

CHAPTER 5

Metaphysical Aspects of Resilience: South Pacific Responses to Climate Change

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Abstract

As many studies reveal, practiced ethics and religion are put to work in many areas of existence in complex and often mixed ways. Local theologies include both everyday knowledge systems, motivations and sentiments, power relations, and fundamental ontological presuppositions in a negotiation of the borders between 'this world' and the 'other world'. In this chapter it is argued that religion can be a valuable perspective in the anthropological study of resilience and climate change. The global scale of climate change and the local environmental and social consequences play at past experiences, existing cosmological notions and visions and social imaginaries of the future. Using sources primarily from the Cook Islands it is argued that it is crucial to develop a dynamic understanding of the local, heterogeneous responses to climate change, involving both various religious traditions, oral history, myth, and secular ways of knowing, including the often uncertain scientific measurements and projections of climate change.

In recent years, Pacific Islands have been pointed out as particularly vulnerable to climate change. In the media, small island states as Tuvalu and Kiribati are depicted as the canary in the mine or as the epi-

tome of the lost paradise, the first victims of a devastating rising sea level on the previously exuberant tropical shores (Lazrus 2009: 248; Mortreux & Barnett 2009: 106). The public awareness of sinking islands, drowning atolls and forced refugees is high. A number of documentaries from Tuvalu and Kiribati have been produced with telling titles comprising wordings as ‘disappearing nation’, ‘that sinking feeling’ and ‘paradise lost’ (Chambers & Chambers 2007, www.pbs.org). A simple test on an internet search engine can confirm how an outcry of the president of Kiribati, Anote Tong, about a final loss of land and a possible final migration of the island state’s inhabitants has toured the world press with headlines in major newspapers. Here, allusions to the Deluge seem more than tempting.¹ The South Pacific has for centuries been plastered with metaphors of paradise by explorers, missionaries, poets, and tourists. Now it conveys the warning of a time of gloom and doom. According to IPCC, small islands do have characteristics that make them “especially vulnerable to the effects of climate change, sea-level rise and extreme events” (Minura et al. 2007: 689). In the Pacific area the risks enumerated are: 1) Sea level rise resulting in inundation, storm surge, and costal erosion, 2) reduction of fresh water resources, 3) impact on coral reefs and fisheries, agriculture and bio-diversity and, 4) negative influence on tourism (ibid.: 689). Besides, expected hazards throughout the Pacific are an increasing occurrence of heavy rainfalls and instances of hot days, drought, and cyclones (ibid.: 691-692).

Cook Islands² is one of the small island states getting the world’s

1. E.g. “Paradise lost: Climate change forces South Sea islanders to seek sanctuary abroad”, *The Independent*, June 6, 2008; “Climate refugees in Pacific flee rising sea”, *The Washington Post*, April 19, 2009; “Small Pacific Islands Call for Big Carbon Cuts”, *New York Times*, August 5, 2009.

2. Cook Islands is a small country with a population of 19,000 (2006 census), and a landmass of 240 square km. scattered over 15 islands, located south of equator between 9 and 23S latitude, and 156 and 167 longitude, neighbouring French Polynesia, Samoa, and Kiribati. The climate is typical of tropical maritime climate with monthly average temperature ranging between 21 to 28 and an average humidity around 84%. The islands elevation above mean sea level ranges from low-lying atolls of 5 metres to a high volcanic island rising to 652 meters (Rongo & Rongo n.d.).

attention, and one of the states that respond to climate change on many levels. Cyclones (sometimes called ‘storms’ or ‘hurricanes’), storm surges, and flooding of low-lying areas are part of the local experience and have been recorded ever since the first European contact in the 17th and 18th centuries.³ The geographer Terry describes tropical cyclones as “nature’s most intense phenomena in the South Pacific”, during the last 30 years occurring on average nine times a year, and “.in short they are storms to be reckoned with for the people who live in this region” (2007:3, 33). In recent years – in all probability related to the global warming – increased cyclone activity in terms of intensity and frequency has occurred. In 1987, a cyclone extensively damaged Rarotonga; in 1997, a cyclone destroyed 90% of the houses and killed 19 persons on Manihiki atoll; and in 2005, Cook Islands encountered a sequence of four cyclones.

Rarotonga, Cook Islands, 1831: Buzacott, a British missionary resident at Rarotonga, experiences the rage of a hurricane:

It is almost impossible for the English reader to conceive, much more realize, the disastrous consequence caused by this hurricane at Rarotonga. For culture and beauty the island had been a garden of Eden. Provisions had been abundant. In three short hours, the whole land had become one vast wreck; houses not only demolished, but their very sites buried deep beneath sand and masses of coral blocks.

All the property of the natives, being perishable by water, had been destroyed. The fruits and vegetables which supported the whole population, had been hurled to the ground and saturated with salt water – the trees themselves either torn up by the roots, or their boughs broken off that no fruit could be expected from them for at least two years. Buzacott, *Mission Life in the Islands of the Pacific* (1996 [1855]: 88)

3. Some of the islands were visited and described by James Cook in the 18th century, and beforehand by Spanish and Portuguese ships in the 16th and 17th centuries, but eventually colonized by British and Tahitian missionaries in 1823. Ministers from London Missionary Society had a huge impact from 1823 to 1888, enforcing Christianization with the making of mission station villages. After a short period with British residency, Cook Islands was annexed to New Zealand in 1910 until 1965, at which point they became self-governing in free association with New Zealand (Gilson 1980).

Suvarrow. Cook Islands 1942: Robert Dean Frisbie, an American writer, and his four young children endure a cyclone at Suvarrow. The atoll is flooded by wild waves. Tied to five trees and with a bottle of rum as the only provision they survived:

The storm centre must have been close to us during those three hours. The wind had ceased to be a wind: it had become a monstrous thing that did not belong to the physical world. For three hours we ceased to live on the familiar Earth; and perhaps that is why I find it so difficult to describe the wind, the sea, our own emotions. Vocabularies were built around the things of everyday life; this thing belonged to the frenzied life of delirium. Frisbie, *The Island of Desire* (1944)

Cook Islands 2005: The Cyclone Meena was forecast to pass very near or over the main island of Rarotonga as category 4-5 super-cyclone with the capacity of causing severe damage to the capital:

“Frequent heavy rain with squally thunderstorms, phenomenal seas, damaging heavy swells, flooding including sea flooding of coastal areas,” the Fiji Meteorological Service website said. Waves up to 11 metres were expected to strike areas around the main island of Rarotonga and nearby Mangaia within hours, it said.

“It doesn’t look very good for us,” said John Strickland, speaking from the National Emergency Operations Centre in the Cooks’ capital, Rarotonga. He said people were securing their homes on all the islands in Meena’s path, while on Rarotonga seven hurricane centers had been opened and people were moving to higher ground inland to take shelter. The Aitutaki Lagoon Resort on the island of Aitutaki, 80 km north of Rarotonga, said about 300 tourists were evacuated to Rarotonga in the past two days. tvnz.co.nz (Feb. 7, 2005)

The terror of a cyclone battering the shores, destroying buildings and crops, flooding and eroding land areas and roads, is obviously causing anxious concern. The threats are immediate in terms of both personal safety and cognitive and emotional capacity to grasp what happens to “the familiar Earth” lashed by damaging winds and waves. Due to the infrastructural dependency on coastal areas, the long-term consequences are probably worse now than ever. The majority of the population on the volcanic and atoll islands live closely to the coast, and the beach and shallow waters harbour economically decisive sectors (tourism and pearl farming). Characteristically, dur-

ing the past few years, the local awareness of climate change and environmental problems has increased. The main newspaper *Cook Islands News* has added an 'environment' section to it, reporting from regional conferences on climate change and from the local sites of consequence. The pages reveal that the local awareness and the number of actors are rising in the environmental field. Major concerns are climate change related but also issues such as overfishing, pollution, renewable energy, and alien invasive species.

Today, Cook Islands participates in a number of international and regional political commissions and organizations, among others the South Pacific Regional Environment Programme (SPREP), established by the governments of the region. SPREP publishes and acts as library for a rapidly growing amount of reports on climate change, as well as vulnerability and adaptation assessments. The reports paint a rather homogenous picture of the general environmental situation in terms of land degradation, bio-diversity, changes in air and sea temperatures, sea level rise etc. Recent studies show that the annual and seasonal temperatures on both ocean surface and the islands have increased by 0.6. to 1.0 since 1910 throughout a large part of the South Pacific (SPREBa n.d.). Locally, at Rarotonga, a 2.5 mm/yr sea level rise since 1992 has been measured, compared to the IPCC of 1-2 mm/yr over the last 100 years (SEAFRAME 2006). Data for 92 months to November 2000 indicates a rising sea level trend of 5 mm/yr, and may account for some observed costal erosion over the last few years, however, it is still considered too early to deduce a long-term trend (SEAFRAME 2006: 22-23, Carruthers n.d.).

Generally, there are many uncertainties concerning future sea and air temperature, sea level rise, rainfall, and cyclone activity. For the next two decades the IPCC has projected a warming of 0.2 per decade, and a sea-level rise ranging from 18cm to 59cm in the end of the 21st century (Bernstein et al. 2007: 45). The local projection for Cook Islands reports "marked increases" of climate-related risks of extreme weather events such as a daily rainfall of at least 200 mm, strong winds, and significant on-shore waves, and drought (SPREBb: 2009: 132). Thus, the figures are open for interpretation. Concerning the island states' ability to adapt to the climate change, the human geographer Barnett in 2001 states that the uncertainties

of climate change and sea level rise are unlikely to be reduced in the near future due to the nature of the ‘problem which is cross-scale, temporally complex, spatially complex and highly interconnected’ (2001: 3, 10). Moreover, he maintains that ‘pessimism should not prevail, as there is good reason to think that even the atoll states can adapt providing a high level of sustainability’ (2001:5). However, two years later, in 2003, Barnett & Adger warn about ‘a possible future in which atoll countries become effectively uninhabited’ (2003: 321), quoting former IPCC chair Watson: low lying small island states face the ‘possible loss of whole countries’ (ibid.:326). Yet, in 2009 Mortreux & Barnett in the case of Tuvalu warn against ‘unhelpful sensationalism’, stating that ‘there is nothing inevitable about climate-induced catastrophe in Tuvalu’ (2009: 106).⁴ Concerning the Cook Islands, the SPREP assessment of vulnerability and adaptation includes a caution against too far-reaching conclusions and suggests that adaptive responses are possible, ‘if there is community understanding and support, backed up by consistent local government policy’ (Carruthers n.d.). Or as the director of the National Environment Service of the Cook Islands frames it: ‘it is not likely that all of the Cook Islands would disappear under the sea even with the highest projected rates of sea-level rise’ (Tupa 2004).

The rapidly growing knowledge on environmental change and the built-in insecurities are a significant part of the framing of the local understanding of the possible dangers threatening the shores

4. Also focusing on data of sea level from Tuvalu, Lazrus reports a recent situation where the data was treated differently by two agencies causing contradictory results. One study determined that sea level had fallen, the other study indicated a sea level rise of several millimetres (2009: 246). Uncertainties are also a part of the scientific study of coral reefs and atolls. Contrary to the often reported end result of sea level rise in terms of sinking islands, Kench & Cowell (n.d.) argue that “reef islands will physically adjust to sea level change and will not totally disappear”, since changes in the sediment caused by changed sea level, wind, and currents more likely will cause alterations in the coastal areas rather than simply effect a drowning. For Tupa, writing from the Cook Islands, the question too remains open whether coral reefs by their growth can catch up with the sea-level rise or whether they will bleach and die due to higher temperatures. A question which is related to how healthy the reefs presently are (Tupa 2004).

on which they live and the wider horizon of existence. Yet people at the Pacific islands draw on many sources of knowledge. They have more than IPCC reports and local vulnerability and adaptation assessments within their frame of reference. Past experiences, oral history, the ethical and religious conceptions of the environment, and hopes and fears of the future are important elements in the fabric of local communities. For some societies, institutions, families, and individuals, all having many interests to protect and nurture, planning must begin, decisions must be made and strategies formed.

Resilience: New questions in recent studies

Current studies in the social sciences of human reactions to climate change and natural hazards have taken an interesting turn from concepts of 'risk' and 'vulnerability' indicating ideas about potential loss or shortcomings to concepts of 'adaptation', 'sustainability', and 'resilience' denoting more creative aspects of societal responses. The conceptual width appears fruitful, since social and cultural ways of actions imply a complexity *sui generis*. Climate change is a powerful concept of a potentially all-encompassing phenomenon, and therefore it has the capacity of attracting many scholarly branches. While focusing on the recent literature on resilience in the next section, I will argue that the study of human response to climate change may also gain from a thorough attentiveness to ethical and religious aspects of people's life. By highlighting recent (and not so recent) research on Pacific islanders' experiences with cyclones, storm surges, flooding, and other natural hazards, I identify two common problems in the scholarly understanding of the role of religion and present some examples and notions suitable for grasping the significance of local mythologies, ethics, and theologies that are the heterogeneous everyday metaphysical notions of human existence in the natural and cultural world.

The neglect, and the incipient awareness, of metaphysical dimensions

Recent resilience literature is characterized by a striking neglect of

the role played by myth and religion in communities' comprehension of climate change and natural hazards, not only in the Pacific, but also in other regions. This may be explained by the traditions of the dominating disciplines such as science of the environment, human geography, and psychology. Thus, important studies with resilience as a focal point by Adger (2000), Barnett & Adger (2003), Norris et al. (2008), and Leach (2008) linking social and ecological resilience, ignore or only peripherally touch upon religious and ethical aspects in terms of "social institutions defined in the broadest sense to include habitualized behaviour and rules and norms that governs society" (Adger 2000), the religious communities as "part of citizen participation" (Norris et al. 2008: 139), or "lost confidence in atoll futures" as "important thresholds" (Barnett & Adger 2003: 330).

Lately, in a neighbouring field of natural hazards, the study of volcanic eruptions, Chester & Duncan (2007) have called for the continuing relevance of religious worldviews, carving out a burgeoning field of 'geom mythology' and 'theodice' defined as the "attempt to reconcile theistic belief with the reality of human suffering" (2007: 203). On the basis of an abounding set of historical and present records of local experiences with volcanic eruptions, Chester & Duncan conclude that "there are relatively few eruptions where no religious elements in human response are recorded" (2007: 214). The religious elements mentioned include both the appeasement of saints, warnings against God's anger, processions and sacrifices, intrinsic fatalism, and belief in miracles, collective sin, and so forth. Turning to the Pacific responses to natural hazards such as cyclones, storm surge, and flooding, recent studies too show an incipient awareness of the role of religious aspects. Campbell (2009) argues that research in resilience tends to neglect 'traditional knowledge' and demonstrates how traditional Pacific island communities have coped with the effects of extreme events. Key elements in traditional disaster reductions, he states, were built around food security, settlement security, and inter- and intra-community cooperation, traditions known to be closely connected to ancient cosmology (2009: 85, 86). Campbell adds that present-day Christianity in many Pacific communities are also considered traditional, and remarks that

churches are often used as “safe havens during tropical cyclones”, when smaller and less secure dwellings fall (ibid).

Historically, several studies on ancient mythology attest that Pacific cosmology included an environmental awareness. According to Oliver (2002), “each wind was believed to be controlled by one or another god, who was therefore supplicated to assure its periodic occurrence or to curb its occasional excesses..(..)..on some occasions gods also took direct unsolicited action vis-à-vis humans(..).. such as causing an individual to sicken or a whole community to be devastated by a storm” (2002: 30, 46). D’arcy (2006: 85, 128) suggests that individual islands in the Pacific experienced up till five to six cyclones per generation and confirms Malinowski’s findings that the building of canoes and voyages at sea involved ritual and prayer, just as oracles were consulted and offerings made to sea gods before departure (Malinowski 1922).

According to a myth of creation known in many different versions throughout the Pacific, changes in the weather and climate were the result of a struggle between the principal gods and their offspring, often personified as natural and climatic entities. (King et al. 2008)

“According to the traditions of our race, Rangi and Papa, or Heaven and Earth, were the sources from which, in the beginning, all things originated.” Rangi and Papa lie close locked together, and their offspring are forced to live in the darkness between them. At last they consulted amongst themselves, saying, “Let us now determine what to do with Rangi and Papa, whether it would be better to slay them or to rend them apart”. The children, all male, discuss among themselves what the best solution is, and after many attempts they succeed to force the parents apart, light comes into the world, a space is revealed, and human beings, who had been concealed in the dark. All the brothers had consented to the plan, with the exception of Tawhiri, the father of winds and storms, and he grieved greatly: “Then arose in the breast of Tawhiri, a fierce desire to wage war with his brothers”. He creates the winds, and “next send forth fierce squalls, whirlwinds, dense clouds, massy clouds, dark clouds, gloomy thick clouds, fiery clouds, clouds which precede hurricanes, clouds of fiery black, clouds reflecting glowing red light, clouds wildly drifting from all quarters and wildly bursting, clouds of thunderstorms, and clouds hurriedly

flying". Tu (or humankind) is the only brother who stands erect and unshaken, and later he manages to capture and eat the gods of fish and reptiles, vegetables, the forest ect. and their children. However, Tawhiri he could not vanquish, so he was left as "an enemy for man", and "still, he ever attacks him in storm and hurricanes, endeavouring to destroy him alike by sea and land." Tu made incantations for the defeated brothers and for Tawhiri to cause favourable winds. "Up to this time the vast Heaven has still ever remained separated from his spouse the Earth. Yet their mutual love still continues... and the vast Heaven, as he mourns the long night his separation from his beloved, drops frequent tears upon her bosom, and men seeing these, term them dew-drops."

Grey, *Polynesian Mythology* (1855: 1-15)

The incipient interest in traditional environmental knowledge has resulted in an academic interest in the differences between Western and Polynesian (Maori) beliefs and views on nature, often opposed as a mechanistic, dualistic, objective, and negative anthropocentric Western view vs. an open, holistic, dynamic, value oriented, and positive anthropocentric Maori view (Klein 2000). Also, more detailed studies with practical consequences in terms of conservation projects has emerged, such as a fine study of *ra'ui*, a customary prohibition in the Cook Islands, not in use for years, but in the late 1990 re-implemented to protect marine resources. According to Tiraa, one of the project managers, *ra'ui* was traditionally a ban imposed by the chief of a tribe or the head of a landowning lineage for a period to control the use of resources. "These included land areas, lagoons, rivers, freshwater ponds, lakes, swamps, fruit trees, coconuts, birds, and other wildlife such as turtles and coconut crabs for conservation management" (2006: 12). Hoffmann (2002), in a study of the project Tiraa managed, extends the understanding of *ra'ui* by relating it to the ban's traditional spiritual context. Not only would a person who broke the *ra'ui* be punished by the chief and the village; since the area was *tapu*, *ra'ui* areas were policed by *mana*, power, and he or she would also be harmed by "supernatural sanctions" (2002: 405). Today, the *ra'ui* system has respect from most of the community members: "If a person does not abide the Ra'ui he/she will be embarrassed in front of the community, and it is considered to be a bad omen" (ibid: 409). Thus, spiritual and ethical value is apparently

still (or again) attached to *ra'ui*, although Christianity has been a major player on the religious scene for nearly two centuries.

These examples of the role island traditions have played and may still play indicate that the ethics implied in myth and religion has relevance for the human response to environmental changes. In a broader perspective Mercer et al. (2007), Berkes (2007), Minura et al. (2007: 708) argue that indigenous knowledge and past experiences (on land use planning, building methods, food etc.) are gradually being identified and included in the attempt to reduce vulnerability and build resilience to cope with environmental hazards in small island states. Yet, a contemporary and much stronger religious tradition must be considered too – Christianity, or rather the Christianities of the Pacific. This is the theme of the next section.

'The problem of belief' revisited and the local Christianities

In the beginning of the 1990s an estimated 95% of people on 25,000 Pacific islands acknowledged their involvement with some Christian tradition or another (Trompf 1995: 192). The impact and reception of the European missionaries and their local successors have varied greatly. Some denominations were aiming for a total replacement of the darkness of heathen belief, some were less denouncing of traditional culture. Furthermore, the histories of the national churches vary during the 20th century due to different roads to political independence and different forms of association with France, New Zealand, and the US. Thus, Trompf's judgement is that at village level the local varieties of Christianity are distinctly indigenized, and the relationships between old beliefs (in fx. spirits) and new beliefs manifold (ibid: 197, 205, 208). Barker argues along the same lines by emphasizing that Christianity today is the most widespread religion in the Pacific and that Christianity has shown to be "amazingly syncretic". The Pacific peoples "are steadily making it their own" (1989: 1,11).

While in 1989 Barker convincingly demonstrates that research in the Christian traditions in their own right has lacked anthropological attention, with the exception of a large amount of studies of cargo

cults, in 2007, Cannell is able to note that within anthropology a new wave of anthropological writing on Christianity throughout the world has begun (2006: 5). A very important insight in these studies is the diversity of the Christianities, the immense variation in doctrines, rituals and local beliefs.

Some links between local Christian beliefs, environmental hazards, and climate change have emerged too. One link is studies showing how local Christianities mainly have a negative impact on the attentiveness towards climate change and the ability to recover after a natural hazard. Thus, in a series of articles Taylor, with a background in psychology, has reported and reflected on “the effect of certain Christian belief/value systems in the immediate post-impact period of recovery” after a cyclone striking Manihiki in 1997, the effect in general considered to ‘imped their recovery’ and ‘exemplify a maladaptive method of coping with trauma’ (Taylor 1998, 1999, 2001). In a recent study in Tuvalu, Mortreux & Barnett (2009) also become aware that “religion plays a very significant role in shaping people’s responses to climate change”; however, the seemingly surprising find, in the context of a rapidly rising global alertness to the consequences of sea level rise, is that “these people believed that climate change was not an issue of concern due to the special relationship Tuvalu shares with God and due to the promise God made to Noah in the Bible” (2009: 109).

Another link seems to demonstrate quite the opposite, namely that Christianities offer a sustainable way to cope with climate change. Throughout the world, a growing field of green theology has emerged, appearing as both an outline of a new dogmatic field and as a field for ecological activism. Recently, an appeal from the Pacific Conference of Churches reached a Danish newspaper, calling on the Danish government and population, hosting the COP15 in 2009, to realize that Western life style is ruining the Pacific islanders’ life. Here, a basic eco-theological perspective is communicated: The earth and the sea are the gifts of God, gifts supposed to make the livelihood not only for the present generations, but also for our descendants for ever (Emberson 2009). I will return to the rapidly growing field of green theology in the last section, and for now con-

centrate on the findings of Taylor and Mortreux & Barnett and the methodological and analytical problems they are raising for interdisciplinary research in local responses to climate change.

In 1989, Taylor is called on an assignment on Rarotonga and Manihiki to provide professional advice to the indigenous care-givers, and, among other things, to assess the capacity of the churches, community groups etc. to provide support. Eyewitnesses reported that the crescendo of the cyclone lasted 30 minutes, “during which the biggest wave surges above 30 metres ... and left widespread damage” (1999). Eleven people had died, nine were missing and many injured. About 400 people were evacuated to Rarotonga, 1200 kilometres to the South. In his conversations with the islanders, Taylor learns that the clergy, and many others, hold “religious explanations” for the occurrence of natural hazards, “despite” the advancement of scientific explanation and the expanding acceptance of it among the political leaders in the Pacific. Taylor also reports that “others were critical of ..[those].. who publicly attributed the cyclone to Divine intervention for the transgressions of the community (individually and collectively), to the over-utilisation of pearl farming, failure to attend church, and working on Sundays” (1998). In 2001, Taylor finds this response “inappropriate and anachronistic”, arguing that the issue is “the validity of using moral transgression as the cause of natural disasters and of expecting atonement, when a tenable and well-attested scientific alternative explanation is available” (2001).

To Taylor it seems obvious from a scientific point of view to criticize religious explanations attributing a cyclone to divine intervention. If islanders make a causal connection between declining church attendance and other moral transgressions and a cyclone, the reasoning goes, they obviously must be wrong. In addition, it troubles Taylor that the islanders live under the shadow of the ‘punishing God’ of The Old Testament, accepting the condemnation and blaming of themselves, instead of turning to the ‘loving God’ of the New Testament, which suggests that Christians could place more emphasis on redemption or inner spiritual growth (2001). However, to Taylor the really curious fact was that the islanders, in spite of their religious worldview, actually managed to return to normality and move into recovery, making improvements of the villages, within two or three

weeks. They proved resilient in spite of the prevalence of a seemingly reactionary, punitive religious worldview – in psychological terms exhibiting ‘a maladaptive method of coping with trauma’.

Mortreux and Barnett have a somewhat parallel case from Tuvalu, finding in 28 personal interviews that for most respondents climate change and the often suggested need to migrate is not a concern, mainly for three reasons: The special relationship Tuvalu shares with God, the fact that they themselves had not observed any extraordinary environmental changes, and the strong experience of and attitude to Tuvalu as a ‘home’, a category bundling together all the things in everyday life denoting the good life and thus making it impossible to leave. However, as Taylor also notes from the Cook Islands case, some inhabitants criticize the strong belief in God’s promise to Noah, and in Mortreux and Barnetts words “identified religion as a barrier to awareness of an adaptation to climate change” (2000: 110).

While Taylor is concerned with the reactions to the disaster of a cyclone attacking an island, and Mortreux & Barnett have a focus on whether or not island inhabitants might migrate due to future threats, they seem to share basic ideas about what religious beliefs are and what role they play in people’s life. During a fieldwork in the Cook Islands, primarily studying the burial traditions in the Cook Islands Christian Church, I too witnessed the linking of people’s immoral actions such as taking a swim just outside the church on Sunday mornings to the enhanced cyclone activity. However, I also learned that this was only one voice among many others, not only in a community with many different attitudes towards the church and Christianity, but also in the individual speaker, having more than one position to think, act, and speak from. This kind of multivocality is quite often mentioned in anthropological literature on religion, and has given rise to a discussion of the ‘problem of belief’ (fx Keesing 1985, Tambiah 1990, Good 1994), questioning how can we interpret local theologies within shifting social and cultural contexts. Central to these discussions are, *firstly*, the danger of instrumentalizing religious statements contradicting scientific explanations as if religious notions automatically imply a direct causation; *secondly*, the problem of reducing lived ways of believing into a sys-

tem of beliefs; and *thirdly*, the tendency to confuse metaphorical and literal meanings, often notoriously indistinguishable for outsiders.

Bearing in mind the first problem, religious and symbolic explanations typically belong to another domain of social reality than the scientific. The religious answers *may* locally function as accepted explanations of the natural order, yet they should not, from the outsiders' scholarly perspective, automatically be considered as belonging to the same level or stratum as scientific explanations and therefore automatically considered backward and superstitious. In some societies, or in some areas of existence, science and religion are indeed competing within one and the same domain of knowledge, resulting in both secularism and fundamentalism. Often, though, the two domains are not competing, but remain as different traditions of knowledge kept at different levels of social reality (or kept together as unsolved paradoxes). Thus, the theory of 'big bang' may explain *how* the creation of the universe evolved, whereas myths of creation may explain *why* the universe came into being. As such, in the sociology of Durkheim and in the tradition of cultural anthropology (for instance Geertz 1965), we have to consider the link between morality and community, instead of starting with science as the producer of truth and by imposing its standard of truth and measures of validity on everything else to understand how societies work. In this light, instead of making, *a priori*, a problematical equation between the islanders' claims about divine intervention and well-attested scientific explanations, we should concentrate our interpretation on the social aspects of the islanders' beliefs and hopes and the moral implications of the extreme weather events they seem to highlight themselves within an everyday context.

Regarding the second problem, the scholarly temptation to assemble natives' statements into a belief system as if their conversations, actions, and representation were dogmatic statements, it is commonly observed in the anthropology of religion that people hold contradictory beliefs (Luhmann 1989, Mitchell 1997, Besnier 1996). Thus, when inhabitants at Manihiki and Rarotonga link immoral behaviour to cyclones, Taylor seems to report valid bits of data, but what seems less convincing is that these statements are isolated and fixed as 'the belief' of certain persons, the clergy or the majority of

the community, true in every situation and firmly related to certain chapters in the Bible. It is telling in both Taylor's and Mortreux & Barnett's texts that the native belief in God's providence and all-powerful capacity is carved out most unmistakably in the eyes of the local and scholarly critics, thus viewing the religious beliefs as a 'barrier to adaptation' and as a 'maladaptive method'. The irony in Taylor's case is that he cannot conclude that the maladaptive method actually was a barrier. This indicates that from the believers' point of view the link between 'the punishing God' and human beings is not simply to delegate everything to God literally in terms of strict causality. Local theologies are much more complex, both in terms of causation and in terms of symbolic variety, including seemingly contradictory notions of e.g. human stewardship and charity, notions entailing human agency in accordance with God's wish as creator.

The third suggestion in this context is therefore that the beliefs expressed in the providence of God could be understood in a less dogmatic and literal way. In both scholarly and local theologies, the relationship between the literal and the symbolic interpretations is delicate and usually hard to unravel and make explicit, not only for outsiders, but also for the professional theologian and for local people attached to Christianity. Myth and ritual are played out at the borders of 'this world' (the mundane here and now) and the 'other world' (the spiritual or existential moral order beyond) and the connections made and the proposed implications vary (Luckmann 2003, Rubow 2000, n.d.). In an excellent study Firth has shown how traditional and new cosmologies are the source of many possible interpretations in a small community in the wake of a cyclone, and how an understanding of the question of causation is critical in the religious imaginary:

In 1952 Raymond Firth returned to Tikopia, the island he had studied in 1929, with the intention to study social change. He arrived shortly after a cyclone had devastated the island.

"What I found was a rising population, and a severe intensification of pressure through the effects of hurricane in greatly reducing the food supply.

Where such a lowering of the food supply takes place fairly rapidly, the strain on the social system are not only nutritional – belly-gnawing; they depend on recognitions, sentiments, moral evaluations and symbols of social relations. They involve emotional attitudes .. moral attitudes .. social attitudes.. (..).

In traditional Tikopia religious ideology, there is an elaborate set of links between chiefs, their clan gods, and the phenomena of wind, sunshine and rain, which can be controlled up to a point, by the direction of energy from chiefs and gods upon them. But on the one hand, competing interests may negate the ordinary bounty of nature; and on other, the favour of the gods towards their representatives, the chiefs, may still further affect the issue. Hence the hurricane and the drought could, in the more traditionally minded Tikopia be explicable in terms of competing religious forces (including perhaps those of Christianity), and the personal quality of specific chiefs.. (..)

Their view of nature may be called *socio-centric*. For them, natural order and prosperity were related to social harmony. .. the association of natural event and social circumstance was one of indirect causation rather than direct causation – or perhaps hardly one of ‘causations’ at all. It was rather that the ‘unnatural’ condition of society was manifest in the abnormal conditions of nature.”

Firth *Social Change in Tikopia* (1959: 52, 79, 80)

Adding to the complexity of Firths observations of competing religious traditions, I have found within Rarotongan (and in other Christian) church communities that there are not only many ways of believing (in e.g. the resurrection as ‘a spirit’ opposed to a ‘physical human being’ or more existential as ‘the courage to be’) among church members, but also different interpretations of e.g. local ministers’ statements. Thus, statements are often negotiated, resulting in a locally noticed or unnoticed variation of interpretations. In other words, beliefs are not ‘only’ statements, or what is usually termed ‘propositional belief’, with fixed meanings. Beliefs are *verbally interpreted* in many ways, and *lived* in various settings, motivating diverse actions in more complex way than (even) the believers themselves may be able to express verbally. As such, beliefs in God as punishing immoral acts may indeed involve condemnation, self-blame, and requests for church attendance, but it does not neces-

sarily entail a direct causation between the acts of human beings and the acts of God. Furthermore, concomitant belief in God as creator of the human and natural world may at the same time relate to actions of charity and a moral inclination to serve the community. This indicates that the study of local Christianities and other religious traditions in the context of environmental hazards and climate change meets a number of challenges in avoiding infertile instrumentalizations of belief. Existing myths and religions have an abundance of references to the environment, and the anticipations of insecurities concerning future changes will undoubtedly spawn many new song lines and debates.

Emergent green theologies

The interface between the world's religions and the environment is evident in innumerable tales, myths, symbols, and rituals connecting 'this world' and the 'other world' in different anthropocentric, sociocentric, ecocentric, or theocentric cosmologies. In the Christian case there has been a heavy sea for at least four decades in discussions about the Christian legacy and its concurrent course in the contexts of environmental problems. In 1967 L. White, a professor of history, brought up a discussion which is still alive – or more precisely which has once again been enthusiastically revived in recent years. White's basic claim was that "human ecology is deeply conditioned by beliefs about our nature and destiny – that is, by religion" (1967: 1205). However, what stirred the debate was White's claim that Christianity was the only religion making it possible for human beings "to exploit nature in a mood of indifference to the feelings of natural objects" as a "realization of the Christian dogma of man's transcendence of, and rightful mastery over nature" (ibid.: 1205, 1206).

White's appeal that 'we' must rethink 'our' attitude to nature, also considering the more or less suppressed Christian traditions of the Eastern church and Francis of Assisi (who, according to the legend, had humility for the human and animal species), has effectively led to a theological response. In recent years, many of these address explicitly the climate change crisis, developing new green

theologies, interfaith climate manifestos, ecological services, and all kinds of Noah's Ark projects. Central to the discussion is the recognition of a double Christian legacy concerning an environmental ethics implied by White's reading and critique. Simmons (1993) has summarized the two salient traditions in the following way: a) The idea of an ethics for *the use of the environment*; the Earth is a resource which humanity is free to employ, and b) The idea of an ethic *of the environment* in which non-human entities of the cosmos are given equal value (1993: 53). In a more dogmatic language the difference may be spelled out as man's dominion over nature vs. human embeddedness in nature and a role to fulfil as steward or caretaker.

John T. Houghton, co-chair of the Nobel Peace Prize winning IPCC scientific assessment group has on several occasions expressed a green Christian perspective to his views, to emphasise the need for long term thinking.

"We are bound to ask therefore questions about the sort of relationship we should have to the earth that is our home and to the rest of creation with whom we share the earth. Let me suggest that a helpful picture of this relationship can be found in the early chapters of the Judaeo-Christian scriptures. Humans were placed in a garden to care for it. We are encouraged to see ourselves as gardeners of the earth." "Christians and other religious people believe that we've been put on the earth to look after it. Creation is not just important to us, we believe also it is important to God and that the rest of creation has an importance of its own... we are destroying forests, important forests. When I say "we" I mean "we" the human race of which we are part. We are party to the destruction, we allow it to happen, in fact it helps to make us richer. We really need to take our responsibility as 'gardeners' more seriously." 25 May 2001, Trinity College, Cambridge

"All disciplines within the natural and social sciences must be brought to bear upon it. But more than that, choices have to be made by individuals and societies, choices that need to be influenced by new attitudes and paradigm shifts – changes in heart and minds. At its core, therefore, climate change is also a spiritual and religious issue."

Foreword in Spencer & White (2007: viii).

A surge of theological soul-searching has affirmed that White's critique was (more or less) correct and that protestant theology is a special case, when relegating God to a highly transcendent realm, concentrating on issues of personal redemption and abandoning the world of nature to science and technology (and thus allowing for the scientific and industrial development in Western Europe). As Cobb tellingly adds: "...the story of Noah and his ark had been marginalized as a nice story for children. But today we appreciate how it emphasized that human history is interconnected with and dependent upon the conditions of nature. In particular it shows God's concern for the preservation of species, or, in contemporary parlance, for biodiversity" (2001: 216-217). In 2008, Mcfague, a prominent American protestant theologian, states in *A New Climate for Theology* that in light of the IPCC's recent report scepticism about global warming is irresponsible, and that the first step is to overcome denial (2008: 11). Mcfague calls for an ecological church, bringing the church back down to Earth, and a new worldview, where human beings are seen "as caretakers of God's household, the earth, just as Adam and Eve were told to tend the garden" (ibid.: 34), and we are "living with the world as God's body" (ibid.: 112).

Although observers of practiced religions should take caution in placing scholarly theology on an equal footing with local theologies, usually less verbal and more situational, these examples of the new green theologies exemplify how 'climythologies' emerge along with the new environmental concerns. Interesting in themselves and politically powerful they are important to include in the research of the social and cultural responses to climate change. The challenge for a practice-oriented anthropology is to understand how religious, ethical, and mythical concerns and notions are put to work together with all the other traditions of knowledge. Answering this question with an anecdote from my fieldwork in Rarotonga does not suggest a tight theory, but opens for the recognition of the heterogeneity in local theologies.

On a veranda, I had a conversation about the Polynesians' ancient migration routes with a minister, publicly known to be something of a fundamentalist, among other things warning people about taking a swim Sunday morning, explicitly alluding to the coming

cyclone season. Sitting with his hungry foster child in a sofa he told me that as a child on one of the outer islands, he was told that the Polynesians came from the East, i.e. South America (the unproved thesis of Thor Heyerdahl), and later in the secondary grade he learned they migrated from the west, i.e. Asia (confirmed by traces of DNA). He stated that he does not know the right answer, and when we continued our conversation about the long trends in human history, he stated that the world is 6000 years old now, and that the Polynesians probably are one of the lost tribes mentioned in the Old Testament. The possible confusion of the different temporalities in his narrative (and many other narratives I was told on the island), was apparently entirely my problem. Local theologies are usually masterpieces of polydox metaphysics. The borders between 'this world', the sensible and knowable 'here and now', and the 'other world' of the past, the future, and the possible 'beyond' are constantly negotiated in many different framings.

Metaphysical aspects of resilience

Man's actions and the acts of God, spirits, and natural forces are intertwined in beliefs and social symbols, and the study of communities' perceptions of changing environments presupposes an awareness of the heterogeneous responses. Changes in the environments due to alterations of sea level and battering cyclones have for centuries been a condition and a challenge to the populations at the South Pacific islands. In this chapter I have argued that the inclusion of metaphysical aspects in the study of the human response to climate change has a rich potential in new, local studies of islanders' local theologies, drawing on both the anthropology of religion and the interdisciplinary field of resilience (and the related fields of vulnerability, adaptation, natural hazards and so forth). Historically, extreme events such as cyclones have wrecked havoc on the shores, mirrored in the mythologies, novels, and many other desperate narratives searching for words to describe the extraordinary, otherworldly, terror of winds and water. Today, the narratives include new notions of global warming and human-induced climate change, but as both headlines in the news media and local community studies

testify, they include scores of metaphysical allusions and ethical implications. Questions of vulnerability, responsibility, motivation, and awareness build on existing cosmologies in the search for new existential grounds and new horizons for hope, destiny, and action.

Resilience is one of the promising concepts in the study of climate change, opening for a dynamic theorizing of the human ability to adapt to and reconfigure existing environments and cosmologies. However, the ambitious effort to link the social and ecological aspects of climate change presupposes a nuanced analytical comprehension of the role of the different parts in the alleged cultural and natural whole on different scales. The inclusion of religious beliefs in studies of resilience does not gain much insight, if 'belief' is instrumentalized and systematized beyond its practiced limits. On the contrary, it locks people up in doctrines they do not defend, and limits the understanding of human capacity to negotiate and re-imagine the vulnerable frontier between shores of safety and the horizons of risk and danger.

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