>	How much education have you completed?
[Life history information]	[Life history information]
<i>Kwōj jokwe ia?</i>	Where do you live?
<i>Iartata, iar, iṃoj, lik, liktata?</i>	Right on the lagoon shore, on the lagoon side, in the middle of the island, on the ocean side, or right next to the ocean shore?
<i>Jete katten ilo juon wiik kwōj eṃñōd ak kakijen ioon pādpād?</i>	How many times per week do you fish or gather food on the reef?
<i>Jete katten ilo juon wiik kwōj etal ñan ṃōn jar</i>	How many times a week do you attend church?
<i>Kwōj kabuñ ta?</i>	What is your religion?

The first version of the survey, administered to 100 subjects, followed the order of sections shown above. In the second version of the survey, administered to 46 subjects, I asked the questions in the second section before those in the first section. This was an attempt to determine if answers to questions about the scientific notion of climate change might be different if the respondent had not so recently been reminded of locally observable environmental change; this turned out to make little difference, however.

The questions regarding environmental change in Section 1 are of course leading questions. I could find no way to ask directly about environmental change without inadvertently implying that it was occurring. However, I minimized the damage in several ways: I explicitly allowed the subject to say that no change had taken place, by asking 'Is the climate different from the past *or is it the same?*' rather than asking 'Is the climate different

from the past?’ (or, even more problematically, ‘How is the climate different from the past?’); I began with the least leading, and least direct, questions (‘What kinds of problems are there in the Marshall Islands these days?’) and considered the answers to those questions to more revealing than the answers to subsequent questions; I never asked subjects about *specific* environmental changes, such as sea level rise or increased temperatures, so that they would not report such changes merely due to acquiescent response bias; and I made certain that my subjects did not know that I was interested in climate change.

Appendix B: Survey findings regarding concern about various issues

In Table 7 in Chapter 4 I presented data, based upon my survey, regarding how concerned or preoccupied Marshall Islanders are regarding various issues. Below I present the smaller issue categories (for instance ‘High cost of food’, ‘Unemployment’, ‘Hunger’) out of which the larger issue categories were built (‘Economic hardship and basic needs’), as well as reporting several other issues that were mentioned by informants but not often enough to be included in Table 7.

This data comes from the first batch of the survey (100 respondents) in which I asked about general concerns before I mentioned climate change; thus, these answers are spontaneous, uninfluenced by climate change-related acquiescent response bias. ‘Number of mentions’ refers to the total number of mentions of this issue by all survey respondents. ‘Percent of mentions’ refers to the total number of mentions of this issue by all survey respondents divided by the total number of mentions of all issues by all survey respondents. ‘Percent who mentioned it’ refers to the percentage of survey respondents who mentioned the issue at least once. ‘Sum of percentage of mentions’ refers to the sum for all survey respondents of ((the number of mentions of the issue by the survey respondent) divided by (the total number of mentions of all issues by that survey respondent)).

	Number of mentions	Percent of mentions	Percent who mentioned it	Sum of percentages of mentions
Economic hardship and basic needs	85	23.0%	51%	25.13
Unemployment	20	5.4%	17%	4.98
Insufficient money	17	4.6%	15%	6.45
High cost of food	9	2.4%	9%	2.90
High cost of fuel	2	0.5%	2%	0.43
High cost of electricity	1	0.3%	1%	0.14
High cost of tuition	2	0.5%	2%	0.64
High cost of things in general	10	2.7%	9%	4.15
Hunger	16	4.3%	13%	3.84

Thirst	3	0.8%	3%	0.70
Declining American aid	4	1.1%	4%	0.69
Low cost of copra	1	0.3%	1%	0.20
Changing lifestyles and mores	86	23.3%	43%	21.29
Decline of conviviality	39	10.6%	26%	8.91
Decline of tradition	34	9.2%	28%	9.69
Decline of subsistence activities	7	1.9%	6%	1.78
Improper behaviour of women	6	1.6%	3%	0.90
Population growth and overcrowding	28	7.6%	23%	8.19
Population growth	23	6.2%	22%	7.20
Overcrowding	5	1.4%	5%	0.99
Diabetes and other health issues	31	8.4%	18%	7.30
Health problems in general	14	3.8%	12%	3.80
Diabetes	10	2.7%	9%	2.34
High blood pressure	3	0.8%	3%	0.52
Cancer	3	0.8%	3%	0.52
TB	1	0.3%	1%	0.13
Changes in the climate, changes in the ocean, 'climate change', 'global warming'	35	9.5%	12%	6.06
'Climate change', 'global warming'	4	1.1%	4%	0.58
Destruction of the country by global warming	2	0.5%	1%	0.20
General changes in the weather	7	1.9%	5%	1.04
Sea level rise	8	2.2%	7%	1.60
Increased temperatures	8	2.2%	5%	1.55
Increased sunniness	2	0.5%	2%	0.42
Droughts	1	0.3%	1%	0.17
Less wind	1	0.3%	1%	0.14
Changed seasons	1	0.3%	1%	0.20
Coastal erosion	1	0.3%	1%	0.17
Alcoholism and other substance abuse issues	26	7.1%	17%	5.98
Substance abuse in general	1	0.3%	1%	0.20
Alcohol abuse	18	4.9%	14%	4.35
Smoking	3	0.8%	3%	0.58
Cocaine	1	0.3%	1%	0.20
Copenhagen tobacco	1	0.3%	1%	0.20
Betel nut	1	0.3%	1%	0.25

Marijuana	1	0.3%	1%	0.20
Immigration	20	5.4%	14%	5.96
Chinese immigration	12	3.3%	9%	3.47
Immigration in general	8	2.2%	8%	2.49
Crime	17	4.6%	10%	3.25
Crime in general	3	0.8%	2%	0.60
Violence	10	2.7%	9%	1.88
Sexual assault	1	0.3%	1%	0.20
Theft	3	0.8%	3%	0.57
Education	14	3.8%	12%	2.79
Truancy	12	3.3%	11%	2.48
Education in general	2	0.5%	2%	0.30
Suicide	7	1.9%	6%	2.48
Youth problems in general	6	1.6%	6%	2.18
Teenage pregnancy	6	1.6%	5%	1.15
Out-migration	3	0.8%	3%	0.92
The acceleration of time	1	0.3%	1%	0.50
Nuclear testing legacy	1	0.3%	1%	0.50
Garbage and pollution	1	0.3%	1%	0.13

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